2013 CDIM National Meeting
(part of Academic Internal Medicine Week 2013)
October 3-5, 2013
Sheraton New Orleans
New Orleans, LA

Agenda

Thursday, October 3, 2013

6:30 a.m. to 7:00 p.m.
Grand Ballroom AB Foyer (Fifth Floor)
Registration

4:00 p.m. to 4:15 p.m.
Grand Ballroom C (Fifth Floor)
Welcome and Introductions

Sara B. Fazio, MD
CDIM President
Harvard Medical School
Beth Israel Deaconess Medical Center

4:15 p.m. to 6:00 p.m.
Grand Ballroom C (Fifth Floor)
Plenary Session I
The Learning Environment and the Mistreatment of Students

D. Michael Elnicki, MD, Moderator
University of Pittsburgh School of Medicine

Joyce Fried
David Geffen School of Medicine
at the University of California, Los Angeles

Melissa A. McNeil, MD
University of Pittsburgh School of Medicine

6:00 p.m. to 7:00 p.m.
Napoleon CD (Third Floor)
Academic Internal Medicine Week 2013 Welcome Reception

Friday, October 4, 2013

6:30 a.m. to 7:00 p.m.
Grand Ballroom AB Foyer (Fifth Floor)
Registration

6:30 a.m. to 8:30 a.m.
Napoleon CD (Third Floor)
Continental Breakfast, Cyber Café, Exhibits, and AAIM Connect Center

7:00 a.m. to 5:00 p.m.
Napoleon CD (Third Floor)
Academic Internal Medicine Week 2013 Career Fair (Sponsored by IM Career Source)
8:00 a.m. to 8:45 a.m.
Napoleon AB (Third Floor)

CDIM Presidential Address

**Sara B. Fazio, MD**
CDIM President
Harvard Medical School
Beth Israel Deaconess Medical Center

8:45 a.m. to 10:00 a.m.
Napoleon AB (Third Floor)

Plenary Session II
*The 15th Annual CDIM Review of Medical Education*

**Karen E. M. Szauter, MD**, Moderator
University of Texas Medical Branch at Galveston

**Katherine Chretien, MD**
George Washington University School of Medicine

10:00 a.m. to 10:30 a.m.
Napoleon CD (Third Floor)

Break, Cyber Café, Exhibits, and AAIM Connect Center

10:30 a.m. to 12:00 p.m.
Oak Alley (Fourth Floor)

**101. Clerkship Administrators Workshop—Ocular Roaming: Can We Get Away with It?**
Britt Simonson
Cleon Ryland, Jr.
Boston University School of Medicine

Barbara Prather
University of Oklahoma College of Medicine

Nottoway (Fourth Floor)

**102. EHR Note Writing: Can We Teach Quality?**
Jennifer Bierman, MD
Heather Lynn Heiman, MD
Kathryn Kinner, MD
Northwestern University Feinberg School of Medicine

Laura Fanucchi, MD
University of Kentucky College of Medicine

Southdown (Fourth Floor)

**103. Develop a Procedural Simulation Curriculum for Residents and Medical Students**
Tina Younger, MD
Shaghaeygh Abdollahi, MD
Maricopa Medical Center

Kendall Novoa-Takara, MD
Cheryl W. O’Malley, MD
Banner Good Samaritan Medical Center
104. Teaching Medical Students to Reflect “Deeper”
Amy Hayton, MD
Lawrence Loo, MD
Loma Linda University School of Medicine

105. “You Posted What?!” Teaching Social Media Professionalism to the Medical Community
Hari Raja, MD
Meadow Good, DO
Luke Newton, MD
Amit A. Shah, MD
University of Texas Southwestern Medical Center at Dallas

106. A Workshop in Survey Design for Medical Educators
Jeffrey LaRochelle, MD
National Capital Consortium

Amy Shaheen, MD
University of North Carolina School of Medicine

12:00 p.m. to 2:00 p.m.
AAIM Lunch and State of the Union

AAIM Treasurer’s Report
Gregory C. Kane, MD
AAIM Secretary-Treasurer
Jefferson Medical College of Thomas Jefferson University

Report on the American Journal of Medicine
Pamela Powers Hannley
The American Journal of Medicine

Jane Grochowski
Elsevier

D. Craig Brater, MD, Presenter
AAIM President
Indiana University School of Medicine

Kevin P. High, MD, Recipient
Wake Forest University School of Medicine

Presentation of the AAIM Diversity Award

Ethan D. Fried, MD, Presenter
AAIM Diversity Committee Vice Chair
St. Luke’s-Roosevelt Hospital Center

Gerald Yutrzenka, PhD, Recipient
Sanford School of Medicine of the University of South Dakota

AAIM President’s Update
2:00 p.m. to 3:30 p.m.  

**Workshop Session II**

**Oak Alley (Fourth Floor)**

201. *Clerkship Administrators Workshop—Me, Myself and I: Can I Truly Be Objective?*  
Theresa A. Cullens  
University of Pittsburgh School of Medicine  
Amber Specter  
Washington University School of Medicine  
Julie Schaefer  
Texas Tech University (Amarillo)  
Sandra Newman  
Pinnacle Health Hospitals

**Nottoway (Fourth Floor)**

202. *Incorporation of Google Chat into a Communication Skills Curriculum*  
Bruce H. Scott, MD  
Wright State University Boonshoft School of Medicine  
Biren Saraiya, MD  
Cancer Institute of New Jersey Hamilton

**Southdown (Fourth Floor)**

203. *Of EPIC Importance: Working with Students in the Electronic Medical Record*  
G. Dodd Denton, MD  
University of Queensland/Ochsner Clinical School  
Robert Harrold  
William Carter, MD  
Ochsner Clinic Foundation  
Dominica Fotino, MD  
Tulane University School of Medicine

**Gallier AB (Fourth Floor)**

204. *Simulation Medicine for Orientation, Competencies, and Case Conferences*  
Michael J. Maniaci, MD  
Katherine Duello, MD  
Christopher Austin, MD  
Julia A. Mueller, MD  
Mayo Clinic College of Medicine (Jacksonville)
Grand Chenier (Fifth Floor)  
205. Beyond “Show and Tell”: Promoting Physical Examination Skills as Essential Habits of Reflective Practice  
Subha Ramani, MD  
Maria A. Yialamas, MD  
Harvard Medical School Brigham and Women’s Hospital  
Kathleen M. Finn, MD  
Harvard Medical School Massachusetts General Hospital

Grand Couteau (Fifth Floor)  
206. Working with Written H&Ps: Minimizing Effort for Maximal Gain  
Joseph T. Wayne, MD  
Albany Medical College  
Nora L. Porter, MD  
H. Douglas Walden, MD  
Saint Louis University School of Medicine

3:30 p.m. to 4:00 p.m.  
Napoleon CD (Third Floor)  
Break, Cyber Café, Exhibits, and AAIM Connect Center

4:00 p.m. to 6:00 p.m.  
CDIM Committee Meetings (committee members only)

Estherwood (Fourth Floor)  
Evergreen (Fourth Floor)  
Program Planning Committee  
Research Committee

Evergreen (Fourth Floor)  
6:00 p.m. to 7:30 p.m.  
Napoleon CD (Third Floor)  
AAIM Poster Reception

Saturday, October 5, 2013

6:30 a.m. to 4:00 p.m.  
Grand Ballroom AB Foyer (Fifth Floor)  
Registration

6:30 a.m. to 8:00 a.m.  
Napoleon CD (Third Floor)  
Continental Breakfast, Cyber Café, Exhibits, and AAIM Connect Center

7:00 a.m. to 12:00 p.m.  
Napoleon CD (Third Floor)  
Academic Internal Medicine Week 2013 Career Fair (Sponsored by IM Career Source)

8:00 a.m. to 10:00 a.m.  
Grand Ballroom D (Fifth Floor)  
Plenary Session III  
Oral Abstracts Presentations  
Temple A. Ratcliffe, MD, Moderator  
Uniformed Services University of the Health Sciences  
F. Edward Hébert School of Medicine
Teaching Medical Students to Reflect “Deeper”

Amy Hayton, MD
Loma Linda University School of Medicine

A Novel Curriculum to Teach Patient-Centered Use of the Electronic Medical Record (EMR)

Wei Wei Lee, MD
University of Chicago Pritzker School of Medicine

Through the Eyes of Students: The Impact of the 2011 Duty Hour Regulation on Medical Students' Experiences on Core Internal Medicine Rotations

Karen E. Hauer, MD
University of California, San Francisco, School of Medicine

Creation of a Virtual Team Room: Using Secure Social Media in Medical Education

Martin D. Muntz, MD
Medical College of Wisconsin

SNAPPS-Plus: An Educational Prescription to Facilitate Formulating and Answering Clinical Questions

L. James Nixon, MD
University of Minnesota Medical School

10:00 a.m. to 10:30 a.m.
Napoleon CD (Third Floor)

Break, Cyber Café, Exhibits, and AAIM Connect Center

10:30 a.m. to 12:00 p.m.

AAIM Joint Workshop Session

Napoleon B3 (Third Floor)

Mary H. Trabert
Duke University School of Medicine

Oak Alley (Fourth Floor)

102. Leaning In: Applying Leadership Concepts from the Business World to Academic Medicine
Rachel A. Bonnema, MD
University of Nebraska College of Medicine

Jennifer Corbelli, MD
Melissa A. McNeil, MD
University of Pittsburgh School of Medicine

Abby Spencer, MD
Allegheny General Hospital
Western Pennsylvania Hospital Medical Education Consortium
<table>
<thead>
<tr>
<th>Room</th>
<th>Title</th>
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<tr>
<td>Napoleon B1 (Third Floor)</td>
<td>103. “Reaching Your Personal Best”: Maximizing Housestaff Potential with Professional Development Coaching</td>
<td>Kerri Palamara, MD, Alaka Ray, MD, Evangeline M. Galvez, MD, Kathleen M. Finn, MD, Nosheen Reza, MD, Harvard Medical School Massachusetts General Hospital, Carol Kauffman, PhD, McLean Hospital</td>
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<td>Napoleon A3 (Third Floor)</td>
<td>104. Improving Patient Satisfaction in a Complex Academic Health Care System: Two-Year Follow Up</td>
<td>Timothy Seibert, Mayra Marte-Miraz, Columbia University College of Physicians and Surgeons</td>
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<td>Napoleon B2 (Third Floor)</td>
<td>105. Teaching Clinical Reasoning: A Little Theory and Practice</td>
<td>Joseph Rencic, MD, Tufts University School of Medicine, Thomas D. Painter, MD, University of Pittsburgh School of Medicine, Dan A. Henry, MD, University of Connecticut School of Medicine, Warren Y. Hershman, MD, Boston University School of Medicine, Elizabeth A. Baker, Rush Medical College of Rush University</td>
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<td>Napoleon A1 (Third Floor)</td>
<td>106. Guidance for Personal Letters of Recommendation</td>
<td>Rechell G. Rodriguez, MD, Temple A. Ratcliffe, MD, San Antonio Uniformed Services Health Education Consortium (Brooke Army Medical Center), Paul A. Hemmer, MD, Uniformed Services University of the Health Sciences, F. Edward Hébert School of Medicine, Patricia A. Short, MD, Madigan Army Medical Center</td>
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107. Developing a Residents as Teachers Curriculum—Making it Practical, Effective, and an Opportunity for Career Development!
Jill Wener, MD
Andem Ekpenyong, MD
Viju John, MD
Susan Rogers, MD
Rush Medical College of Rush University

108. Rethinking the Department of Medicine Letter: Guidelines from the CDIM-APDIM Working Group
Valerie J. Lang, MD
University of Rochester School of Medicine and Dentistry

Matthew M. Fitz, MD
Loyola University of Chicago Stritch School of Medicine

Lia S. Logio, MD
Weill Medical College of Cornell University

109. Less Is More 2.0: Developing Your Faculty to Implement the High Value Care Curriculum
Darilyn V. Moyer, MD
Temple University School of Medicine

Jason A. Post, MD
Mayo Clinic School of Medicine
KeriLyn Gwisdalla, MD
Banner Good Samaritan Regional Medical Center

Sara L. Wallach, MD
St. Francis Medical Center

Jessica Dine, MD
Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania

110. Using the Annals to Teach Medical Humanities
Michael LaCombe, MD
Maine Medical Center

111. The Professionalism Matrix: A Novel Framework for Teaching and Evaluating Professionalism
Samuel Baz, MD
Lawrence K. Loo, MD
Van Geslani, MD
Leah T. Hans, MD
Loma Linda University School of Medicine
112. A Departmental ‘Writers Club’ for Faculty Development in Academic Production
Andrew Dentino, MD
Kristen Sorocco, PhD
University of Oklahoma College of Medicine

113. Finding Wellness: Departmental and Institutional Approaches to Improve Resilience and Prevent Burnout
Andrea S. Cedfeldt, MD
Sima S. Desai, MD
Oregon Health & Science University School of Medicine
Katherine lossi, MD
Portland VA Medical Center

114. Peer-to-Peer Intensive Mentoring
Rakesh S. Chaudhary, MD
Joetta Maier, MD
Kaiser Permanente Medical Group
(Northern California)/Santa Clara

115. Breaking Away from the iPatient to Care for the Real Patient
Wei Wei Lee, MD
Maria Alkureishi, MD
Vineet M. Arora, MD
University of Chicago Pritzker School of Medicine
Jeffrey Chi, MD
Stanford University School of Medicine

12:00 p.m. to 1:15 p.m.
CDIM Annual Awards Lunch
Grand Ballroom D (Fifth Floor)

Sara B. Fazio, MD, Moderator
CDIM President
Harvard Medical School
Beth Israel Deaconess Medical Center

CDIM Nominating Committee Report

Jennifer R. Kogan, MD
CDIM Nominating Committee Chair
Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania

CDIM Survey Report

Karen E. M. Szauter, MD
CDIM Research Committee Vice Chair
University of Texas Medical Branch at Galveston
Presentation of CDIM Louis N. Pangaro, MD, Educational Program Development Award

G. Dodd Denton, MD, Recipient
University of Queensland/Ochsner Clinical School

Paul A. Hemmer, MD, Recipient
Uniformed Services University of the Health Sciences
F. Edward Hébert School of Medicine

Karen E. M. Szauter, MD, Recipient
University of Texas Medical Branch at Galveston

Presentation of CDIM Charles H. Griffith, III, MD, Educational Research Award

Andrew R. Hoellein, MD, Recipient
University of Kentucky College of Medicine

Presentation of CDIM Ruth-Marie E. Fincher, MD, Service Award

Gary S. Ferenchick, MD, Recipient
Michigan State University College of Human Medicine

Presentation of CDIM Linda J. Marts Administrator Service Award

Ginger Wilson, Recipient
University of Oklahoma College of Medicine, Tulsa Campus

1:15 p.m. to 1:30 p.m.
Napoleon CD (Third Floor)

Break, Exhibits, Cyber Café, and AAIM Connect Center (exhibit hall closes at 4:00 p.m.)

1:30 p.m. to 3:00 p.m.
Napoleon B3 (Third Floor)

Workshop Session III

301. Clerkship Administrators Workshop—Social Networking at the Professional Level
Ginger Wilson
University of Oklahoma College of Medicine-Tulsa School of Community Medicine

Julie L. Randall
Michigan State University College of Human Medicine

Bonnie Caywood
University of Colorado School of Medicine
302. “You Can Observe a Lot by Watching”: An Easy Fit Faculty Development Model for Direct Clinical Observation of Medical Trainees
Danit Arad, MD
Manuela Calvo, MD
Amanda C. Raff, MD
Sheira Schlair, MD
Albert Einstein College of Medicine

Dennis Chang, MD
Eric Bama, MD
Icahn School of Medicine at Mount Sinai

303. Should We Standardize the Sub-Internship?
Kendall Novoa-Takara, MD
Banner Good Samaritan Regional Medical Center

Tina Younger, MD
Shaghaeygh Abdollahi, MD
Maricopa Medical Center

304. An Interdisciplinary Ambulatory Faculty Development Conference
Viju John, MD
Jah-Won Koo, MD
Louis Rohr, MD
Rush Medical College of Rush University

Meeting adjourns or attend other AIMW13 sessions
Define “Mistreatment”

policies, speech, actions or behaviors that treat a student in a threatening, intimidating or otherwise inappropriate manner sufficient to adversely affect the student’s learning environment.
Extensive Literature

Reports in 1960s
Flurry of reports around 1990
   AAMC Grad Questionnaire since 1992
Another flurry around 1998
   (abuse became mistreatment)
Still, about ½ of students report experiencing

Where does mistreatment happen?

Clinical rotations
   – Low frequency: FM
   – Intermediate: IM, Peds, Psych
   – High: Surg, OBGYN

Lubitz. JAMA 1996
Richardson. Acad Med 1997
What Happens & by Whom

- What
  - Belittlement
  - Inappropriate Tasks
  - Sexual, Ethnic, Physical
- By whom
  - Attending, resident, nurse, peer, patient

Silver. JAMA 1990
Daugherty. JAMA 1998

Who is more likely to be mistreated?

Women and minority students

Corbie-Smith. Acad Med 1997
Nora. Acad Med 2002
Outcomes of Mistreatment

- major cause of stress for students
- linked to psychopathologic outcomes (depression, anxiety, hostility, alcohol)
- students reject specialties as a career choice and medicine altogether

Sheehan. JAMA 1990
Richman JAMA 1992
Stratton. Acad Med 2005
Frank. BMJ 2006

Students are reluctant to report

WHY?

1. Fear retaliation
2. Unchangeable culture

Elnicki. TLM 2002
Medical Student Abuse During Internal Medicine Clerkships

Elnicki. Acad Med 1999

Our study: In response to AAMC surveys
Involved 11 schools, 1072 students
Response rate: 83%

- Incidence: 11% (2-30% by school, p<.01)
- Women 14.6% v. men 9.8% (p=.02)
- Race- no significant differences

Frequency and Type of Abuse in Internal Medicine Clerkships

Elnicki. Acad Med 1999

<table>
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<th>Source</th>
<th>Belittle</th>
<th>Tasks</th>
<th>Sex</th>
<th>Physical</th>
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<td>7</td>
<td>1</td>
<td>0</td>
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<td>55</td>
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<td>5</td>
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<td>Patient</td>
<td>8</td>
<td>2</td>
<td>10</td>
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<tr>
<td>Total</td>
<td>102</td>
<td>66</td>
<td>20</td>
<td>7</td>
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N = 123/1072 students
Student Abuse from Multiple Perspectives

- Video vignettes sent to 13 medical schools
- Viewed by IM attending physicians, nurses, IM residents, students (MS3, MS4)
- 45% had personal experience of abuse as students (defined, self report)
Study Questions

• Do attending physicians, nurses, residents, and students agree on what constitutes medical student abuse?
• Do these groups perceive abuse with similar severity?
• Does personal experience of abuse influence perceptions of abuse?
• ANSWERS: yes, to all 3

Understanding Conceptually


• Like child abuse
• Power structure
• Self-perpetuating
• Hidden curriculum
Newer Work

- Preventing: understand learning environment, clearly define, training
- Reporting: identified process
- Addressing: policy and procedure

Heru. Acad Med 2003
Recupero. Acad Med 2004
Fried. Acad Med 2012

Rest of the World

- Not different
  - UK: Hoosen. Psychiatrist 2004
  - Japan: Shizuko. JGIM 2006
  - Germany: GMS Med Ausbild 2012
  - Pakistan: Shoukat. PLoS One 2010
Abuse or Not?
Ogden. Acad Med 2005

<table>
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<th>Pimping</th>
<th>Ethnic</th>
<th>Feedback</th>
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<td>Overall</td>
<td>88*</td>
<td>89</td>
<td>37*</td>
<td>96</td>
<td>19*</td>
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<td>57</td>
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<td>89</td>
<td>28</td>
<td>92</td>
<td>15</td>
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</table>

*Respondents who reported a history of abuse were more likely to perceive abuse in these scenarios (p < .05)
CDIM Plenary

Student Mistreatment

Goals:

- To review the history of student mistreatment in Medical School, and the origins of this phenomenon.
- To review what has been done to address student mistreatment, and the outcomes of those programs.
- Discuss the effect of the generational changes in what constitutes “mistreatment”.
- Review illustrative scenarios.

Program length: 90 minutes

45 minutes-50 minutes for the talk and the rest for questions.

Program:

I. Moderator (ME): introduce the topic, the process and the speakers.
II. Video 4: sexual harassment (1-2 minutes)

Could this happen at your medical school?

Would you know what to do if it did?

Yes/No: Voting via cards

III. Mike Elnicki: 15 minutes

Overview of the history of student mistreatment in medical school

IV. Video 2: ethnic insensitivity (1-2 minutes)

Mistreatment or not?

Yes/No: Voting via cards

What should you do about it?

Choose from 3 options: Voting via cards
V. Joyce Fried: (15-20 minutes)
Addressing mistreatment: UCLA and the results of their efforts

VI. Video 3: feedback (1-2 minutes)
Mistreatment or entitlement?
Choose between the 2: Voting via cards

VII. Melissa McNeil: (15-20 minutes)
Mistreatment or entitlement? Changing definitions and expectation of the Millennials

VIII. Video 1: pimping (1-2 minutes)

IX. Moderator: (15-20 minutes)
Invite comments about this video, others and from speakers
Eradicating Medical Student Mistreatment
A Sisyphean Task

Joyce M. Fried
Assistant Dean
David Geffen School of Medicine at UCLA
The Myth of Sisyphus

Eradicating Medical Student Mistreatment: A Longitudinal Study of One Institution’s Efforts
Jayne M. Reed, Michelle Vennikov, Joel H. Parker, MD, and Sebastian Liptzin-Hage, MD

Abstract

Purpose
Since 1999, the David Geffen School of Medicine at UCLA DGSOM has created policies to prevent medical student mistreatment, instituted viable mechanisms for reporting mistreatment, provided resources for discussion and resolution, and educated faculty and residents. In this study, the authors examined the incidence, severity, and sources of perceived mistreatment over the 13-year period during which these measures were implemented.

Method
From 1999 to 2008, medical students at DGSOM completed an anonymous survey after their third year. Methods and reported how often they experienced physical, verbal, sexual harassment, ethnic, and power mistreatment, and who committed it. The authors analyzed these data using descriptive statistics and the students’ descriptions of these incidents, qualitatively categorizing them as “mild,” “moderate,” or “severe.” They compared the data across four periods, delineated by medicine institutional measures to eradicate mistreatment.

Results
Of 2,131 eligible students, 1,945 (96%) completed the survey. More than half (1,186/2,131) experienced some form of mistreatment. Verbal and power mistreatment were most common, but 5% of students (109/2,131) reported physical mistreatment. The pattern of incidents categorized as “mild,” “moderate,” or “severe” remained consistent across the time period. Students most frequently identified residents and clinical faculty as the source of mistreatment.

Conclusions
Despite a multifaceted approach at DGSOM across a 13-year period to eradicate medical student mistreatment, a prominent aspect of the hidden curriculum may be undermining these efforts. Thus, eradicating mistreatment requires an aggressive approach both locally at the institution level and nationally across institutions.
Well-Being Survey

- Administered end of 3rd-year clerkships
- Responses are anonymous
- Students report:
  - Whether or not they experienced mistreatment
  - Frequency
    - once, twice, multiple occasions
  - Sources of mistreatment
    - pre-clinical faculty, nurse, clinical faculty, resident, student, patient, other
  - Department and institution (optional)
  - Description of experience (optional)

Types of Mistreatment

- Physical
  - Slapped, struck or pushed
- Verbal
  - Yelled or shouted at, called a derogatory name, cursed or ridiculed
- Sexual Harassment
  - Inappropriate physical or verbal advances, intentional neglect, sexual jokes, or mistreatment based on sexual orientation
- Ethnic
  - Intentional neglect, ethnic jokes, comments, and expectations regarding stereotypical behavior
- Power
  - Made to feel intimidated, dehumanized, or had a threat made about a recommendation, grade, or career
UCLA Well-Being Survey
(Students surveyed end of third year)

Have you personally experienced this type of mistreatment in the last year?

Timeline of Our Proactive Approach

- Gender and Power Abuse Committee formed
- Statement on an Abuse-Free Environment
- Medical Sciences OMBUDS Office
- Policy for Prevention of Student Mistreatment
- Student and Resident Education Program
- Doctoring 3 Module
- Paper on Student Mistreatment
- State-Mandated Sexual Harassment Training Course

(Approximate N for each class = 160)
Analysis of the Severity of Comments

- Reviewed all comments describing mistreatment
- Identified themes
- Coded comments using themes
- Severity rating of mild, moderate or severe assigned to themes
- Severity ratings applied to each comment
Example of Comment & Severity Rating - Power

"On medicine I had to consult surgery but the surgeon refused to speak to me because I was a medical student despite having the most complete knowledge about the patient as the new interns had just started that day."

Theme: 
Neglect/ignored

Mild

Example of Comment & Severity Rating - Ethnic

"Resident said that I'm just like all the other Asian families whose parents never love their kids and give unbelievable amounts of pressure to do well."

Theme: 
Stereotyped

Moderate
Example of Comment & Severity Rating - Physical

“The chief resident sucker-punched me in the stomach to make the other residents laugh.”

Theme:
Physically mistreated causing pain or potential injury

Severe

Have incidents become less severe?

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<th>Period</th>
<th>100%</th>
<th>90%</th>
<th>80%</th>
<th>70%</th>
<th>60%</th>
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<th>20%</th>
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</tbody>
</table>

- Mild
- Moderate
- Severe
Public and Academic Reaction to Study

- Pauline Chen called attention to our study in a NYT column, “The Bullying Culture of Medical School”

- She praised DGSOM for being a “leader” in instituting reforms

- She received 1,065 comments/responses to her column

- These publications reignited the national dialogue
“The children now love luxury. They have bad manners, contempt for authority; they show disrespect for adults, and love to talk (or text) rather than work or exercise. They no longer rise when adults enter the room. They contradict their parents, chatter (or text) in front of company, gobble down food at the table and intimidate their teachers.”
Who said this?

“The children now love luxury. They have bad manners, contempt for authority; they show disrespect for adults, and love to talk (or text) rather than work or exercise. They no longer rise when adults enter the room. They contradict their parents, chatter (or text) in front of company, gobble down food at the table and intimidate their teachers.”

Socrates (469-399 B.C.)

The World We Live In

You are facilitating a small group session of second year medical students. You have 9 people in your group. One person has his laptop open when you enter the room, and keeps it open. He participates in the discussion, but it is clear that he is reading and responding to email throughout the session. At the end of the session you give him feedback that this is not appropriate. Your evaluations include one that states you are dictatorial and paternalistic.
The World We Live In:
Analyze the Situation

Ann had just sorted out that she wanted to look at gender differences in the treatment of pneumonia in the hospital setting. She and her mentor are sorting out next steps by email. He asks her to review any pertinent literature about the topic. She emails him back and asks him if he has the articles. He writes back that she should do a literature search. She writes back asking if he could please identify for her how best to go about the search. She states that he is unrealistic and not respectful of her time.

Objectives

- Gain a better understanding of what motivates the different generations in the academic environment
- Better identify when conflicts in communication and professionalism “miscues” arise from generational differences
- Understand how these miscues can lead to perceptions of student mistreatment by faculty
Different Worlds

Factors that Define a Generation

- Common life experiences and events
- Popular culture
- Parenting behavior
- Politics and the Economy
- Science and Technology

- Different generation have different historical perspectives and different core values
These differences have received lots of attention in the business literature. Reflected in several aspects of performance:
- Work ethic
- Work life balance
- Loyalty to the job
Attitudinal differences do not necessarily reflect differences in competency, commitment, or professionalism.

Generational Differences

Generations in the Workplace

<table>
<thead>
<tr>
<th>Generation</th>
<th>Birth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditionalist</td>
<td>1925-1945</td>
</tr>
<tr>
<td>Baby Boomer</td>
<td>1946-1964</td>
</tr>
<tr>
<td>Generation X</td>
<td>1965-1980</td>
</tr>
<tr>
<td>Millennials</td>
<td>1981-present</td>
</tr>
</tbody>
</table>
Baby Boomers: Defining Historical Events

- Born between 1946 and 1964
- John F. Kennedy is elected
- Cuban missile crisis
- JFK is assassinated.
- Birth control pills are introduced
- Vietnam War & protests
- Martin Luther King leads the civil rights movement
- MLK is assassinated
- Woodstock Musical Festival

Baby Boomers: Core Values

- Post WWII greatest economic expansion this county had ever seen.
- Optimistic & Idealistic; want to make a difference
- Live to work (and to get ahead)
- Highly competitive and do not ask for help
- Uncomfortable with conflict
- Team oriented
- Traditional upbringing leading to mixed gender roles
Baby Boomers: Styles

**Believe in work ("workaholic")**
- Job defines their identity
- Professional & warm (but don’t get in their way)
- Intolerant of those who work shorter hours or insist on a"personal life"

Gen X: Defining Historical Events

- Born between 1965 and 1980
- Introduction of the personal computer
- Watergate scandal and first resignation of a U.S. President (Nixon).
- US corporations have massive layoffs
- Space shuttle *Challenger* disaster
- Exxon Valdez oil tanker spill
- AIDS
Gen X: Core Values

Came of age in an era of fallen heros
- Two career families; parents viewed as workaholic and absentee
- Time and leisure are priorities
- Question authority; cynical
- Eschew self-sacrifice
- Techno-literate
- Self-reliant & resourceful; latch key kids
- Seeking a sense of family
- Want balance; they work to live

Gen X: Styles

Work is no guarantee of survival
- “Is this going to be on the test?”
- Old chain-of-command system is burdensome.
- More egalitarian than hierarchically oriented
- Used to challenging and being challenged. Like to ask “why?”

Multitasking
- Often incorrectly accused of having little-to-no attention span.
- Process work differently: handle lots of information at the same time
What Boomers Say About the Gen Xers

- **Boomers say . . .**
  - “They’re slackers.”
  - “They’re rude and lack social skills.”
  - “They’re always doing things their own way, instead of the ‘right’ way.”
  - “They spend too much time on the Internet.”
  - “They won’t wait their turn.”
Millenials: Defining Historical Events

- Born 1981-present
- Technology & the Internet (“like air”)
- Life is short
  - “9/11” (2001)
  - Oklahoma City bombing (1995)
  - Shootings at Columbine High School (1999) and Virginia Tech University (2007)
- Busy & (over) planned lives while growing up

Millenials: Core Values

Information Generation

- Hopeful
- Searching for meaningful work
- Diversity and change valued
- Technology savvy
- Parents are friends
- Less self reliant than generation X
- Greater exposure/acceptance of multiculturalism
- The globe is shrinking
Millenials: Styles

- In the “classroom” - Educational Characteristics:
  - Egalitarian preferring to work in groups & teams
  - Do not like hierarchy
  - Accustomed to adult supervision and structure
  - Communication Style: Polite, attentive, and respectful,
  - Prefer Internet resources over textbooks
  - Outcomes oriented
  - Crave immediate feedback
  - Face to face (but can be in electronic mode)
  - Want involvement in career planning

Millenials are Different

- Communicate differently
  - Always connected
  - Immediate question and answer
  - 24/7 in touch

- Function differently
  - When and where they want it

- Much less self reliant than Gen X
  - Helicopter parents vs latch key children
Opportunities for (Mis)Communication

- Differences in job expectations
- Differences in reward systems
- Difference in role models
- Hence, the challenge of translating values (which are agreed upon) into specific behaviors

Implications

**Boomers**
- Equate professionalism with work ethic
- Total dedication to the job above all else
- Perceive Millennials as not committed

**Millenials**
- Focus on caring for self and family
- Committed to balance
- Higher educational debt
- Team players
- Real time information
- Technology focused
(Mis) Communications

- Scenarios presented are examples of generational miscommunications
- Why do they occur?
  - Different core values
  - Different values
  - Lack of appreciation for the ways that different generations see different situations

How We Handle Generational (Mis)Communication

- We ignore them and their consequences
- We react to them and allow miscommunications to accelerate
- We can anticipate them and try to prevent them
Summary: Generational (Mis)Communication

- Different generations have different:
  - Goals
  - Expectations
  - Priorities
- These differences present opportunities for misunderstandings
- These miscommunications present dilemmas:
  - Difficulty in achieving your goals
  - Opportunities to be misjudged

Summary: Generational (Mis)Communications

- Decide what you really want
  - What do you want for yourself?
  - What do you want out of the relationship?
- Refocus your brain on the goal you are seeking and ask: How would I behave if I wanted these results from the person that I am interacting with?
- Remember that the only person you can directly control is yourself—you can’t change the situation, only how you react
CDIM Presidential Address
2013 National Meeting

Sara Fazio, MD, FACP
Associate Professor of Medicine
Harvard Medical School
What is CDIM?

“CDIM is the organization of individuals responsible for teaching internal medicine to medical students.”
Course Directors *(in)*
Internal Medicine

Creative Dynamos
Inspiring Medical students
Creative Dynamos Inspiring Medical students

CDIM…

- Began as a steering committee in 1989 led by Dr. Ruth-Marie Fincher
- First meeting in 1990
- CDIM now:
  - 765 members
  - 231 medical schools
  - 149 clerkship administrators
What is CDIM?

My version…
What is AAIM?

Hogwarts School of Witchcraft and Wizardry

RAVENCLAW
KNOWLEDGE COMES FIRST.

SLYTHERIN
KNOWLEDGE IS POWER.

HUFFLEPUFF
KNOWLEDGE IS GAINED THROUGH HARD WORK.

GRYFFINDOR
THIS IS SPARTA.

daring
ambition
wisdom
loyalty

but we're a family after all.
AAIM

- 4000+ members
- Integration:
  - Provide academic internal medicine with a stronger voice
  - Cross-fertilization of ideas and purposes

Integration
AAIM Innovation Center

- Forum to share innovations in education and research
- Access to resources
- Advocacy
- Enhance leadership opportunities
- Faculty development
- Regional meetings
Health care in the United States is at a critical point. Excessive costs are no longer tenable and mediocre outcomes are no longer tolerable. For 32 of the past 40 years, health care costs have grown faster than the rest of the U.S. economy.

Despite these expenditures, outcome shortfalls are pervasive. Population health measures such as life expectancy and preterm birth lag behind those of almost every other developed nation. Patients are still harmed by medical errors.

Recent assessments indicate that 10 years after the IOM report To Err is Human estimated that medical errors cause up to 98,000 deaths in hospitals each year. Roughly 15 percent of hospital patients are still being harmed during their stays.

Poor care coordination places further strain on patients and the system, with roughly 20 percent of discharged elderly patients returning to the hospital within 30 days.
ABIM Choosing Wisely

About
Learn More about Choosing Wisely

"I'll be the doctor and you be from managed care."
CDIM and High Value Care

1. Defining student competencies.
3. “Call outs” for HVC in Essentials Textbook for Students, MKSAP for Students, and SIMPLE.
4. Partnering with ACP to work on a tool-kit.
5. Creating modules for the IM clerkship.
6. Defining HVC as a focus of our survey and plenary in 2014.
7. AAIM-wide publication.
8. Inclusion of HVC in student assessment.
Final Marathon victim leaves the hospital
Maryland woman departs 7 weeks after attack

By Helen English | GLOBE STAFF JUNE 09, 2013
Embracing Change
Embracing change
Thank you!
A special moment

October 2012

The 2012 recipient of the

Clerkship Directors in Internal Medicine
Charles H Griffith III
Educational Research Award

Dr Kathy Chretien
The Special Opportunity.....

The 15th Annual CDIM Review of Medical Education

Reading, Writing, and Role Modeling

- Washington DC VA Medical Center
  – Medicine Clerkship Director for GW students

- Journals
  Associate editor *Journal of Graduate Medical Education*

- Freelance Writer
Charged and Connected

- Professionalism and social media

Thoughtful

- Reflective writing

Leader

- CDIM Research Committee
So much to celebrate
Kiss your life goodbye.
Anxiety over Time

Anxiety

Time

Normal physiologic range

Asked about progress Asked about progress  Asked about progress

Thank you
A Bibliometric Analysis of Evaluative Medical Education Studies: Characteristics and Indexing Accuracy

Margaret Sampson, MLIS, PhD, Tanya Horsley, PhD, and Asif Doja, MD, MEd

Academic Medicine
Medical Education
Medical Teacher
Teaching and Learning in Medicine
Journal of Continuing Education in the Health Professions

BMJ
Journal of General Internal Medicine
Medical Journal of Australia
Lancet
JAMA

Throughout the research, we were challenged by the feeling that we were not giving the “big names” in Medical Education their due, but we tried to stick to our analysis plan, and let the evidence take us where it would.

-Margaret Sampson, study lead author
MEDLINE Search
Oct 1, 2012-Sept 30, 2013

MESH headings
Medical student
Medical education

“Medical student”
AND
“Medical education”
[All Fields]

Hand search of Table of Contents

Problems saying ‘no’

YES  MAYBE  NO
Effect of Exposure to Good vs Poor Medical Trainee Performance on Attending Physician Ratings of Subsequent Performances

Peter Yeates, MBBS, M ClinEd
Paul O’Neill, MBChB, MD
Karen Mann, PhD
Kevin W. Eva, PhD

Yeates P et al. JAMA 2012; 308:2226-2232
1. Well below expectations
2.7

3. Borderline

6. Well above expectations

Good performances

Poor performances

Yeates P et al. JAMA 2012; 308:2226-2232

Good performances
Failed 55%

Poor performances
Failed 24%

Yeates P et al. JAMA 2012; 308:2226-2232
Recruiting practicing physicians who are involved in assessment, when we lacked sufficient budget to pay for their time, was a real challenge. Using a web-based approach allowed us to recruit nationwide, increasing the external validity of our study, and was flexible enough to allow busy people to take part. Also, it removed the potential for any researcher-participant interaction. None the less, recruitment was a very large task which simply required persistence.

-Peter Yeates, study lead author
38 SPs

4 examiners

Constructivist grounded theory


- SP identity
- Examiner
- OSCE
- Student
- SP Rating

VOCATION

VALIDATION
So often assessment is seen as straightforward and unproblematic when, in fact, it’s a highly complex social process with huge implications for learning!

-Jennifer Johnston, study lead author
Our humanity

Enhancing and sustaining empathy in medical students

MOHAMMADREZA HOJAT, DAVID AXELROD, JOHN SPANDORFER & SALVATORE MANGIONE
Jefferson Medical College of Thomas Jefferson University, USA
248 second year students

Phase 1
- Empathy-enhancing video clips (Experimental group)
- Historical documentary (Control group)

Phase 2
- Empathy lecture and discussion (Reinforced group)
- Movie on racism in medicine (Not reinforced)

173 Student essays

4 themes

(1) Facing time constraints

“Sometimes it is necessary to take care of everything else before there is really a chance to take care of oneself…"

“If not anything else, third year has taught me that I have to pay attention to myself and my well-being even more so than before.”


(2) Becoming a role model

“I felt hypocritical at times preaching to patients about the importance of physical activity and eating well when I did not prioritize them myself.”

“…I have started to expect more from myself. After all, if I’m going to expect it from my patients, I might as well be setting a good example myself.”

(3) Experiencing impact of information

“I always figured an in-depth knowledge of disease and its outcomes would lead a physician to...take extra care with regard to their wellness. However, this is generally as far from reality as can be imagined.”

“Going through clerkships and having patients both younger and older than myself...has made me realize that my own life span is not infinite, and they way I live now is very important.”


(4) Developing a professional identity

“Physicians who show up for work despite being sick...are applauded for their dedication. Those who do not show up are thought to be weak and their quality as a physician is questioned...”

“I’m very proud of the instances where I’ve acknowledged that I wasn’t able to do something...Although it may look bad in the moment, I’ve found that people will eventually show respect for it.

“We’ve begun to **humanize** medicine for the patients. I believe that we should start **humanizing** it for the **health care providers.**”

-Medical student

I thought there would be much more consistent alienation, depression, anger--but although these things were there, there was an amazing amount of strength and awareness of the great potential for learning and personal transformation that comes with the work of becoming a doctor.

-Benjamin Kligler, study lead author
“Something we were withholding made us **weak**, until we found it was ourselves.”

- Robert Frost
words from 673 students

31 medical schools

Creativity

Love
Compassion
Freedom
Family
Peace
Relationships
Reflection
Balance

Rabow MW et al. Fam Med 2013;45:13-8
I came away from writing our paper concerned about the likelihood that once important values or priorities are repressed, it is going to be very difficult to resurrect them. The learning environment for trainees helps them learn how to think but suggests as well, in powerful ways, who they should be at work.

-Mike Rabow, study lead author
The future of primary care
Payback time: the associations of debt and income with medical student career choice

Martha S Grayson,1,2 Dale A Newton3 & Lori F Thompson1

Chose PC/HPNPC at Year 1; Chose PC/HPNPC at Year 4 (n = 1236)

PC 58 %  HPNPC 42 %

Sustainers 69 %  Switchers 31 %


This is heart-breaking.

-Martha Grayson, study lead author
Primary Care, the ROAD Less Traveled: What First-Year Medical Students Want in a Specialty

Kimberly L. Clinite, Shalini T. Reddy, MD, Stephanie M. Kazantsev, MA, Jennifer R. Kogan, MD, Steven J. Durning, MD, PhD, Terri Blevins, MD, Calvin L. Chou, MD, PhD, Gretchen Diemer, MD, Dana W. Dunne, MD, Mark J. Fagan, MD, Paul J. Hartung, PhD, Hilit F. Mehaber, MD, Douglas S. Paauw, MD, Jeffrey G. Wong, MD, and Kent J. DeZee, MD, MPH
1020 1st year students

PC-1st

PC-2nd

PC-mixed

PC-least

No opinion

Clinite KL et al. Acad Med 2013;88

LIFESTYLE

Enjoy type of work (4.8)
Enjoy work environment (4.6)
Have enough time off (4.0)
Control over schedule (3.9)
Financial compensation (3.2)

Financial compensation

PC-1st 2.8
PC-least 3.7

Clinite KL et al. Acad Med 2013;88
**SPECIALTY-SELECTION**

- Being satisfied with job (4.7)
- Time to spend with family (4.5)
- Work-life balance (4.5)
- Research opportunities (2.6)
- Perceived prestige (2.4)
- Rural practice locations (2.0)

---

**Work with underserved**

- Effect size 0.98
- PC-1st: 3.8
- PC-least: 2.6

**Rural practice locations**

- Effect size 0.64
- PC-1st: 2.4
- PC-least: 1.7

---

Clinite KL et al. Acad Med 2013;88
What is encouraging about our results is that most students enter medical school wanting to find meaning in their work...Ultimately, we want to harness the passion, enthusiasm, and idealism of students for the medical profession.

-Kim Clinite and Shalini Reddy, study authors
No Time for Teaching? Inpatient Attending Physicians’ Workload and Teaching Before and After the Implementation of the 2003 Duty Hours Regulations
Lisa M. Roshetsky, MD, MS, Ainoa Coltri, MA, Andrea Flores, MS, Ben Vekhter, PhD, Holly J. Humphrey, MD, David O. Meltzer, MD, PhD, and Vineet M. Arora, MD, MAPP

482 attending physicians
2001-2008

The most surprising feedback that I felt that we’ve received was from a subsequent blog on Acad Med where Dr. Ende noted,

‘And third, what about burnout? Maybe that’s a good thing too. Everyone, at times, feels burned out. The sense of burnout is life’s egg timer, letting you know you are about to get hard boiled. For me, two weeks and I’m done. But burnout is also a stimulus to think about what you value most in teaching students and residents on the wards, i.e. why you chose to do this in the first place.

That’s how we refine what Brookfield refers to as our organizing vision of teaching, which is a fancy way of reminding us why we chose to be an attending physician in the first place.’

It could be interesting to ask if new, innovative ways of teaching are more intellectually stimulating and pleasurable ... thus alleviating perceptions of unmanageable workload and symptoms of burnout independent of actual patient census.

-Lisa Roshetsky, study lead author
Outcomes of Different Clerkship Models: Longitudinal Integrated, Hybrid, and Block
Arianne Teherani, PhD, David M. Irby, PhD, and Helen Loeser, MD, MSc

Knowledge Acquisition

Clinical skills

Satisfaction

Course evals

Role-models

Patient-centered behaviors

C3

CPX

C3

MCAT

BCHYBRIDLIC


Knowledge Acquisition

Clinical skills

Satisfaction

Course evals

Role-models

Patient-centered behaviors

C3

CPX

C3

MCAT

BCHYBRIDLIC

More continuity

Hybrid

Less continuity
When we embarked on this study, we had an inclination that the continuity might be better but we were not sure: after all learners with little or no continuity continue to learn and seem to do perfectly fine. However learning through our study that increased continuity lead to greater benefits to students was a very poignant affirmation of what we intuitively guessed all along.

-Arianne Teherani, study lead author

Mentors and teachers
More Is Better: Students Describe Successful and Unsuccessful Experiences With Teachers Differently in Brief and Longitudinal Relationships

Karen E. Hauer, MD, Bridget C. O’Brien, PhD, Lori A. Hansen, MD, David Hirsh, MD, Iris H. Ma, MD, Barbara Ogar, MD, Ann N. Poncelet, MD, Erik K. Alexander, MD, and Arianne Teherani, PhD

54 third year students

Semi-structured Interviews

3rd year

3 themes

Time/Continuity

Power

Purpose

Definition

Time / continuity

Relationship Development

Respect

Days to weeks

Months to a year

Interest in student as person
Common interests
Supervisor defines success

Relationship Development
Time / continuity
Definition

Shared responsibility for patients
Based on mutual goals

Respect

Supervisor recognizes, acknowledges student, knows name
“They don’t always say hi to you when you see them in the hall.”

Supervisor confident in student ability
“He respects me as a person and thinks I’m capable.”

Gives student responsibility in patient care

It is shocking that students feel valued just because an attending recognizes them in the hall or knows their names; as educators we should set the bar higher.

-Karen Hauer, study lead author
"A Good Career Choice for Women": Female Medical Students' Mentoring Experiences: A Multi-Institutional Qualitative Study

Rachel B. Levine, MD, MPH, Hillit F. Mechaber, MD, Shalini T. Reddy, MD, Danelle Cayea, MD, MS, and Rebecca A. Harrison, MD

8 Focus Groups
4 Institutions
48 Female medical students

4 themes

(1) Optimal mentoring relationships highly relational

(2) Relational mentoring more important than gender concordance

(3) Gender-based assumptions, stereotypes matter for mentoring relationships

(4) Gender-based power dynamics influence students


When gender starts to drive the conversation, I can’t even tell you the number of times I’ve heard the phrase, “It’s a good career choice for women” which just drives me up the wall...phrases that would never be spoken to my male counterparts.”

I was struck by how students identified and articulated the issue of “access to networks and sponsors.” Students recognized that certain faculty were in positions of power and influence and that these faculty were very important for their careers as people who could write letters of recommendation and make calls at residency application time. The students clearly stated that the faculty in positions of power were more often men and that even though women might make great mentors (listening, providing advice and support) they often could not provide sponsorship.

Rachel Levine, study lead author
Teaching for understanding in medical classrooms using multimedia design principles

Nabil Issa,1 Richard E. Mayer,2 Mary Schuller,1 Edward Wang,3 Michael B. Shapiro1 & Debra A. DaRosa1

37 third year students (traditional condition) 43 third year students (modified condition)

Pretest

Oxygen Delivery vs. Consumption
- You can increase your delivery but you cannot control your consumption as it is a function of tissue physiology.
- You have to meet your tissue’s requirements or else you will accelerate lactic acid production and tissue ischemia.
- Critical DO2 is that point where DO2 meets VO2 and tissues are utilizing aerobic metabolism.
- Up till that point there is an inverse relation between DO2 and VO2, a state we call flow dependent.

Immediate

1 week
4 weeks

Relation between DO2, VO2 and O2 extraction by tissues

Flow independent

Flow dependent

VO2

DO2
What was most challenging about conducting the study?

Ensuring that the lecturer used a consistent and comparable presentation delivery style, regardless of the multimedia design format. This was done through repeated practice prior to the lecture and having an educational specialist attend and observe the lectures in real time.

-Nabil Issa, study lead author
Symptomatic aortic stenosis scenario

Rating of emotion, cognitive load

Acute pulmonary embolism scenario

Chest pain with AS (trained murmur)
Chest pain with MR (novel murmur)
Tranquility

(-) tense / calm (+)
(-) nervous / relaxed (+)
(-) stressed / serene (+)
(-) upset / content (+)
(-) sad / happy (+)

Invigoration

(-) depressed / elated (+)
(-) lethargic / excited (+)
(-) bored / alert (+)

Cognitive load and emotion

Fraser K et al. Med Educ 2012;46:1055-62
The importance of emotional engagement in simulation training has received much attention. We believe that the time has come to balance this view with the knowledge that emotional content can actually impair learning through cognitive overload. The practical message for medical instructors is to carefully consider both the yin and the yang of emotion when designing simulation activities.

-Kristin Fraser, study lead author
Does the think-aloud protocol reflect thinking? Exploring functional neuroimaging differences with thinking (answering multiple choice questions) versus thinking aloud

STEVEN J. DURNING1, ANTHONY R. ARTINO JR.1, THOMAS J. BECKMAN2, JOHN GRANER3, GEE S. VAN DER VLEUTEN3, ERIC HOLMBOE4 & LAMBERT SCHUWIRTH5

Durning SJ et al. Med Teach 2013;35:720-6

Phase 1: Reading
Phase 2: Answering
Phase 3: Think-aloud

17 physicians

Think-aloud training

Formal think-aloud protocol

fMRI
We were thankful that internists had measurable brain activity while answering high stakes multiple choice questions.

-Steve Durning, study lead author
Doing something different (like this line of work) is really challenging and requires “thick skin” and patience. Albert Einstein said ‘We cannot solve our problems with the same thinking we used when we created them.’ Are we giving investigators the needed time and other resources to try new things to “solve” the problems that are important to us, our trainees, and most importantly, our patients?

-Steve Durning, study lead author
### Background


### Assessment


### Our humanity

Hojat M, Axelrod D, Spandorfer J, Mangione S. Enhancing and sustaining empathy in medical students. Med Teach 2013; June 11 (early online)


### Future of primary care


### The clinical environment


### Mentors and teachers


### The science of learning

|---|
Ocular Roaming: Can we get Away with it?

Barbara Prather
University of Oklahoma HSC

Cleon Ryland Jr.
Boston University School of Medicine

Britt Simonson
Boston University School of Medicine

Academic Internal Medicine Week 2013
New Orleans, LA
October 2-6

Disclosures

- Hello, my name is Barbara and I’m a cheater
- Pencil, Paper & Pop Quiz
- What possessed me?
NBME and Deeper

- NBME
- Formal Assignments
- Presentations
- On-line Resource Risks
(1)

On-Line Resources

- Syllabus
- Grades
- Presentations
- Exam Software
(2)
Research

- Personal vs. situational
- Survey-based research
- Giving or receiving illicit information

(1)

Intrinsic/Extrinsic Motivation

- Intrinsically (learning-oriented)
- Extrinsic (performance/grade-oriented)

(1)
Neutralizing Attitudes

- Justifications
  - Avoiding “moral culpability for criminal actions”
  - Earlier neutralizing attitudes have a direct correlation with later cheating
  - Allows rationalization
  - Does not cause but enables

(1)

Cheating Culture

- Peers
- Witnessing vs. social context

(1)
Situational Factors

- Acquiring vs. providing
  - Selflessness
  - Selfishness
- Exam
- Plagiarism

(1)

Conclusion

- Multifaceted
- Individualized
- Evolving
The Key Stakeholders

Cleon Ryland Jr.
Boston University School of Medicine

Who

- The three key stakeholders:
  - Student
  - Proctor
  - Institution

- This section will discuss the role each stakeholder plays and their relevance to cheating; while addressing how environment, competitive ranking and the pressure of medical school can influence the desire to cheat.
Student

Did I do that?

- Factors that make cheating appealing and possible:
  - Pressure
  - Burn out
  - Illusion
  - Denial
  - Proof
  - Lack of Reporting

(4, 5, 8, 10, 16)
What Do I Do?

- Risk vs. Reward

**Risk**
- Getting caught
- Embarrassment
- Family disgrace
- Failing exam
- Dismissed from medical school

**Reward**
- Finishing at the top of their class
- “Top Gunner”
- Being a part of the ‘norm’
- The need to succeed
- Getting into a better residency program

FAILING
(4, 5, 7, 8, 10, 11, 12, 16)

PASSING
Proctor

- A person appointed to keep watch over students at examinations.

- An official charged with various duties, especially with the maintenance of good order.

(9)
To Report or Not Report: That is the Question

- Proctors face the decision of deciding whether or not to report incidents

Pros
- Fulfillment of role
- Following policy and regulations
- Protocol
- Integrity
  
(6, 7)

Cons
- Backlash
- Did I see what I thought I saw?
- Self Guilt
- Testimony
The Proctor’s Will

- Will I feel supported and protected by my institution?
- Will there be any lingering effects in my interactions with students?
- Will my safety be in jeopardy?
- Will my disclosure actually make any difference?
University Maintains

- Professionalism
- Credibility
- Reputation
- Reporting incidents
  (5, 8, 10, 11, 12)

Conclusion

- Know the Policy
- Reduce the occurrence
- Perception
- Establish an environment of “professionalism”
  (5, 7, 10, 11, 12)
Observation

Britt Simonson
Boston University School of Medicine

Learning Objectives

- Visual Thinking Strategies (VTS) will be utilized as an observation technique to recognize suspicious behavior related to cheating.
- Be able to identify the importance of psychological safety within an organizational culture.
- Learn how multitasking can create attention blindness and how it directly affects the importance of proctoring.
Visual Thinking Strategies (VTS)

- Creators: Abigail Housen and Philip Yenawine
- “…naming what one sees—to complex interpretation on contextual, metaphoric and philosophical levels. Many aspects of cognition are called upon, such as personal association, questioning, speculating, analyzing, fact-finding, and categorizing” (15).
Psychological Safety

- “In psychologically safety environments, people believe that if they make a mistake others will not penalize or think less of them for it. They also believe that others will not resent or humiliate them when they ask for help or information. This belief comes about when people both trust and respect each other, and it produces a sense of confidence that the group won’t embarrass, reject, or punish someone for speaking up” (13)

Team Psychological Safety

- Team Psychological safety: group level construct of people focusing on common experiences rather than focusing on individual needs (13).
Our Actions Determine How Others View Us

- Ignorant
- Incompetent
- Negative
- Disruptive

Benefits of Psychological Safety

- Encourages speaking up
- Enables clarity of thought
- Supports productive conflict
- Mitigates failure
- Promotes innovation
- Removes obstacles to pursuing goals for achieving performance
- Increases accountability

(13)
Increase Accountability

“…most people are well aware of where they fall in the power of hierarchies at work. In addition, their position shapes their perceptions of how safe it is to take interpersonal risks within their team or group…Those lower in the hierarchy frequently encounter opportunities to ask questions or to offer ideas. Leaders must ensure that they are able to do both” (13).

The More You Concentrate the More You Miss
Multitasking

“…not only is attention learned behavior, but it is shaped by what we value, and values are a key part of cultural transmission, one generation to another. The absorption of those values into our habitual behavior is also biological. We change brain pathways, and we make neural efficiencies when we learn. That is the physiology of attention blindness. Of course those values change with time and circumstances” (14).

Attention Blindness

“…attention blindness is located deep within the brain and nervous system. If things are habitual, we do not pay attention to them—until they become a problem. Attention is about difference. We pay attention to things that are not part of our automatic repertoire of responses, reflexes, concepts, preconceptions, behaviors, knowledge and categories and other patterns both mental and physical” (14).
Conclusion

- Applying critical thinking and observational skills through VTS while using the concept of teaming and attention blindness will become valuable assets for the administrative task of proctoring. We cannot control the actions of our students, but we do have control over ourselves. The level of responsibility, integrity, and ethical standards that we carry are core values that all proctors share.

References

8. Dans PE. Self-reported cheating by students at one medical school. Acad Med 1996;71:S70–S72
References


EHR Note Writing: Can We Teach Quality

Jennifer Bierman, MD; Heather Heiman, MD and Katie Kinner, MD
Northwestern University Feinberg School of Medicine
Laura Fanucchi, MD University of Kentucky

Objectives

Participants will:

1. Define common practices and motivating factors among residents and attending physicians regarding electronic documentation.

2. Identify quality features of a note written in the EHR.

3. Review a proposed curriculum for teaching medical students and residents how to write an ideal electronic progress note.

4. Utilize an evaluation tool to assess notes for accuracy, conciseness and clinical reasoning.
Would delete this for readability (including the use...)

zzw2ktest3, 9/29/2013
Faculty

- Katie Kinner, MD
  - PGY-3 Resident
- Jennifer Bierman, MD
  - Primary Care Clerkship Director, Northwestern
- Heather Heiman, MD
  - Medical Director, Clinical Education Center, Northwestern
- Laura Fanucchi, MD
  - Associate Program Director, University of Kentucky

Why Write Notes?

- Communication
- Medical History
- Legal Document
- Planning of Care
- Provider Billing
- Hospital Billing
- Quality Measures
- Research Data
What Students Observe

<table>
<thead>
<tr>
<th>I have witnessed...</th>
<th># responding “sometimes or more”/ # answering item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents copying &amp; pasting elements of another provider’s note</td>
<td>102/119 (86%)</td>
</tr>
<tr>
<td>Attendings copying &amp; pasting elements of another provider’s note</td>
<td>70/116 (60%)</td>
</tr>
<tr>
<td>Students copying &amp; pasting elements of another provider’s note</td>
<td>70/119 (59%)</td>
</tr>
</tbody>
</table>

Sad-but-True Acronyms

What is WNL?
“We Never Looked”

What is NAD?
“Not actually done”

What is PERRLA?
“Pupillary exam recently recopied from last admission”
Review of Note

Assessment of Progress Note

• Choose a table representing a stakeholder
  1. Teaching Attending
  2. Medical Student education and evaluation
  3. Resident education and evaluation
  4. Patient

• Assess a progress note from this perspective
  1. Perspective of your table’s stakeholder
  2. Share views with group
Your task (10-15 min)

1. What is good about these progress notes?
2. What is weak about these progress notes?
3. What issues do these notes raise from the perspectives of your stakeholder?

*Report back to group – 1-2 minute summary per group*

Observations, Practices and Attitudes of Attending Physicians Regarding EHR Documentation

Thanks to:
Katie Kinner, MD
PGY-3 Resident
Why Teach Responsible Documentation?

AAMC Learning Objectives for Medical Student Education
• “Must ensure that before graduation a student will have demonstrated...the ability to communicate effectively, both orally and in writing, with patients, patients’ families, colleagues, and others with whom physicians must exchange information in carrying out their responsibilities”

ACGME Core Competencies/Outcomes Project
• “Residents must demonstrate interpersonal and communication skills that reflect in effective exchange of information...Residents are expected to...maintain comprehensive, timely and legible medical records”

How to Teach Responsible Documentation

• One-on-one record review: chart audit, chart simulated recall
• Standardized patient or OSCE
• Appropriateness of clinical decision/treatment
• Correctness, completeness - degree to which specific components of encounter are accurate and captured
Challenges

Copy-and-Paste

The electronic medical record (EMR) arrived at our teaching hospital one year ago and the resultant changes in medical student and physician notes have been remarkable. While EMR is highly efficient in producing notes, virtually all of its notes are longer, recombinant versions of previous notes. Even notes of different authors are morphed by EMR into clones of one another. As physicians have become more adept with the time-saving features of EMR, their notes have been rendered incapable of conveying usable information by their bloated and obliterated nature.

There are two features of EMR that contribute to the increased length and decreased effectiveness of notes. The first is automatic insertion of prion-like phrases into notes such as "The patient complains that . . .". Authors are oblivious of a gramm report takes up permanent residence in the daily results section. Complicated patients are on "post-op day 2" for weeks. One wonders how utilization review interprets such statements.

EMR also allows the copy-and-paste function to be used across hospital admissions, so that the last note from the previous admission can be used, with additions, as the first note for a readmission. Moreover, EMR encourages everyone to copy-and-paste the notes of everyone else so that notes become the same from author to author as well as from day to day. Even consultants are assimilated into the oneness of the EMR Borg. A cardiology consultant recently copied-and-pasted the intern's note into his own, even including "consult cardiology in AM" in his recommendations. Perhaps he meant consult a more thoughtful cardiologist.


What is Quality?

- Two 90-minute focus groups of 5-6 attending general internists
- 3 hospital medicine, 7 primarily outpatient clinicians who also spend time on inpatient teaching service
- Set of uniform questions used to prompt discussion
- Recorded for transcription and data analysis
Key Questions

• What makes a quality progress note?

• What constitutes “responsible use” of electronic documentation efficiency tools (CPF, auto-inserted data, templates)?

• What are the motivating factors that influence how you write your daily progress notes?

Results

<table>
<thead>
<tr>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timely, up-to-date, reflects current state of patient</td>
</tr>
<tr>
<td>Thought process, interpretation, assessment, patient care</td>
</tr>
<tr>
<td>Trust/credibility</td>
</tr>
<tr>
<td>Length, over-documentation, readability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Motivations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational, billing, medical-legal, communication</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conflicts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training residents and interns, feedback</td>
</tr>
<tr>
<td>Input</td>
</tr>
<tr>
<td>Medical-legal, billing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Style</th>
</tr>
</thead>
</table>
TRUST: A mnemonic for a quality progress note

T  A Trustworthy note is…
R  Reasoned
U  Updated
S  Succinct
T  Truthful
Feinberg Progress Note Assessment Rubric

- Developed by medicine, psychiatry and pediatrics
- Refined based on input from 2012 CDIM meeting workshop, and attending focus group results
- Evaluator should review 2 days of notes including one from Day 3 or later

EHR Pilot Curriculum

- Invited students on fall junior medicine rotation to do a pilot of deliberate practice
  - Reviewed previous curriculum briefly
  - Training case
  - Deliberate practice
    - Students brought progress notes from current Junior Medicine Clerkship for review and feedback
    - Two feedback sessions with actual progress notes
Pilot Evaluation

- Pre- and post- survey
- Pre- and post- note evaluation

Pilot Survey Data

<table>
<thead>
<tr>
<th></th>
<th>Pre-Curriculum</th>
<th>Post-Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel confident writing a progress note in the electronic health record.</td>
<td>3.3</td>
<td>4.6</td>
</tr>
<tr>
<td>2. My progress notes are written concisely.</td>
<td>3.4</td>
<td>4.2</td>
</tr>
<tr>
<td>3. My progress notes are well-organized.</td>
<td>3.7</td>
<td>4.4</td>
</tr>
<tr>
<td>4. My progress notes reflect all changes in the patient's condition and care plan.</td>
<td>2.6</td>
<td>3.8</td>
</tr>
<tr>
<td>5. My progress notes reflect my clinical reasoning.</td>
<td>3.6</td>
<td>4.2</td>
</tr>
<tr>
<td>6. Statements in my progress notes are correct.</td>
<td>3.9</td>
<td>4.4</td>
</tr>
<tr>
<td>7. I use structured data elements in the electronic health record, such as the problem list, the family history, or the social history.</td>
<td>4.4</td>
<td>4.6</td>
</tr>
<tr>
<td>8. I have received feedback on my progress notes.</td>
<td>3.0</td>
<td></td>
</tr>
</tbody>
</table>
Pilot Rubric Results

<table>
<thead>
<tr>
<th>Student</th>
<th>Pre-Curriculum % items correct</th>
<th>Post-curriculum % items correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>92%</td>
<td>87%</td>
</tr>
<tr>
<td>B</td>
<td>73%</td>
<td>64%</td>
</tr>
<tr>
<td>C</td>
<td>80%</td>
<td>60%</td>
</tr>
<tr>
<td>D</td>
<td>66%</td>
<td>62%</td>
</tr>
<tr>
<td>E</td>
<td>53%</td>
<td>73%</td>
</tr>
<tr>
<td>Mean score</td>
<td>73%</td>
<td>69%</td>
</tr>
</tbody>
</table>

EHR Pilot Data/Conclusions

- Small study with limited data set
- Influencing features of their team, resident and attending
- Need to educate entire team
- Current pilot that is team based
Proposed Resident Curriculum

Didactic session
- Noon conference format (UK)
- Team-based format (Northwestern)
  Focus on “what makes a good note”
- Characteristics outlined in PDQI-9
- Work through the components of the H&P and
  SOAP notes and common pitfalls
- Examples from the EHR
What Makes a Good Note?

Up-to-date and Accurate
Useful and Comprehensible
Organized and Succinct
Synthesized
Internally consistent

At UK, particular focus on Assessment

Pilot Project

Notes assessed using PDQI-9 and Checklist developed at Northwestern.
Three groups of residents:
• Individual feedback
• Didactic only
• No intervention

Notes from two consecutive days
Thuis feels a bit redundant with Katie's presentation. Including slides from the curriculum could be good
PDQI-9

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description of Ideal Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up-to-date</td>
<td>The note contains the most recent test results and recommendations.</td>
</tr>
<tr>
<td>Accurate</td>
<td>The note is true. It is free of incorrect information.</td>
</tr>
<tr>
<td>Thorough</td>
<td>The note is complete and documents all of the issues of importance to the patient.</td>
</tr>
<tr>
<td>Useful</td>
<td>The note is extremely relevant, providing valuable information and/or analysis.</td>
</tr>
<tr>
<td>Organized</td>
<td>The note is well-formed and structured in a way that helps the reader understand the patient's clinical course.</td>
</tr>
<tr>
<td>Comprehensible</td>
<td>The note is clear, without ambiguity or sections that are difficult to understand.</td>
</tr>
<tr>
<td>Succinct</td>
<td>The note is brief, to the point, and without redundancy.</td>
</tr>
<tr>
<td>Synthesized</td>
<td>The note reflects the author's understanding of the patient's status and ability to develop a plan of care.</td>
</tr>
<tr>
<td>Internally Consistent</td>
<td>No part of the note ignores or contradicts any other part.</td>
</tr>
</tbody>
</table>

Preliminary Results

Residents find Northwestern tool more helpful in receiving feedback than the PDQI-9

Data pending
Apply Rubric to Progress Note

10 Minutes

The Administrative Perspective on E.H.R.
Progress Notes:
Billing/Coding, Legal, Quality Reporting

Thanks to:
Charlotta Weaver, MD
Medical Director, Clinical Quality Documentation
David Liebovitz, MD
Associate Chief Medical Officer
Northwestern Memorial Hospital
### Documentation Tips

<table>
<thead>
<tr>
<th>Avoid....</th>
<th>Instead Consider This....</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Counts</td>
<td>Pancytopenia</td>
</tr>
<tr>
<td>CHF</td>
<td>Acute (chronic) Systolic Heart Failure</td>
</tr>
<tr>
<td>HFP EF</td>
<td>Acute (chronic) Diastolic Heart Failure</td>
</tr>
<tr>
<td>Worsening Renal Function</td>
<td>AKI</td>
</tr>
<tr>
<td>Altered Mental Status</td>
<td>Delirium (with cause); Encephalopathy</td>
</tr>
<tr>
<td>Replete Lytes</td>
<td>Hypokalemia; Hypomagnesemia</td>
</tr>
<tr>
<td>Urosepsis</td>
<td>Sepsis due to UTI</td>
</tr>
<tr>
<td>Dirty UA</td>
<td>UTI</td>
</tr>
<tr>
<td>Hypertensive Urgency/Emergency</td>
<td>Accelerated or Malignant HTN</td>
</tr>
<tr>
<td>Flash Pulmonary Edema</td>
<td>Acute Pulmonary Edema</td>
</tr>
<tr>
<td>Respiratory Distress</td>
<td>Acute Respiratory Failure</td>
</tr>
</tbody>
</table>

---

### Billing/Coding
Documentation: Hospital Charges (ICD-9)

Really revolves around Assessment and Plan

1. Principal diagnosis: Determines DRG
2. Comorbidities and major comorbidities: impact charges and quality metrics
   - Not codable unless worded as a diagnosis and sometimes with very specific terminology
   - Acute or chronic
   - Include only those conditions that are evaluated, treated, or managed
   - Linking statements: due to
     - ex. Fall due to UTI
# Documentation Tips

<table>
<thead>
<tr>
<th>Avoid….</th>
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<tr>
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<td>Acute (chronic) Diastolic Heart Failure</td>
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<tr>
<td>Respiratory Distress</td>
<td>Acute Respiratory Failure</td>
</tr>
</tbody>
</table>

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**Legal**
Legal issues

• “The Office of Inspector General is studying the link between electronic records and billing.”
  • Billing claims have increased from 2006-2010 for two highest codes in emergency departments
  • Whistleblower lawsuits nationally

• Identical templated physical exams and copied forward historical information may be compared at trial to discredit physician’s care

Personal communication, William Bower, Chief Risk Executive, NMHC
Clinical Quality Measure Reporting: Our Future!!

Meaningful use requires reporting on particular quality measures from multiple domains

• Encourages use of structured data elements in the chart
• These may appear to be lists in the note and be separated from clinical reasoning

BUT…

• We may be able to use natural language processing to capture structure from the narrative.
  • The EHR could then prompt us to explain reasoning:
    "this patient has a DVT but is not on anticoagulation. Document contraindication."
• Free text could be entered and abstracted to meet quality measure or exemption and could populate the assessment and plan

Administrative Perspectives: A summary

<table>
<thead>
<tr>
<th></th>
<th>Synergistic with rubric</th>
<th>Contrasts with rubric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billing and coding</td>
<td>ICD-9 and MS DRG coding encourages thoughtful diagnosis</td>
<td>CPT coding suggests more documentation in the subjective and objective is better</td>
</tr>
<tr>
<td>Legal</td>
<td>Copy-paste should be avoided</td>
<td></td>
</tr>
<tr>
<td>Quality reporting</td>
<td>Encourages thoughtful treatment of primary diagnosis and comorbidities</td>
<td>Would encourage structured data entry, which often makes thought process unclear</td>
</tr>
<tr>
<td></td>
<td>(Solution: natural language processing)</td>
<td>(Solution: natural language processing)</td>
</tr>
</tbody>
</table>
Write SMARTER, not longer

If your con list is longer than your pro, sometimes, you have to advocate for a change in EHR.

A short story….
Example of Former Structured Plan

Problem 1: Leukocytosis with fever - sepsis as probable infection w/lung vs pancreas

Plan: -WBC trending down  -CSF negative
-Blood Cx grew Lactobacillus, likely contaminant; even if it wasn't it should be covered by meropenem -ascitic fluid 9/17 not SBP; repeat para 9/24 showed 693 nucleated cells with 146 neutrophils. It also had protein > 1 concerning for possible rupture. SAAG was also < 1.1 and previously it had been > 1.1.
-meropenem D9
-repeat cultures show no growth so far
-repeat blood cultures NGTD, C. diff PCR neg, and stool cultures neg (wife with food induced diarrhea and vomiting, so EHEC had been a possible concern)

Problem 2: AMS - likely 2/2 infection
Plan: -more alert and interactive, hallucinations not continued today
-concern for ICU psychosis
-been stooling at least 4x/day with lactulose
-hyponatremia getting closer to his likely baseline
-may still be infectious cause; see #1

Problem 3: Left pleural effusion
Plan: -drained in IR 9/18; CT shows mod pleural effusion with small loculation
-has 2/3 light's criteria c/w infection or pancreatitis (also with elevated amylase in pleural fluid)
-on bs meropenem D9
-pulmonary consulted for possible drainage via chest tube but loculated area too small; effusion appears free flowing otherwise
-will broaden abx coverage to vanc and tobra for MRSA and secondary pseudomonas coverage
-16 mm x 13 mm internal mammary node noted on CT; will have patient follow up as out patient
**Problem 4:** Pancreatic pseudocyst - resolved per imaging

**Plan:**
- per IR-pseudocyst in tail of pancreas measures 4.5 cm, reconsulted for possible drainage as is possible source of leukocytosis - on repeat CT scan it was resolved
- acetaminophen PRN for pain

**Problem 5:** Hyponatremia

**Plan:**
- see above, likely secondary to dehydration vs hypovolemia; may be 3rd spacing fluid into abdomen from vasculature; on exam looked euvoletic, but high stool output
  - stable at 130
  - continue NS supplementation with boluses PRN
  - likely baseline from 128-132 from previous admissions
  - will cont lasix now and monitor; will hold again if becomes hyponatremic

**Problem 6:** Melanotic Stool

**Plan:**
- 5 stools yesterday with only slight melena per nursing; stool this am with no melena noted
  - see EGD 9/21 - gastropathy with nonbleeding gastric varices
  - HH improving; will continue to check daily
  - GI following and recs appreciated

**Problem 7:** EKG changes

**Plan:**
- cardiac enzymes trended and were slightly elevated at 0.05
  - he was given ASA 325mg, started on metoprolol 25 mg bid
  - we will continue a daily 81 mg ASA; will hold in light of bloody stool
  - no heparin as patient w/hx of hemorrhagic pancreatitis and liver disease
  - cards consulted due to EKG changes and recommended echo - shows impaired LV function
  - cards recommends out patient follow up 2 weeks after dispo

**Problem 8:** EtOH cirrhosis

**Plan:**
- Ammonia = 14 on admission
  - DF = 30, MELD = 17 (not a current hepatitis flare as pt's LFT's not 3x normal)
  - will cont lactulose to maintain 4-5 loose stools q day
  - GI consulted and following secondary to bloody stool

**Problem 9:** COPD

**Plan:**
- will cont home nebs
  - had one noted O2 sat at 86%, but otherwise he has satted > 90% on room air; may have been an errant recording
Problem 10: HTN  
Plan: monitoring q 4 vitals; not currently htn or hypotensive

Problem 11: Anxiety/Depression  
Plan: continue home meds

Problem 12: Esophageal Candidiasis  
Plan: seen on EGD 9/21  
- bx pending  
- started on fluconazole 9/21; will give x 21 days (end date 10/11/12)

Problem 13: Ascites  
Plan: concern for SBP vs rupture based on 9/24 results; however, wbc trending down and af x > 48 hours  
- well covered with meropenem  
- GI following; appreciate recs

Next Steps

Curriculum Development
Existing Curriculum

For faculty and residents:

Minimum standard

• Represent one’s own work
• Never copy/paste anyone else’s work
• Never copy/paste subjective or exam
• If copy A/P – must update carefully

Formative feedback on clinical rotations

Teach the Ideal Across the Continuum:

• Rubric sets clear expectations of everyone
  ---But must get faculty and resident input
  -- Allows for training of faculty as teachers

• Methods:
  • Conferences: Noon, M&M, Workshops
  • Timing: Orientation, Retreat, intro to clerkships
  • Feedback: Formative and Summative
Teach the Nuances

• How to ‘meaningfully use’ the EHR
  • Dot phrases
  • Ordering medications as form of documentation
  • Using other tabs

• Highlight documentation for transitions of care

• Acknowledge and incorporate coding

Questions
Contact Information

- Jennifer Bierman jbierman@nmff.org
- Heather Heiman hheiman@nmff.org
- Laura Fanucchi laura.fanucchi@uky.edu

- Med Student curriculum
- Resident Curriculum
- Progress Note Assessment Checklist
what do you mean here?
zzw2ktest3, 9/29/2013
Development of a Procedural simulation curriculum for medical students and residents

AAIM
October 2013
Tina Younger, MD
Kendall Novoa-Takara, MD
Cheryl OMalley, MD
Shaghayegh Abdollahi, MD

Objectives

1. Collaborate with others for constructing your own simulation activities for medical students and residents
2. Develop or improve your own technical skills for performing common internal medicine procedure
3. Discuss and begin to delineate curricular milestones depending on professional level, (medical student, intern, resident, fellow, faculty member)
Simulation education

• **What are the benefits to a simulation program?**
  - **Structured**- not dependent on the “See one, Do one, Teach one method.” Not random.
  - **Standardized**- “Everyone is getting the same educational instruction and level of trainer/teacher”
  - **Safe environment**- no risk to the patient if a mistake is made
  - **Increase technical and procedural performance**- comfort with the steps for the procedure-residents routinely shy away from opportunities to do procedures due to lack of comfort with the steps
  - **Improve teamwork** performance

*Annals of Internal Medicine-Simulation Exercises as a Patient Safety Strategy; March 2013. Vol 158*

---

Questions to be determined

**Secondary outcomes**

• Improvement in patient outcomes? Less delay in care, procedure done with less complications.
• Improvement in cost? Less use of Interventional radiology for common procedures.
Literature is promising

- **Common IM procedures** - Pretest vs post test scores for **medical knowledge and performance (checklist)** have shown statistically significant improvement. “A blended approach to invasive bedside procedural instruction.” Joshua Lenchus, et al, Medical Teacher 2011;33 116-123
- **Central lines** - decreased number of needles sticks and time to cannulation. Complications reported during simulation training on the task trainer, however no complications during the initial 110 central lines placed on patients. Central line simulation: A new training algorithm, Britt, R et al, The American Surgeon, July 2007

Needs assessment

- What does the ABIM and ACGME suggest/require of the residents?
- **ABIM** - see list
  - Understanding of the indications, limitations, contraindications and complications of diagnostic and therapeutic procedures
  - Performance of diagnostic and therapeutic procedures
  - Interpretation of diagnostic and therapeutic procedure results
- **ACGME** - IV.A.5.a).(2) “Residents must be able to competently perform all medical, diagnostic, and surgical procedures considered essential for the area of practice.”
Medical Students

- **CDIM** - What skills would you like for students to experience?
  - Student should be able to define, describe, discuss key indications, contraindications, risks to patients, and health care providers, benefits, and techniques for each of the following basic procedures: See list CDIM
  - An *appreciation of the need* to develop competency in basic generalist procedures “experiential”
  - Third year?
  - Fourth year sub-I “Boot Camp”?

Faculty and Hospitalist

- How many of your faculty are required to go through a skills station to relearn/update their skills?
- How many Core IM Faculty are comfortable doing common IM procedures after they are out of residency 5 years? 10 years?
- How many of your residents will be Hospitalist?
Conceptualize the Framework

- Needs assessment for your program - Dream big/start small
- How to get started
  - 1. Training materials for skill set to be acquired
  - 2. Equipment/supplies
  - 3. Instructors
  - 4. Protected time to train the students/residents
  - 5. Cost vs. benefit for your institution to support this.

1. Training curriculum
   - Educational material available - toolkit
     - NEJM videos
     - NEJM articles
     - Skills set check list (assessment)
2. Equipment/supplies

- Websites for equipment/supplies:
  - [http://www.nysimcenter.org/content/partial-task-trainers-0](http://www.nysimcenter.org/content/partial-task-trainers-0)

- Typical cost of the task trainer/supplies: typical pricing list in toolkit
  - Thoracentesis: $1500-4000

3. Instructors

- Recruit one at a time
- New grads
- Faculty who do that procedure routinely – ICU/pulmonologist etc
- Faculty who would like to relearn
- Yourselves - you who have come to this conference
4. Where to place in your program

- Depends on what you want to accomplish
  - Intern orientation
  - Noon conference
  - Morning report
  - Academic half day
  - Resident as teacher retreat
  - Ambulatory care
  - Remediation during discretionary time, during scheduled time
  - Elective rotation
  - Procedural team/ICU team

4. Who does the schedule

- Chief resident
- APD
- PD
- Quality/Safety rep
- Designer of the program
Examples of schedules

- Entire afternoon
  - 1-5pm
  - 4 stations
  - 45 minute per station
  - 4 groups of 5 people
  - 1 instructor per station (3rd year, 2nd year resident, 2 faculty)

Noon conference

- 12-1:30 pm on Tuesday and Thursday
- 4 stations (arthrocentesis, paracentesis, airway, handwashing)
- 4 instructors
- 5 residents per station
- Each resident must have their passport signed off on the procedures. Goal is to do 2 procedures each noon conference.
Morning report

- 1-2 skills station once a week for the whole month
- Skills set check list signed by instructor
- Mock codes

Ambulatory care session

- 8 residents on ambulatory
- Set it up for 1 afternoon or morning
- 1-2 instructors
- 4 stations
By appointment

- Meet with the chief resident to
  - Remediate
  - Meet requirements
  - Improve confidence

Milestones for simulation

- Medical students - experiential
- Interns - minimal competence with supervision
- Residents - competence/instructor level
- Fellows - instructor level
- Faculty - maintenance of skills and instructor level
Skills check list

- How will you assess the learner? toolkit
- Bench marks for
  - experiential,
  - minimal competence,
  - competence,
  - Instructor level,
  - maintenance of skills

Our simulation for today

- Station 1- arthrocentesis- Dr. Novoa Takara
- Station 2 paracentesis-Dr. Abdollahi
- Station 3 thoracentesis-Dr. Younger
- Station 4 LP-Dr. Omalley
Resources

- Tool kit-
  - NEJM videos
  - NEJM articles
  - Skills check list
  - Simulation Station Objectives
  - Simulation curriculum ppt
  - Price list-estimates
  - Literature references

Discussion

- Do you see yourself being able to start a program based on this workshop?
- Other ideas/experience for simulation that you would like to share?

- Thank you!
Thank you

- Dr. Cheryl OMalley, Dr. Kendall Novoa Takara, Dr. Shu Shu Abdollahi (instructors)
- Dr. Shannon Skinner, Program Director at Maricopa Medical Center (task trainers)
- Dr. OMalley (supplies/kits)
- Jim Rhinehart (simulation price list)
- Marlene Martinez - countless hours of assistance in the simulation lab at the University of Arizona College of Medicine

References

- Ma,I; Brindle, M; et al; Use of simulation-Based Education to Improve Outcomes of Central Venous Catheterization: A Systematic Review and Meta Analysis; Acad Med. 2011;86:1137-1147.
- Britt, Rebecca; Reed, Scott; Britt, L.D.; Central Line Simulation: A New Training Algorithm-Plenary Session Annual Scientific Meeting and Postgraduate Course Program, Southeastern Surgical Congress, Savannah, GA Feb 10-13, 2007.
- Wayne, D; Barsuk, J; O'Leary, K; Fudala, M; McGaghie, W; Mastery Learning of Thoracentesis Skills by Internal Medicine Residents Using Simulation Technology and Deliberate Practice.; Journal of Hospital Medicine 2008,3;48-54.
References

- Nestel, D; Groom, J; Eikeland-Husebo, S; O'Donnell,J; *Simulation for Learning and Teaching Procedural Skills-The State of Science; Society for Simulation in Health Care*, *Sim Healthcare* 6:S10-S13, 2011

Resources

- Lenchus, J; et al; *A blended approach to invasive bedside procedural instruction*. Medical Teacher 2011:33: 116-123
Teaching Medical Students to Reflect “Deeper”

Amy Hayton, MD
Associate Clerkship Director, IM Clerkship

Lawrence Loo, MD
Vice-Chair for Education & Faculty Development

PLUS . . .

REFLECTION
(Loma Linda University School of Medicine: CDIM Workshop – October 4, 2013)
“Commercial Interest” is defined by the ACCME (www.accme.org) as “any entity producing, marketing, re-selling or distributing health care goods or services consumed by or used on patients.”
Goals and Objectives

- Participate in a sample of our curriculum innovation designed to teach medical students to enhance the quality and depth of their critical reflection.
  - Define and identify the components of critical reflection
  - Practice evaluating the quality of written reflection papers using a previously validated tool, the REFLECT rubric.¹
  - Discuss and “reflect” on the limitations and strengths of teaching and evaluating reflection.
Teaching Medical Students to Reflect “Deeper”

Overview: Background & Purpose

Amy Hayton, MD
Associate Clerkship Director, IM Clerkship
Assistant Professor of Medicine

REFLECTION

(Loma Linda University School of Medicine: CDIM Workshop – October 4, 2013)
Scrubs Video Discussion

- What did JD learn through this patient experience and his reflection about it?
- What methods did JD use as he reflected?
- Have any of you experienced such a reflective moment recently?
- Why does reflection matter?
Why Do Reflection?
The Continuum of Medical Education & Practice

UME
Medical School

GME
Residency

CME
Rest of Career

4 Years
~4 (3-7) Years
30+ Years
Why Do Reflection?


- Develops critical thinking skills and clinical reasoning
- Failure to reflect leads to “physician overconfidence” and diagnostic errors in medicine
- Fosters professionalism
- Improved therapeutic relationship
- Necessary for effective use of feedback
What Is Reflection?
Reflection Defined

“Reflection means letting future behavior be guided by a systematic and critical analysis of past actions and their consequences.” Driessen E: BMJ 2008;336:827

“Critical reflection is the process of analyzing, questioning and reframing an experience in order to make an assessment for purposes of learning and/or improve practice.”

Aronson L: Med Teacher 2011;33:200-5
“Deep” versus “Superficial” Reflection

- “Deep reflection is where the learner is trying to understand the meaning of the material and integrates it into previous ideas or reconsiders it into new ideas.”

- “Superficial” reflection is where the learner is concerned to memorize the material and needs to be retained for the moment (at least until the next exam) and does not “file it’ for any lasting purpose.
  - Jenny Moon 2001 Reflection in Higher Educ Learning
How Do We Do Reflection?
Model of Reflection

Boud, Keogh and Walker, 1985

Behavior
Ideas
Feelings

Returning to experience
Utilizing positive feelings
Removing obstructing feelings
Re-evaluating experience

NEW PERSPECTIVE
CHANGE IN BEHAVIOR
ACTION

Experiences
Reflective Process
Outcomes
Components of Reflection

- **Noticing** an event ➔ **Description**
  - What happened?
  - Awareness of discomfort / apprehension that may prompt reflection
  - “Recognizing when one’s existing mental model and personal theory is being challenged by an experience” Mezirow J. 1981
  - JD was hit by a ton of bricks- this event caught him off-guard “ I think I am ready to die”
Components of Reflection

- **Noticing** an event ➔ Description
- Arise from “disorienting dilemmas” - a situation that one cannot resolve using previous problem solving strategies
  - A situation where you did not have the necessary knowledge or skills
  - A situation that went well but you are not sure why?
  - A complex, surprising or clinically uncertain situation
  - A situation where you felt personally or professionally challenged
Components of Reflection

- **Making Meaning** of an event → Analysis
  - *Why* did it happen?
  - Identify new learning needs by asking:
    - Does anything surprise me about the situation?
      - JD was surprised that someone would choose dying early over living on dialysis
    - Do I have the information or skills to deal with this situation?
      - JD realized he was totally inept to figure out how to “help” this patient with her decision
      - The patient helped JD realize what he needed to learn
Components of Reflection

- **Making Meaning** of an event → Analysis
  - Reflection can be prompted by strong feelings that lead to deeper questioning:
    - What am I feeling and what are my emotions?
      - JD was scared
    - Why do I feel like this?
      - JD realized he was afraid of death as he analyzed his discomfort
    - Are there other situations in my life when I feel the same?
Components of Reflection

- **Learning** → Action Plan
  - What should I **do next time**?
  - Reflection can **confirm** something we already knew to be true
  - Reflection can lead to **transformative** learning—Change our understanding, values, actions in the future
  - JD faced his fear of death, received compassion from his patient, understood patient autonomy all through his process of reflection
Experiential Learning Cycle
(Andrea Corney at www.edbatista.com/2007/10/experiential.html)

ACT
Noticing an Event
Facts (What happened?)

REFLECT
Reflective Observation
Feelings (What did I experience?)

APPLY
Action Plan
Future (What will I do differently?)

CONCEPTUALIZE
Making Meaning – Analysis & Learning
Findings (Why did this happen? What did I learn?)
Personal Reflection

- How has reflection helped me?
Teaching Medical Students to Reflect “Deeper”

Recognizing Critical Reflection (Small Group Activity)

Amy Hayton, MD
Associate Clerkship Director, IM Clerkship
Assistant Professor of Medicine

Practicing Reflection
(Loma Linda University School of Medicine: CDIM Workshop – October 4, 2013)
Small Group Exercise

1. Each group read both versions of the account of the student’s presentation in sequential order.
2. As a group, Identify the actual sentences, words or phrases from the written scenarios that are:
   - Description, analysis and action plan
3. Be prepared to present to the larger group the following: (Please designate a reporter!)
   - **Group A** present the noticing/description elements as they compare/contrast in all three versions
   - **Group B** present the analysis elements as they compare and contrast in all three versions
   - **Group C** present the action plan elements of all three versions as they are similar and different
Small Groups Working
Components of Reflection

- **Description-Group A**
  - May arise from a “disorienting dilemma”
  - Describes the triggering event

- **Analysis- Group B**
  - Why did it happen? Explores motives for behaviors.
  - May be prompted by strong feelings that lead to deeper questioning?

- **Action Plan- Group C**
  - What should I do next time?
  - Confirm something we know or change our understanding, values, actions
Large Group Reports
Teaching Medical Students to Reflect “Deeper”

Grading Written Reflection Papers
(Small Group Activity)

Lawrence Loo, MD
Vice-Chair for Education & Faculty Development
Professor of Medicine

REFLECTION

(Loma Linda University School of Medicine: CDIM Workshop – October 4, 2013)
Teaching Medical Students to Reflect “Deeper”

- Introduction of a new evaluation tool – REFLECT RUBRIC
- Hands on experience of grading student reflection papers using REFLECT RUBRIC
- Limitation of REFLECT RUBRIC
Teaching Medical Students to Reflect “Deeper”

Fostering and Evaluating Reflective Capacity in Medical Education: Developing the REFLECT Rubric for Assessing Reflective Writing

Hedy S. Wald, PhD, Jeffrey M. Borkan, MD, PhD, Julie Scott Taylor, MD, MSc, David Anthony, MD, MSc, and Shmuel P. Reis, MD, MHPE

The authors developed a new evaluative tool that can be effectively applied to assess students’ reflective levels and assist with the process of providing individualized written feedback to guide reflective capacity promotion.

Method
Following a comprehensive search and analysis of the literature, the authors developed an analytic rubric through repeated iterative cycles of development, including empiric testing and Warren Alpert Medical School of Brown University students’ 2009 and 2010 RW narratives with determination of intraclass correlations (ICCs).

Results
The final rubric, the Reflection Evaluation for Learners’ Enhanced Competencies Tool (REFLECT), consisted of four reflective capacity levels ranging from habitual action to critical reflection, with focused criteria for each level. The rubric also evaluated RW for transformative REFLECT iteration analysis.

Conclusions
The REFLECT is a rigorously developed, theory-informed analytic rubric, demonstrating adequate interrater reliability, face validity, feasibility, and acceptability. The REFLECT rubric is a reflective analysis innovation supporting development of a reflective clinician via formative assessment and enhanced crafting of faculty feedback to reflective narratives.
Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine: CDIM Oct. 4, 2013)


<table>
<thead>
<tr>
<th>Reflection Level</th>
<th>Non-Reflective 1</th>
<th>Thoughtful Action 2</th>
<th>Reflection 3</th>
<th>Critical Reflection 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Writing Spectrum</strong></td>
<td>Superficial descriptive writing approach (fact reporting, vague impressions)</td>
<td>Elaborated descriptive writing approach and impressions without reflection</td>
<td>Attempting to understand, question, or analyze the event</td>
<td>Exploration and critique of assumptions, values, beliefs, and/or biases and the consequences of action</td>
</tr>
<tr>
<td><strong>Sense of Writer Presence</strong></td>
<td>Writer partially present</td>
<td>Writer partially present</td>
<td>Writer largely or fully present</td>
<td>Writer largely or fully present</td>
</tr>
<tr>
<td><strong>Description of Conflict, Disorienting Dilemma, Challenge or Issue of Concern</strong></td>
<td>No description</td>
<td>Absent or weak description</td>
<td>Description</td>
<td>Full description that includes multiple perspectives, exploring alternative explanations, and challenging assumptions</td>
</tr>
<tr>
<td><strong>Attending to Emotions</strong></td>
<td>Little or no recognition or attention to</td>
<td>Recognition but no exploration or attention to</td>
<td>Recognition, exploration, and attention to</td>
<td>Recognition, exploration, attention to and gain of emotional insight</td>
</tr>
<tr>
<td><strong>Analysis &amp; Meaning Making</strong></td>
<td>None</td>
<td>Little or unclear</td>
<td>Some</td>
<td>Comprehensive</td>
</tr>
</tbody>
</table>
Teaching Medical Students to Reflect “Deeper”

REFLECT Scoring Sheet
(Wald HS et al: Academic Medicine 2012; 87:41-50)

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<tbody>
<tr>
<td>Writing Spectrum</td>
<td>Superficial descriptive writing approach (fact reporting, vague impressions) without reflection</td>
<td>Elaborated descriptive writing approach and impressions without reflection</td>
<td>Movement beyond reporting or descriptive writing to reflection (i.e., attempting to understand, question, or analyze the event)</td>
<td>Exploration and critique of assumptions, values, beliefs, and/or biases and the consequences of these assumptions</td>
</tr>
</tbody>
</table>

Instructions for Raters:

The process of applying the REFLECT rubric to a reflective narrative consists of four steps:

1) Read the entire narrative.
2) **Fragmentation**: Zoom in to details (phrases/sentences) of the narrative to assess the presence and quality of all criteria. Determine which level each criterion represents.
3) **Gestalt**: Zoom out to consider overall gestalt of the narrative (while taking into consideration the detailed analysis of Step 2). Determine which level the narrative as a whole achieves. (If the Critical Reflection is achieved, determine whether either or both learning outcomes - transformative or confirmatory learning - were also achieved.)
4) **Defend** the assignment of level and learning outcomes with examples from the text. Do not “read between the lines.”

<table>
<thead>
<tr>
<th>Level of Reflection</th>
<th>Non-Reflective 1</th>
<th>Thoughtful Action 2</th>
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<tbody>
<tr>
<td>Paper #1</td>
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<tr>
<td>Paper #3</td>
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</table>
Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine: CDIM Oct 4, 2013)

- **Research Design:**
  - Two prompts → 2 reflection papers per student
    - **First open-ended prompt:** Please write a 1-2 page typed Reflection Paper regarding interactions you have had with patients. Ideas for the theme include:
      1) The impact a certain patient had on you or your impact on a patient,
      2) some personal lesson learned,
      3) some struggle a patient had to endure.

- There are no right or wrong topics for this exercise. To pass you must turn your assignment in on time.
Small Groups Activity

1. Read reflection paper #1 and #2

2. Grade those two papers independently using REFLECT RUBRIC

3. Record your score on the scoring sheet

Compare your score with others and discuss
Reach common consensus
Come up with one final level as a group
Small Groups working
Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine: CDIM Oct. 4, 2013)

<table>
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<tr>
<th></th>
<th>Amy Hayton</th>
<th>Ray Wong</th>
<th>Ilho Kang</th>
<th>Larry Loo</th>
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</thead>
<tbody>
<tr>
<td>Paper #1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Paper #2</td>
<td>4</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Paper #3</td>
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Compare your score with others and discuss
Reach common consensus
Come up with one final level as a group
Small Groups Activity

1. Read reflection paper #3

2. Grade this paper independently using REFLECT RUBRIC

3. Put down your score in your scoring sheet

Compare your score with others and discuss
Reach common consensus
Come up with one final level as a group
Large Group Discussion
Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine: WGEA May 3-7, 2013)

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<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Paper #2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Paper #3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>4</td>
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</tbody>
</table>

Common Consensus = Level 4 (Critical Reflection)
Teaching Medical Students to Reflect “Deeper”

Summary Findings of the IM Clerkship Experience
(June 2012 – June 2013)

Lawrence Loo, MD
Vice-Chair for Education & Faculty Development
Professor of Medicine

REFLECTION
(Loma Linda University School of Medicine: CDIM Workshop 104– May 6, 2013)

Do you require students to complete a reflective writing assignment during your internal medicine clerkship? (N=86/107 - 80% response)

- Yes: 35%
- No: 48%
- No, but considering for the future: 16%
Problem Statement & Background:

- While many studies have examined the importance of reflection in the professional development of a physician, there is a paucity of empiric evidence for particular interventions to enhance the quality or “depth” of reflection among medical students.

- To facilitate the development of written critical reflection, a new curriculum enhancement was introduced during the third year of medical school.
Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine: CDIM Oct. 4, 2013)

- 90-Minute Curriculum Reflection

Four minute video from the TV show *Scrubs*, highlighting a young doctor’s reflection experience of a patient facing death.

Large group discussion of the key concepts and core components of critical reflection.

Small group interactive exercise where students compared and contrasted three essays portraying different levels of reflection.

A faculty presenter shared a personal reflection critical to her own professional development.
Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine: WGEA May 3-7, 2013)

- Research Design:
  - **Historic Group Comparison**
    - Written reflection papers from the current academic year July 2012 – June 2013
    - Compared to written reflection papers from the past 3 academic years matched to the same month of the academic year
  
    - Two prompts ➔ 2 reflection papers per student / 10 week rotation
    - **First prompt: Open-ended**
    - Second prompt: Directed to address the hidden curriculum

Teaching Medical Students to Reflect “Deeper”
(Loma Linda University IM Clerkship: WGEA – May 3-7, 2013)

- Research Design:
  - **Written Reflection Papers**
    - Four faculty reviewers “graded” each reflection papers using the REFLECT rubric
    - Faculty were “blinded” to the names of the students and the year written for the first open-ended prompt
    - Discrepancies in grading were resolved by consensus
    - Faculty piloted the process with 30 past reflection papers (not included in the final analysis)
  
  - **Primary Outcome** - “Critical Reflection” level 4 using the REFLECT rubric*

Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine: WGEA May 3-7, 2013)

- Research Design:
  - Statistical Analysis:
    - Primary Outcome: non-parametric tests using Mann-Whitney U test
    - Inter-rater reliability: kappa statistic
  - Statistical Significance:
    - Standard $p \leq 0.05$
Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine:)

- Results - Descriptive: N = 310

<table>
<thead>
<tr>
<th>Reflection Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflection Level</td>
<td>Nonreflective</td>
<td>Thoughtful Action</td>
<td>Reflection</td>
<td>Critical Reflection</td>
<td>Total Count</td>
</tr>
<tr>
<td>Count</td>
<td>6</td>
<td>75</td>
<td>135</td>
<td>94</td>
<td>310</td>
</tr>
<tr>
<td>Percentage Total</td>
<td>1.94%</td>
<td>24.19%</td>
<td>43.55%</td>
<td>30.32%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine)

- **Results:** Primary Outcome – Level IV

![Bar Chart](chart.png)

<table>
<thead>
<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflection Interpretation</td>
<td>Nonreflective</td>
<td>Thoughtful Action</td>
<td>Reflection</td>
<td>Critical Reflection</td>
<td>Sum</td>
</tr>
<tr>
<td>Pre-Educational Intervention Count (%)</td>
<td>4 (2.6%)</td>
<td>56 (36.1%)</td>
<td>74 (47.7%)</td>
<td>21 (13.6%)</td>
<td>155 (100%)</td>
</tr>
<tr>
<td>Post-Educational Intervention Count (%)</td>
<td>2 (1.3%)</td>
<td>19 (12.3%)</td>
<td>61 (39.4%)</td>
<td>73 (47.1%)</td>
<td>155 (100%)</td>
</tr>
</tbody>
</table>

p = < 0.0001
Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine)

- Results: Inter-rater Reliability (kappa statistic)

<table>
<thead>
<tr>
<th>10-week Junior Medical Student Rotation</th>
<th>Kappa Statistic*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A (June – August 2012)</td>
<td>0.33</td>
</tr>
<tr>
<td>Group B (August – November 2012)</td>
<td>0.37</td>
</tr>
<tr>
<td>Group C (November – January 2013)</td>
<td>0.36</td>
</tr>
<tr>
<td>Group D (January – April 2013)</td>
<td>0.27</td>
</tr>
<tr>
<td>Group E (April – June 2013)</td>
<td>0.38</td>
</tr>
</tbody>
</table>

Kappa statistic interpretation*
Agreement Description

\[ K = 0 - \ “poor” \]
\[ = 0 \quad – 0.20 \ “slight” \]
\[ = 0.21 \quad – 0.40 \ “fair” \]
\[ = 0.41 \quad – 0.60 \ “moderate” \]
\[ = 0.61 \quad – 080 \ “substantial” \]
\[ = 0.80 \quad – 1.0 \ “almost perfect” \]

Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine)

- Results: Blinding of “old” (O) versus “present” (P) written reflection papers

Overall Percentage Agreement = 59%
(Overall percentage agreement expected by chance = 50%)
p > 0.05

Kappa (K) statistic = 0.17

<table>
<thead>
<tr>
<th>Agreement Description</th>
<th>Kappa Statistic Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>“poor”</td>
<td>K = 0</td>
</tr>
<tr>
<td>“slight”</td>
<td>= 0 – 0.20</td>
</tr>
<tr>
<td>“fair”</td>
<td>= 0.21 – 0.40</td>
</tr>
<tr>
<td>“moderate”</td>
<td>= 0.41 – 0.60</td>
</tr>
<tr>
<td>“substantial”</td>
<td>= 0.61 – 0.80</td>
</tr>
<tr>
<td>“almost perfect”</td>
<td>= 0.80 – 1.0</td>
</tr>
</tbody>
</table>

Teaching Medical Students to Reflect “Deeper”
(IM Clerkship, Loma Linda University School of Medicine)

- **Interpretation & Conclusions:**

  - **Conclusion:** Our 90-minute educational intervention improved “critical reflection” (level 4 of the REFLECT rubric) by junior medical students.

  - **Strengths of Study:**
    - Blinding of faculty graders was successful
    - Comparison group pre- and post-intervention

  - **Limitations of Study:**
    - Historical comparison group (not a true randomized trial)
    - Low Inter-rater reliability of faculty graders when using the REFLECT rubric
Teaching Medical Students to Reflect “Deeper”

END

! Thank You!

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IM Clerkship, Department of Medicine, Loma Linda University School of Medicine
“You Posted What!?!”
Promoting Social Media Professionalism in the Medical Community

Hari Raja, MD – UT Southwestern
Meadow Good, DO – UT Southwestern
Luke Newton, MD – UTHSCSA
Amit Shah, – UT Southwestern

Objectives

• IDENTIFY influences of social media/technology in clinical environment
• UTILIZE adult leaning techniques to encourage discussion about professionalism/technology in home institutions
• APPLY provided resources to create interactive educational sessions for residents and medical students about the benefits/risks of social media in medical field
“So I have a patient who has chosen to either no-show or be late (sometimes hours) for all of her prenatal visits, ultrasounds, and NSTs. She is now three hours late for her induction. May I show up late for her delivery?”
Many instances in the media

Veronica Valdez Sues Torrance Memorial Hospital When Doctor Decorates Her Face During Operation (VIDEO)

THE KANSAS CITY STAR

Doctor sued for posting breast augmentation photos

KIRKWOOD, Mo. — A St. Louis area doctor is facing lawsuits from 10 women claiming she put before-and-after pictures of their breast augmentation surgeries on her website.
Disclaimer:

Instead of focusing on whether the following examples are appropriate or inappropriate, we challenge you to consider the broader picture...

How should we TEACH social media professionalism?
Ready to do my first appendectomy. Cross your fingers!

Wow I had a bad day in the operating room. Can't wait to have a drink.
Nice tattoo! Ray is getting one similar soon...

Discuss challenges of addressing social media professionalism with residents and medical students?

How do you think these learners will respond?

How would you overcome these challenges?
Potential Challenges

- Generational perspective
- Shades of Gray
- Definition of Professionalism
- Audience participation
- Personal vs Work Boundaries

Addressing Challenges

- Audience insight instead of “rules”
- Acceptance of Professional Role in Society
- Embrace all view points
- Find ways to include entire audience
Nothing like getting out of clinic early and celebrating my first hysterectomy! Thankfully it went well and blood loss was not bad.

After averaging about 1 day off per month and close to 100 hours per week, having a weekend off is amazing!

But, you logged 80 hrs on your time sheet, right?!
Well deserved beads! Thanks for a great time Lindsey Smith! Love NOLA...

Brainstorm! Create an interactive educational session at your institution to promote awareness for:

A. Intern Orientation (6 people)
B. MS-III Orientation (100 people)
C. Grand Rounds with MS, Residents, Faculty (75 people)
Crazy day in OR. Good thing my team rocked!

Great meeting last night with all my coworkers.

Happy New Year!!!!

Big night at the ER. All the crazies are coming in.
How do we create an acceptable culture to address colleagues who have posted unprofessional content?
ACOG “Social Media Professionalism in the Medical Community” video

Suggestions for one way to do it

UT Southwestern experience
What did we do at UT Southwestern?

• June 2013
  – Had 3 day preclinical orientation with entire MS3 class of 240 students
  – Day 1 AM: large plenary session with entire class in lecture hall
    • Professionalism
    • Expectations in each rotation
    • Grading criteria across clerkships
    • Documentation in chart

What did we do at UT Southwestern?

• Day 1 PM and Day 2 AM: Students were divided into small groups of 30 for sessions
  – HIPAA violations cases (real student examples)
  – Professionalism examples (real student examples)
  – Social media and posting (some slides from this power point) with discussion
• Day 2 PM and Day 3
  – Clerkship specific orientations
Student feedback

• “Wow, I never thought about it that way”
• “People actually posted that?”
• “This was VERY helpful!”
• “I did not think that this session was going to be interesting.”
• “I learned some valuable lessons today”
• “I guess I need to make myself an alias on Facebook”

Questions?
AAIM/CDIM Workshop 105
“You Posted What?” Teaching Social Media Professionalism to the Medical Community

Speakers:
Hari Raja, M.D.: Associate Clerkship Director of Internal Medicine, UT Southwestern Medical Center
Amit Shah, M.D.: Clerkship director of Internal Medicine, UT Southwestern Medical Center
Meadow Good, D.O.: Fellow, Female Pelvic Medicine & Reconstructive Surgery, UT Southwestern Medical Center
Luke Newton, M.D.: Assistant Professor, Assistant Program Director, Obstetrics & Gynecology, UT Health Science Center -San Antonio

Objectives of session:
1. Identify the influences of social media and technology in the clinical environment.
2. Utilize adult learning techniques to encourage discussion about professionalism and technology at their home institutions.
3. Apply provided and available resources to create interactive educational sessions for resident physicians and medical students about the benefits and risks of social media relating to the medical field.

Background:
The rapid evolution of technological advancements, including social networking and smart phones, presents us with new opportunities to connect with others, educate wider audiences, and improve patient care. Remarkably, 90% of physicians actively use social networking sites. However, these emerging technologies may also present challenges that compromise medical professionalism.

Sixty percent of medical schools report at least one episode of unprofessional behavior among medical students and 92% of state medical boards have had a physician reported for unprofessional online conduct. As outlined in the professionalism requirements of the ACGME, residents must demonstrate a commitment to carry out professional responsibilities, adherence to professional principles, and sensitivities to a diverse patient population. These obligations must be maintained while in the medical setting, in public, and on the Internet.

Educating the medical community on potential threats to professionalism in the while engaging in social media is becoming a crucial component of medical training. The presenters have developed tools for adult-style interactive teaching of professionalism in the setting of social media. The presenters will use recreated examples of unprofessional online media posts based on actual posts that were displayed by physicians on social networking sites.

Session content:
A 4-minute video on the subject made by the presenters with the American Congress of Obstetricians & Gynecologists will be shown and can be used to encourage discussion at individual institutions. The presenters will display restaged posts/pictures of online unprofessional behavior and facilitate discussion regarding the impact of these public displays. The attendees will break-up into small groups (share to entire room) and discuss:

1) Overcoming challenges of addressing professionalism in social media with residents, medical students, & faculty
2) Creating interactive educational sessions addressing medical professionalism in social media
3) Addressing colleagues' posted unprofessional content
4) Ideas for implementing a program in their institution
“You Posted What!?”
Promoting Social Media Professionalism in the Medical Community

Hari Raja MD, Meadow Good DO, Luke Newton MD, Amit Shah MD

Learning Objectives:

IDENTIFY the influences of social media and technology in the clinical environment.

UTILIZE adult learning techniques to encourage discussion about professionalism and technology in their home institutions.

APPLY provided resources to create interactive educational sessions for residents and medical students about the benefits and risks of social media related to the medical field.

**Prep:** Personal experience (or lack of experience!) with Facebook

**Link/Hook: (15 min)**

“So I have a patient who has chosen to either no-show or be late (sometimes hours) for all of her prenatal visits, ultrasounds, and NSTs. She is now three hours late for her induction. May I show up late for her delivery?”

Turn to the person next you and respond to the following question honestly (see handout). You can write your responses in the space below. One pair will be asked to share their response with the group.
Exercise: (30 min)

Disclaimer: Instead of focusing on how appropriate or inappropriate each post is, we challenge you to consider the broader picture... and the following questions.

Open Forum

1. Discuss the challenges of addressing professionalism in social media with residents and medical students? How do you think learners will respond? How would you overcome these challenges?

Small Group Work

2. How would you create an interactive educational session for residents and medical students that you could bring back to your home institutions to promote awareness?

Open Forum

3. How do we create a culture of awareness where we can address colleagues that have posted unprofessional content?

Transfer: Implement your ideas when you get home!

http://www.acog.org/socialmediaguide
You Can’t Fix by Analysis what You’ve Spoiled by Design:
A Workshop in Survey Design for Medical Educators

Jeffrey La Rochelle, MD, MPH
Amy Shaheen, MD

Academic Internal Medicine Week
2013 CDIM National Meeting, New Orleans, LA
October 4, 2013

Learning Objectives

- Recognize how to use a systematic, 7-step process as a framework for survey design
- Demonstrate how to develop an appropriate set of items to characterize the construct being measured
- Identify common item-writing pitfalls in survey design
- Define the purpose of expert validation, cognitive interviews, and pilot testing

The presenters are U.S. Government employees. The views expressed in this presentation are those of the authors and do not necessarily reflect the official policy or position of the Uniformed Services University of the Health Sciences, Department of Defense, nor the U.S. Government.
Consider this…

- The puppy problem
  - The poodle has 9 puppies.
  - The collie has 5 puppies.
  - How many more puppies does the poodle have?
  - Students’ common response… “None”
  - Why?
    “It said she had 9 puppies, but it didn’t say she had any more, so it’s none.”

Revised item…
  - The poodle has 9 puppies.
  - The collie has 5 puppies.
  - How many more puppies does the poodle have than the collie?

And this…

Your opinion is that the global economy is the second most important issue in the world today.

The global economy is the most important issue in the world today.

<table>
<thead>
<tr>
<th>strongly disagree</th>
<th>disagree</th>
<th>neither agree nor disagree</th>
<th>agree</th>
<th>strongly agree</th>
</tr>
</thead>
</table>

How important is the issue of the global economy in the world today?

<table>
<thead>
<tr>
<th>not at all important</th>
<th>slightly important</th>
<th>moderately important</th>
<th>quite important</th>
<th>extremely important</th>
</tr>
</thead>
</table>
Principle #1: You can’t fix by analysis what you’ve bungled by design.

- When creating a survey, it’s important to get it right the first time

- We often use surveys to measure “fuzzy” constructs (e.g., beliefs, attitudes, opinions), which is already quite difficult
  - *Bad data only makes it that much harder*

---

Why worry about survey design problems?

**On the one hand:**
- A self-report survey is a “blunt instrument”
- There is bound to be some “slop”
- To the extent survey design IS rocket science, we’re content to just hit the moon, somewhere…

**On the other hand:**
- Of the various types of errors afflicting surveys – sampling error, non-response error, processing error…
- *Response Error* (e.g., bias or unreliability) is often the largest category
Outline

- Survey Background
  - Uses of surveys
  - Survey language
- Survey Design
  - 7-Step Process
  - Small-group activity
- Common Item-Writing Pitfalls
- Survey Pretesting
  - Expert Validation
  - Cognitive Interviews
  - Pilot Testing
- Questions

Good for...

- Abstract ideas/concepts
  - Opinions
  - Beliefs
  - Attitudes
- Behaviors
  - Assuming that...
    - observing behaviors is impractical
    - people might reasonably report on their own behaviors

Academic Medicine (2009)
Survey Methods: 56%
Other Methods: 44%

Medical Education (2010 to 2012)
Survey Methods: 15%
Other Methods: 85%

Journal of Graduate Medical Education (2010 to 2012)
Survey Methods: 77%
Other Methods: 23%
Not so good for…

- Clinical outcomes
  - Better to measure perceptions (ex: health questionnaires)

- Populations with cognitive impairment, severe disease
  - Very sick patients may have difficulty with surveys

- Tasks of high cognitive load/burden
  - “How many hours did you use the Internet last year?”
  - “What did you eat for dinner on Wed, Jan 11, 2012?”

Survey Language

- **Construct:**
  - A model, idea, or theory
    - e.g., resilience, confidence, patient satisfaction, motivation, perceived barriers, interest, procrastination, health-related stigma
- **Items (or “indicators”):**
  - Individual questions/statements on the survey
- **Scale:**
  - 3 or more items intended to measure a construct
Survey Language

- Response anchors (aka, “response options” or “the response scale”):
  - All the named points along the response scale

  **Example**

<table>
<thead>
<tr>
<th>not at all important</th>
<th>slightly important</th>
<th>moderately important</th>
<th>quite important</th>
<th>extremely important</th>
</tr>
</thead>
<tbody>
<tr>
<td>never true</td>
<td>rarely true</td>
<td>sometimes true</td>
<td>often true</td>
<td>true nearly all of the time</td>
</tr>
<tr>
<td>almost never</td>
<td>once in a while</td>
<td>sometimes</td>
<td>often</td>
<td>almost all the time</td>
</tr>
</tbody>
</table>

- Satisficing:
  - Occurs when respondents compromise standards to expend less energy
    - i.e., they don’t put forth effort to answer truthfully or thoughtfully

---

**ITEM(S)**

**CONSTRUCT**

**RESPONSE ANCHORS**

*Customer Service Questionnaire*

*Please help us improve our services by answering the questions below. We are interested in your opinions about the recent service you received from the Reading Fire Department*

Please rate your response

<table>
<thead>
<tr>
<th>Scale</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Adequate</th>
<th>Unsatisfied</th>
<th>Very Unsatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Were our personnel polite and courteous?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. Did our personnel take care of you in a professional manner?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. Did we explain the services you needed in an understandable manner?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. Did we answer all of your questions in an understandable way?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5. Overall, how satisfied were you with the service you received from us?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>A. Did you have any other concerns, related to your emergency, that you felt was not addressed by our personnel?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Please tell us the single most important action we took that made you feel better.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. What could we have done differently that might have made your experience more positive?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Reading Fire Department*
Principle #2:
The questions guide the answers.

9) What topic(s) of study are you most interested in pursuing while at university? (Total N = 11)

- Financing of health care
- Global health, joint operations
- Policy development with regard to military and operational
- Health policy, health economics
- Health care admin and policy

Ver 1: Lots of Space
(N = 5)

Ver 2: Small Amount of Space
(N = 6)

- Public health
- International health
- (blank)
- Health insurance
- Policy

Total Word Count = 25
Mean Word Count = 5.0

Cohen's $d = 2.62$
$t(9) = 4.63, p < .001$

Principle #2:
The questions guide the answers.

N = 91 Faculty

% Answer = Fire Professor

Fire -> Expel
Version 1

37%

Expel -> Fire
Version 2

89%

Pearson $\chi^2(1) = 4.90, p < .05$
Principle #2:
The questions guide the answers.

Q10: Please indicate which of the following reasons were important to you in deciding to take this course (please check all that apply):

<table>
<thead>
<tr>
<th>Person</th>
<th>Score (Yes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Mean</td>
<td>1.80</td>
</tr>
</tbody>
</table>

N = 5

Cohen’s $d = 1.45$
$t(9) = 2.37, p < .05$

(please check Y or N next to each item):

<table>
<thead>
<tr>
<th>Person</th>
<th>Score (Yes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Mean</td>
<td>4.33</td>
</tr>
</tbody>
</table>

N = 6

Survey Design: 7-Step Process

- Step 1: Literature Review
- Step 2: Interviews & Focus Groups
- Step 3: Synthesize
- Step 4: Develop Items
- Step 5: Expert Validation
- Step 6: Cognitive Interviewing
- Step 7: Pilot Test
Step 1: Literature Review

Goal: Ensure the construct is relevant in the field

- Critically evaluate the literature
  - How is the construct defined in prior studies?
  - Has the construct been evaluated sufficiently?

- Identify existing scales
  - What items/scales currently exist?
  - Appraise quality

Step 2: Interviews & Focus Groups

Goal: Ensure construct is what “real” people experience

- Interview experts
- Create focus groups from target population

- Apply open-ended questions
  - Avoid yes/no, multiple-choice questions
Step 2: Interviews & Focus Groups

Example: Basic Clinical Skills Self-Efficacy

- **Interview experts**
  - How do “experts” define basic clinical skills self-efficacy?
    - Experienced medical educators
    - Medical education researchers who have studied self-efficacy

- **Focus groups from the target population**
  - How does the target population understand basic clinical skills self-efficacy?
    - Current students and recent graduates

---

Step 2: Practical exercise

**Group discussion:**
- If you wanted to create a survey to measure…

  **Basic Clinical Skills Self-Efficacy**

- What aspects of this “fuzzy” construct would you need to include/address/ask about?
Step 3: Synthesize Literature & Interviews

Goal: Arrive at consensus/agreement

- Literature
- Target Population
- Experts

Step 4: Develop Items

Goal: Develop items using vocabulary your target population can understand

- Considerations
  - Vocabulary and wording
  - Response anchor selection
    - Ratings vs. rankings; Likert-scale items; yes/no items?
  - Item formatting
    - Visual design, item order, instructions, etc.
Step 4: Develop Items (examples)

Course Importance (a belief; the full scale = 6 items)

1. How important was it for you personally to perform well in this course?
2. How important were the practical applications of the information provided in this course?
3. How important was the content of this course?
4. How important was it for you to learn the material in this course?

response anchors

<table>
<thead>
<tr>
<th>not at all important</th>
<th>slightly important</th>
<th>moderately important</th>
<th>quite important</th>
<th>extremely important</th>
</tr>
</thead>
</table>

Step 4: Develop Items (examples)

Perceived Barriers to Mental Health Care
(a belief; the full scale = 12 items)

Rate each of the possible concerns that might affect your decision to receive mental health counseling or services if you ever had a problem:

1. I don't trust mental health professionals.
2. I don’t know where to get help.
3. I don't have adequate transportation.

response anchors

<table>
<thead>
<tr>
<th>strongly disagree</th>
<th>disagree</th>
<th>neutral</th>
<th>agree</th>
<th>strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

(from Hoge et al., 2004)
Principle #3: A survey is a conversation between you and your respondents.

4) To what extent do you favor or oppose the university’s ‘Maximally Accessible Materials’ (MAM) policy to make all printed materials at the school available upon request in enlarged font form for the visually impaired?

<table>
<thead>
<tr>
<th>Strongly Oppose</th>
<th>Moderately Oppose</th>
<th>Slightly Oppose</th>
<th>Neither Favor nor Oppose</th>
<th>Slightly Favor</th>
<th>Moderately Favor</th>
<th>Strongly Favor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

Total N = 17  
Mean = 5.1

8 said “neither favor nor oppose”  
6 said “slightly favor” or “moderately favor”  
3 said “strongly favor”!!

NO MISSING DATA!!!!

Principle #3: A survey is a conversation between you and your respondents.

A note about providing a reason
“because…” or “so that…”

8) As some of you may know, the university is debating whether to move some parts of the university to a new section of campus in Rockville. Do you think the university should move to Rockville?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes = 12.5%</td>
<td>Yes = 55.6%</td>
</tr>
</tbody>
</table>

Pearson $\chi^2(1) = 3.44$, $p = .06$
Today’s Small-Group Activity

• Form groups

• Using a construct definition, develop a scale of 5 items to measure the construct

Construct = Basic Clinical Skills Self-Efficacy

• Definition:
  ◦ A student’s confidence in his/her ability to perform the basic clinical skills expected of a graduating medical student.

Today’s Small-Group Activity

• Construct:

Basic Clinical Skills Self-Efficacy

• Definition:
  A student’s confidence in his/her ability to perform the basic clinical skills expected of a graduating medical student.

• Tell us your items:
  1. ______________________________________________________
  2. ______________________________________________________
  3. ______________________________________________________
  4. ______________________________________________________
  5. ______________________________________________________

• Tell us your response anchors:

Common Pitfalls

• Creating double-barreled items
  ◦ Example Item: “How effective was the classroom and hands-on instruction?”
    ◦ What if one is good and the other is bad?
  ◦ Solution: split into two items
    ◦ “How effective was the classroom instruction?”
    ◦ “How effective was the hands-on instruction?”

Construct = Elaboration

<table>
<thead>
<tr>
<th>Inter-Item Correlation Matrix</th>
<th>02_A_30</th>
<th>02_A_36</th>
<th>02_A_37</th>
<th>02_A_40</th>
<th>02_A_41</th>
<th>02_A_50</th>
</tr>
</thead>
<tbody>
<tr>
<td>02_A_30</td>
<td>1.000</td>
<td>.984</td>
<td>.439</td>
<td>.275</td>
<td>.816</td>
<td>.287</td>
</tr>
<tr>
<td>02_A_36</td>
<td>.984</td>
<td>1.000</td>
<td>.741</td>
<td>.255</td>
<td>.878</td>
<td>.737</td>
</tr>
<tr>
<td>02_A_37</td>
<td>.439</td>
<td>.741</td>
<td>1.000</td>
<td>-.217</td>
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<td>.083</td>
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<tr>
<td>02_A_40</td>
<td>.275</td>
<td>.255</td>
<td>-.217</td>
<td>1.000</td>
<td>.200</td>
<td>-.160</td>
</tr>
<tr>
<td>02_A_41</td>
<td>.816</td>
<td>.987</td>
<td>.356</td>
<td>.200</td>
<td>1.000</td>
<td>.445</td>
</tr>
<tr>
<td>02_A_50</td>
<td>.287</td>
<td>.737</td>
<td>.803</td>
<td>.169</td>
<td>.445</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Item 40: When I study for this course, I write brief summaries of the main ideas from the readings and online discussions

Cronbach’s alpha = 0.546
Common Pitfalls

• **Creating negatively worded items**
  - Unnecessary cognitive burden
  - Promotes satisficing
    - “In an average week, how often are you unable to start rounds on time?” (rarely-often)
    - “I can’t stop thinking about the war in Afghanistan” (rarely-often)
  - Solution: make sure “yes” means “yes” and “no” means “no”
    - “In an average week, how often do you start rounds on time?”
    - Afghanistan:
      - Slight Improvement: “I keep thinking about the war in Afghanistan”
      - Better: “How often do you think about the war in Afghanistan?”

• **Using statements instead of questions**
  - Example Item: “I am confident I can do well on this rotation.”
    - Statements are not very “conversational”
      - People are more practiced at answering questions
  - Solution: use questions
    - “How confident are you that you can do well in this rotation?”
    - Use construct-specific confidence response anchors
Common Pitfalls

- **Using agreement response anchors**
  - Example Item: “The global economy is the most important issue in the world today.”
  - Agreement response anchors don’t just measure the construct of interest
    - Confounded by how “agreeable” respondents are
    - Respondents often “agree” just because
  - Solution: avoid agreement response anchors; maintain focus on construct by using construct-specific anchors
    - “How important is the issue of the global economy in the world today?”

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all important</td>
<td>Slightly important</td>
<td>Moderately important</td>
<td>Quite important</td>
<td>Extremely important</td>
</tr>
</tbody>
</table>

Common Pitfalls

- **What does it mean to “strongly agree” anyway?**

  **Section II:** In this section, each question will ask you to indicate how you understand a commonly used phrase by marking an “X” at the appropriate place on the line.

  25) When you say that you “strongly agree” with somebody else, what do you mean? Indicate on the line below where “strongly agree” is by marking an “X” on the line.

  ![100% Disagreement to 100% Agreement Scale]
Strongly Disagreeable Ranges

Common Pitfalls

- **Using too few or too many response anchors**
  - Influences reliability within a set of survey items
    - Too few (<4) → less reliable
    - Too many (>7-9) → diminishing return; false impression of precision
  - Example Item: “How useful was the rotation in emergency medicine?”

<table>
<thead>
<tr>
<th>Not at all useful</th>
<th>Moderately useful</th>
<th>Very useful</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Not at all useful</th>
<th>Slightly useful</th>
<th>Moderately useful</th>
<th>Quite useful</th>
<th>Extremely useful</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Not at all useful</th>
<th>Minimally useful</th>
<th>Slightly useful</th>
<th>Somewhat useful</th>
<th>Moderately useful</th>
<th>Quite useful</th>
<th>Very useful</th>
<th>Extremely useful</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Common Pitfalls

- **Using jargon and/or unclear language**
  - Instead, use language that is simple, direct, comprehensible, and unambiguous
    - Instead of *exhausted*... consider **tired**
    - Instead of *leisure time*... consider **free time**
    - Instead of *due to the fact that*... consider **because**
    - Instead of *at this point in time*... consider **now**

Today’s Small-Group Activity

Debrief

- **Construct = Basic Clinical Skills Self-Efficacy**

- **Definition:**
  - A student’s confidence in his/her ability to perform the basic clinical skills expected of a graduating medical student.

- **Tell us your items:**
  1. 
  2. 
  3. 
  4. 
  5. 

- **Tell us your response anchors:**
  [ ] [ ] [ ] [ ] [ ] [ ] [ ]
Survey Design: 7-Step Process

- Step 1: Literature Review
- Step 2: Interviews & Focus Groups
- Step 3: Synthesize
- Step 4: Develop Items
- **Step 5: Expert Validation**
- **Step 6: Cognitive Interviewing**
- **Step 7: Pilot Test**

Step 5: Expert Validation (aka, content validation)

**Goal:** Make sure the items “ring true” to experts

- Depending on your needs, experts can consider the following for each of your survey items…
  - Clarity
  - Construct relevance
  - Language level
  - Missing facets/aspects
Step 6: Cognitive Interviewing

**Goal:** Make sure respondents understand the items as intended by you (the developer)

- Recruit members of the targeted population
  - e.g., students, teachers, patients, locals, etc.
- Conduct one-on-one interviews, in “laboratory” or other location
- THEN: Make informed decisions, with cognitive interview as one source of input

Example

“In the last year, have you been bothered by pain in the abdomen?”

- What problems do you anticipate?
  - What time period are you thinking about?
  - What does “bothered by pain” mean to you?
  - Where is your “abdomen?”
Step 6: Cognitive Interviewing

Example

“Please look at this diagram. During the past 12 months, have you had pain in this area (the area shaded on the diagram)?

Step 7: Pilot Testing

**Goal:** Collect evidence of survey’s reliability (score reproducibility) and validity (are you measuring what you intend to measure?)

- Collect data from a small sample
- “Get to know” your descriptive statistics
  - Are the item scores normally distributed?
Step 7: Pilot Testing

- “Get to know” your descriptive statistics
  - Do individual survey items “hang together”?
    - Factor analysis and reliability analysis
  - Scale #1
    - Item 1
    - Item 4
    - Item 7
    - Item 8
    - Item 10
    - Item 15
     
     calculate a mean score

Step 7: Pilot Testing

- How does your scale score relate to other variables?
  - Dimensions of Student Motivation

<table>
<thead>
<tr>
<th>Construct</th>
<th>TestAnxiety</th>
<th>Certainty</th>
<th>Enthusiasm</th>
<th>Anxiety</th>
<th>Depression</th>
<th>Age_Course</th>
<th>HNCM_Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>TestAnxiety</td>
<td>1.000</td>
<td>0.763</td>
<td>0.838</td>
<td>-0.059</td>
<td>0.267</td>
<td>0.248</td>
<td>0.313</td>
</tr>
<tr>
<td>Certainty</td>
<td>0.763</td>
<td>1.000</td>
<td>0.829</td>
<td>-0.079</td>
<td>0.310</td>
<td>0.284</td>
<td>0.336</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>0.838</td>
<td>0.829</td>
<td>1.000</td>
<td>0.150</td>
<td>0.228</td>
<td>0.208</td>
<td>0.259</td>
</tr>
<tr>
<td>Anxiety</td>
<td>-0.059</td>
<td>-0.079</td>
<td>0.150</td>
<td>1.000</td>
<td>0.456</td>
<td>0.340</td>
<td>0.383</td>
</tr>
<tr>
<td>Depression</td>
<td>0.267</td>
<td>0.310</td>
<td>0.228</td>
<td>0.456</td>
<td>1.000</td>
<td>0.445</td>
<td>0.445</td>
</tr>
<tr>
<td>Age_Course</td>
<td>0.248</td>
<td>0.284</td>
<td>0.208</td>
<td>0.340</td>
<td>0.445</td>
<td>1.000</td>
<td>0.500</td>
</tr>
<tr>
<td>HNCM_Grade</td>
<td>0.213</td>
<td>0.259</td>
<td>0.259</td>
<td>0.383</td>
<td>0.445</td>
<td>0.500</td>
<td>1.000</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2 tailed).
* Correlation is significant at the 0.01 level (2 tailed).
Final Example

19) Parking is the most important issue at the university today.

19) How important is the issue of parking at the university today?

Cohen’s $d = 1.16$

$\text{t}(15) = 2.31, p < .05$

Questions?

If you remember nothing else, remember…

**Principle #1:** You can’t fix by analysis what you’ve bungled by design.

**Principle #2:** The questions guide the answers.

**Principle #3:** A survey is a conversation between you and your respondents.
AM Last Page: Survey Development Guidance for Medical Education Researchers

Hunter Gehlbach, PhD, assistant professor of Education, Harvard University; Anthony R. Artino, Jr, PhD, assistant professor of Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences; and Steven J. Durning, MD, professor of Medicine, Uniformed Services University of the Health Sciences.

Medical education researchers frequently rely on survey data. For example, of Academic Medicine’s 141 research articles from 2009, over half (56%) used surveys. Yet, the literature provides limited guidance on which processes best facilitate the development of surveys—particularly in the design of survey scales (i.e., several items that assess a single underlying construct such as physician empathy or teaching self-efficacy; see example below). This flowchart presents seven steps to facilitate the construction of valid and reliable survey scales.

**Step 1**
Conduct a literature review both to ensure that your construct definition aligns with relevant prior research and to identify extant survey scales or items that might be used or adapted for your research context.

**Step 2**
Conduct interviews and/or focus groups to learn how your population of interest conceptualizes and describes your construct of interest.

**Step 3**
Synthesize the literature review and interview/focus group data so that the conceptualization of the construct makes theoretical sense to scholars in the field and uses language that your population of interest understands. For example, a scale assessing teaching self-efficacy (i.e., confidence in one’s teaching ability) should use words like “confidence in trying out new teaching techniques,” not “efficaciousness in experimenting with novel pedagogies.”

**Step 4**
Develop items in accordance with current best practices in survey design. For example, the sample scale below uses response anchors that refer to the specific construct (rather than numbers or agree/disagree response anchors).

**Step 5**
Conduct an expert validation to assess the items’ clarity and relevance to the construct.

**Step 6**
Conduct cognitive pretesting through which participants restate each item aloud in their own words as they answer it. This step helps ensure that respondents interpret items in the manner that you intend.

**Step 7**
Pilot-test your items to check for adequate item variance, reliability, and convergent/discriminant validity with respect to other measures.

*Note: After you complete each of these final steps, you may need to revise items and/or repeat steps from this part of the process.*

**Sample Items From a Teaching Self-Efficacy Scale**

| 1. How confident are you that you can help students remember what they learned in your class? |
| 2. When you need to teach less interesting topics, how confident are you that you can keep all students engaged? |
| 3. How confident are you that you can help students learn when they are unmotivated? |
| 4. How confident are you that you can get through to the most difficult students? |

5-point, Likert-type response scale:

| Not at all confident | Slightly confident | Moderately confident | Quite confident | Extremely confident |

References

### AM Last Page: Avoiding Five Common Pitfalls of Survey Design

Anthony R. Artino, Jr, PhD, assistant professor of preventive medicine and biometrics, Uniformed Services University of the Health Sciences, Hunter Gehlbach, PhD, assistant professor of education, Harvard University, and Steven J. Durning, MD, professor of medicine and pathology, Uniformed Services University of the Health Sciences

Writing good survey items is both an art and a science. Over the last 30 years, scholars have amassed a great deal of scientific evidence on which questionnaire designers can rely.1-5 The guidelines below present some of the more frequently ignored, but more important, of these survey-design basics.

<table>
<thead>
<tr>
<th>Pitfall</th>
<th>Survey example(s)</th>
<th>Why it's a problem</th>
<th>Solution(s)</th>
<th>Survey example(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating a double-barreled item</td>
<td>How often do you talk to your nurses and administrative staff when you have a problem?</td>
<td>Respondents have trouble answering survey items that contain more than one question (and thus could have more than one answer).1 In this example, respondents who talk to nurses often but talk to administrative staff infrequently will struggle to answer this question. Survey items should address one idea at a time.1</td>
<td>When you have multiple questions/premises within a given item, either (1) create multiple items for each question that is important or (2) include only the more important question. Be especially wary of conjunctions in your items.1,4</td>
<td>How often do you talk to your nurses when you have a problem? How often do you talk to your administrative staff when you have a problem?</td>
</tr>
<tr>
<td>Creating a negatively worded item</td>
<td>In an average week, how many times are you unable to start class on time? The chief resident should not be responsible for denying admission to patients.</td>
<td>Negatively worded survey items are challenging for respondents to comprehend and answer accurately. Double-negatives are particularly problematic and increase measurement error.1 If a respondent has to say “yes” in order to mean “no” (or “agree” in order to “disagree”), the item is flawed.</td>
<td>Make sure “yes” means yes and “no” means no. This generally means wording items positively.1</td>
<td>In an average week, how many times do you start class on time? Should the chief resident be responsible for admitting patients?</td>
</tr>
<tr>
<td>Using statements instead of questions</td>
<td>I am confident I can do well in this course. • not at all true • a little bit true • somewhat true • mostly true • completely true</td>
<td>A survey represents a conversation between the surveyor and the respondents. To make sense of survey items, respondents rely on &quot;the tacit assumptions that govern the conduct of conversation in everyday life.&quot;2 Only rarely do people engage in rating statements in their everyday conversations.</td>
<td>Formulate survey items as questions. Questions are more conversational, more straightforward, and easier to process mentally. People are more practiced at responding to them.1,4</td>
<td>How confident are you that you can do well in this course? • not at all confident • slightly confident • moderately confident • quite confident • extremely confident</td>
</tr>
<tr>
<td>Using agreement response anchors</td>
<td>The high cost of health care is the most important issue in America today. • strongly disagree • disagree • neutral • agree • strongly agree</td>
<td>Agreement response anchors do not emphasize the construct being measured and are prone to acquiescence (i.e., the tendency to endorse any assertion made in an item, regardless of its content).3 In addition, agreement response anchors may encourage respondents to think through their responses less thoroughly while completing the survey.4</td>
<td>Use construct-specific response anchors that emphasize the construct of interest. Doing so reduces acquiescence and keeps respondents focused on the construct in question. Doing so results in less measurement error.1,4</td>
<td>How important is the issue of high health care costs in America today? • not at all important • slightly important • moderately important • quite important • extremely important</td>
</tr>
<tr>
<td>Using too few or too many response anchors</td>
<td>How useful was your medical school training in clinical decision making? • not at all useful • somewhat useful • very useful</td>
<td>The number of response anchors influences the reliability of a set of survey items.5 Using too few response anchors generally reduces reliability. There is, however, a point of diminishing returns beyond which more response anchors do not enhance reliability.5</td>
<td>Use five or more response anchors to achieve stable participant responses. In most cases, using more than seven to nine anchors is unlikely to be meaningful to most respondents and will not improve reliability.5</td>
<td>How useful was your medical school training in clinical decision making? • not at all useful • slightly useful • moderately useful • useful</td>
</tr>
</tbody>
</table>
# AM Last Page: Avoiding Four Visual-Design Pitfalls in Survey Development

Anthony R. Artino, Jr., PhD, associate professor, Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences, and Hunter Gehlbach, PhD, associate professor, Harvard Graduate School of Education

A previous AM Last Page presented five common pitfalls of survey design as well as several solutions. This AM Last Page presents four visual-design and layout pitfalls and offers solutions.

## Pitfall: Explanation and Example

<table>
<thead>
<tr>
<th>Labeling only the end points of your response options</th>
<th>Solution: Explanation and Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labeling only the end points leaves the meaning of the unlabeled options open to respondents’ interpretation. Different respondents can interpret the unlabeled options differently. This ambiguity increases measurement error.</td>
<td><strong>Verbally label each response option</strong>&lt;br&gt;Labeling each response option increases consistency in the conceptual spacing between response options and increases the likelihood that all respondents will interpret the response options similarly. Additionally, the visual weight of the response options are comparable, so that respondents’ eyes are not drawn to certain options.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How interesting did you find this clinical reasoning course?</th>
<th>How interesting did you find this clinical reasoning course?</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all interesting</td>
<td>very interesting</td>
</tr>
</tbody>
</table>

## Labeling response options with both numbers and verbal labels

Because of the additional information respondents must process, providing both numbers and verbal labels extends response time. The implied meaning of negative numbers can be particularly confusing, and may introduce additional error. For example, in the item below, learning “a little bit” seems incongruous with learning the amount of “-1.”

<table>
<thead>
<tr>
<th>How much did you learn in today’s workshop?</th>
<th>How much did you learn in today’s workshop?</th>
</tr>
</thead>
<tbody>
<tr>
<td>almost nothing</td>
<td>very interesting</td>
</tr>
</tbody>
</table>

## Unequally spacing your response options

The visual spacing between options can attract respondents to certain options over others, which in turn might cause them to select these options more frequently. In addition, unbalanced spacing of the response options can shift the visual midpoint of the scale.

<table>
<thead>
<tr>
<th>How much did you learn from your peers in this course?</th>
<th>How much did you learn from your peers in this course?</th>
</tr>
</thead>
<tbody>
<tr>
<td>almost nothing</td>
<td>very interesting</td>
</tr>
</tbody>
</table>

## Placing non-substantive response options together with substantive response options

Placing non-substantive response options such as “don’t know,” “no opinion,” or “not applicable” together with the substantive options can shift the visual and conceptual midpoint of the response scales, thereby skewing the results.

<table>
<thead>
<tr>
<th>How satisfied are you with the quality of the library services?</th>
<th>How satisfied are you with the quality of the library services?</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all satisfied</td>
<td>very satisfied</td>
</tr>
</tbody>
</table>

# References


**Disclaimer:**

The views expressed in this article are those of the authors and do not necessarily reflect the official policy of the U.S. Department of Defense.

**Author contact:** Anthony.Artino@usuhs.mil
Reliability is the extent to which the scores produced by a particular measurement tool or procedure are consistent and reproducible. Reliability answers the question, “Does the assessment yield the same scores at different times, from different raters, or from different items?”

Validity is the degree to which an assessment measures what investigators want to measure, all of what they want to measure, and nothing but what they want to measure. Validity answers the question, “Does the assessment provide information that is relevant to the inferences that are being made from it?” An assessment, such as a test or questionnaire, does not have validity in any absolute sense. Instead, the scores produced are valid for some uses and not valid for others.

A target provides a metaphor for the relationship between reliability and validity. The true score (or value) for the concept the researcher is attempting to measure is at the center of the target, and the observed score the investigator gets from each person assessed is a shot at the target.

Reliability is a necessary but insufficient condition for validity. To be valid, scores must first be at least moderately reliable. However, scores that are reliable may be devoid of validity for the application the researcher has in mind.

Many methods of assessing reliability and validity are available. Each method provides the researcher with slightly different information about the reliability and validity of the assessment.
Survey Development: What Not to Avoid

Surveys are a commonly employed research design method. Developing an effective survey depends on the adequacy of construct development and attention to sampling and design, item construction, data processing, pilot testing, and response rate (Figure 1). The focus of this article is to address construct development, expert validation, cognitive pre-testing, and pilot testing, all of which are critical to ensuring reliability and validity of the data collected.

Construct Development
Thorough development of the construct to be measured by items within the survey is an essential first step in survey development. A construct is an abstract concept or idea that is typically not directly measurable or observable (e.g. patient satisfaction or student motivation). Most constructs are not readily assessed using a single survey question. Instead, it is often necessary to create a series of items, referred to as

![FIGURE 1: Systematic Eight-Step Process for Survey Development (1)](image)

<table>
<thead>
<tr>
<th>Development Step</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Articulate a research question and define the construct(s) of interest</td>
<td>Determine whether or not it makes sense to measure your construct with a survey</td>
</tr>
<tr>
<td>2. Conduct a thorough review of the literature</td>
<td>Make sure your construct is relevant to the field of study and coheres with prior research</td>
</tr>
<tr>
<td>3. Conduct interviews and/or focus groups</td>
<td>Make sure your construct has face validity and is relevant to what your participants experience</td>
</tr>
<tr>
<td>4. Synthesize the data from the literature review and the interviews/focus groups</td>
<td>Make sure your conception of the construct is agreed upon by academics and participants</td>
</tr>
<tr>
<td>5. Draft a set of survey items</td>
<td>Develop survey items using best practices in survey design</td>
</tr>
<tr>
<td>6. Conduct an expert validation</td>
<td>Make sure the items ring true to experts</td>
</tr>
<tr>
<td>7. Conduct several cognitive interviews</td>
<td>Make sure participants understand the items as intended by you (the developer)</td>
</tr>
<tr>
<td>8. Pilot test the survey with a small sample of participants</td>
<td>Make sure the items developed have appropriate range and variance</td>
</tr>
</tbody>
</table>
a scale, to describe the construct. For example, if patient satisfaction with a clinic is measured, it is reasonable to create survey items specific for provider communication, patient trust in provider, and clinic access. Combining these individual items into a scale or series of scales provides a more robust representation of the multi-dimensional nature of an abstract construct like patient satisfaction. In addition, the individual scales may obviate problem areas in specific domains that adversely impact the overall construct of patient satisfaction, thereby creating actionable items not otherwise captured without the use of scales. Literature review, focus groups, and interviews with experts and the population of interest are among the approaches commonly used during construct and scale development.

Expert Validation
Once the construct has been developed and items for the scales written, the next step is expert validation—a formal way of gathering information about a developing survey from experts in the field of interest (2-3). This process involves expert review of each individual survey item using a standard form provided by the survey developer. The standard validation form usually addresses major topics of interest related to the clarity (i.e., whether there are ambiguities or multiple ways to interpret the question or response options), the relevance of items to the specific scale and construct (i.e., the extent to which each item relates to the aspect of the construct that the item is intended to measure), the overall representativeness of the construct (i.e., how completely the items cover the scale and construct), and the “difficulty” of the items. The “difficulty” of an item refers to the extent to which respondents have a hard time endorsing the item.

For example, the average student may find it difficult to strongly endorse the self-confidence item, “I’m confident I can get 100% of the points in biochemistry,” but the same student may find it easier to strongly endorse the item, “I’m confident I can pass biochemistry.” For any given scale, the survey developer should strive to have a range of items with varying levels of difficulty (4). During the process of expert validation, opportunities to improve items, to generate new items that better represent a particular scale, and to identify a previously overlooked dimension of the construct can become apparent.

Cognitive Pretesting
After the experts have an opportunity to refine the survey, it is equally important to understand how the study population will interpret the items and response choices through a process known as cognitive pre-testing or cognitive interviewing (5). On an ideal survey, respondents will interpret all the items the same way as intended by the survey designer. In essence, cognitive pre-testing is a modified pilot test on a small group (five to 15) from the study population using a qualitative approach to elucidate problems with specific questions or responses due to misinterpretations, assumptions, bias, and formatting. Typically, this process involves a face-to-face, scripted interview where a respondent reads each question aloud and uses a “think-aloud” process in determining their response to the question. During this process, survey developers uncover unexpected problems with items and seek input to understand the nature of the issue and a potential solution.

Construct development, expert validation, and cognitive testing add critical information to create more reliable and valid data.

Pilot Testing
Once the items and scales have been modified, the next step is a pilot test of the survey. During pilot testing, members of the target population are asked to complete the survey in the planned delivery format (e.g., paper, web-based, etc.). The obtained data are used to ensure an appropriate range of responses from each item without a skew to one of the extremes. An internal consistency reliability analysis for items within each scale can identify individual items not functioning as expected and may reveal common errors (e.g., questions that address one or more ideas, so-called “double-barreled” questions). A correlation matrix on items within each scale can identify redundant items (items that are too highly correlated) or items that may be unrelated to the other items in the scale. Both of these analyses can pull down the number of overall survey items while still maintaining a high degree of reliability. If there are enough respondents in the pilot study, a factor analysis may provide further validity evidence for the appropriateness of grouping items into specific scales.

In addition to an analysis of individual items, a composite score can also be calculated from each individual scale. These composite scores are then used to create an inter-scale correlation matrix to demonstrate the overall validity of the survey in measuring the construct (or constructs) of interest. This technique will uncover areas of convergent and discriminant validity within the survey tool. For example, if measuring the multi-dimensional construct of student motivation, one might expect the interest dimension would be positively correlated with the enjoyment dimension, and
Survey Development: What Not to Avoid

the enjoyment dimension would be negatively correlated with the anxiety dimension. These basic statistical techniques for both individual items and scales provide valuable information for further refinement of the survey, but as with any process, the psychometric data must be balanced with the underlying theory behind the constructs being measured in the survey.

The processes of construct development, expert validation, cognitive pre-testing, and pilot testing are too often overlooked in the development of survey tools, and yet each step adds critical information toward creating more reliable and valid data. Given the large number of research questions answered through surveys, greater attention to these techniques is worthwhile so that data obtained through survey research methods is of use.

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References


Incorporating Social Media into Medical Education

transparent about their practices. Ultimately, innovating with social media tools can enhance both the teaching and learning experience for medical educators and medical students. We are bound only by the limits of creativity.

Authors

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If you would like to suggest a theme or a list of Ten Tunes, please e-mail Insight Editor Sheila T. Costa at scosta@im.org.
Acquiescence is the tendency to endorse any assertion made in a question, regardless of its content (this is really a type of satisficing; see definition below).

Construct is a hypothesized concept, model, idea, or theory (something constructed) that we think exists but that we cannot directly observe.

Content validity is evidence obtained from an analysis of the relationship between a survey instrument’s content and the construct it is intended to measure.

Factor is an “unobserved” variable that statistically explains the variation and co-variation among a larger set of “observed” variables (i.e., the actual items on a survey). Stated another way, factors succinctly represent a larger set of observed variables. Factors often correspond to constructs; although some constructs are made up of multiple factors. Such constructs are often called multi-dimensional constructs.

Factor analysis is an analytical technique used to identify factors that statistically explain the variation and co-variation among a set of measures (i.e., a set of survey items). Factor analysis is a data-reduction technique that reduces a large number of overlapping measured variables to a much smaller set of factors.

Items/Indicators (observable items, empirical indicators) are the actual questions/statements that make up a survey (or a particular survey scale).

Optimizing is the extent to which a respondent performs the necessary cognitive tasks to answer a survey item in a thorough and unbiased manner. These cognitive tasks may include: (1) interpreting a survey item (figuring out its intent), (2) searching memory for relevant information, (3) forming a judgment, and (4) translating the judgment into an answer by summarizing or selecting one of the alternatives offered. These are the tasks we want respondents to do when taking our survey.

Order effect is the notion that the order of response alternatives affects the extent to which respondents select those items (primary and recency effects are two types of order effects).

Primacy effect is the tendency to remember (and select) answers that appear first (or early) in a list of alternatives (likely because those items were cognitively processes and now reside in long-term member). This effect is more prominent when items are presented visually.

Recency effect is the tendency to remember (and select) answers that appear last (or later) in a list of alternatives (likely because they still reside in working memory and so are more accessible). This effect is more prominent when items are presented orally.

Reliability is the extent to which the scores produced by a particular measurement procedure or instrument (e.g., a survey) are consistent and reproducible. Reliability is a necessary but insufficient condition for validity.

Response anchors are the named points along a set of answer options (e.g., strongly disagree, disagree, neutral, agree, strongly agree).
Response process validity is evidence obtained from an analysis of how respondents interpret the meaning of a survey and its specific survey items.

Satisficing is the extent to which respondents compromise their standards and expend less energy (i.e., they don’t fully optimize).

Scale is two or more items (indicators) intended to measure a construct. Often, however, the word scale is used more generally to refer to the entire survey. As such, many scales are composed of several sub-scales.

Social desirability bias is the tendency to over-report admirable attitudes/behaviors and under-report those that are not socially respected. Stated another way, it is the tendency to lie in order to appear as socially suitable and acceptable as possible.

Strong satisficing is a more dramatic form of satisficing where respondents skip entire cognitive tasks (i.e., comprehension, retrieval, judgment, or response selection) and arbitrarily select an answer (e.g., they may select the first reasonable response; they may accept any assertions made that seem reasonable; they may select “don’t know” or “no opinion” to avoid expending effort; they may randomly select a response from those offered).

Sub-scale is a sub-division of a larger scale. Often, multi-dimensional constructs will be measured with a scale that is made up of several smaller sub-scales.

Weak satisficing is a less serious form of satisficing where respondents are less thorough in comprehension, retrieval, judgment, and response selection (e.g., they may be less thoughtful about a question’s meaning; they may search their memories less comprehensively; they may integrate retrieved information carelessly; they may select a response imprecisely).

Validity is the degree to which evidence and theory support a measure’s intended use.

Validity argument is the process of accumulating evidence to provide a sound scientific basis for the proposed uses of an instrument’s scores.
<table>
<thead>
<tr>
<th>Construct-Specific Response Scales</th>
<th>Construct:</th>
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<tr>
<td>not important</td>
<td>somewhat important</td>
</tr>
<tr>
<td>unimportant</td>
<td>of little importance</td>
</tr>
<tr>
<td>not at all important</td>
<td>slightly important</td>
</tr>
<tr>
<td>completely unimportant</td>
<td>unimportant</td>
</tr>
<tr>
<td>not at all confident</td>
<td>slightly confident</td>
</tr>
<tr>
<td>completely dissatisfied</td>
<td>moderately dissatisfied</td>
</tr>
<tr>
<td>not at all satisfied</td>
<td>slightly satisfied</td>
</tr>
<tr>
<td>not at all bored</td>
<td>slightly bored</td>
</tr>
<tr>
<td>not at all frustrated</td>
<td>slightly frustrated</td>
</tr>
<tr>
<td>strongly prefer x</td>
<td>prefer x</td>
</tr>
<tr>
<td>almost no effort</td>
<td>a little bit of effort</td>
</tr>
<tr>
<td>very poor</td>
<td>poor</td>
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</table>
### More General Response Scales

<table>
<thead>
<tr>
<th>Scale</th>
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<tbody>
<tr>
<td>completely untrue</td>
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<tr>
<td>not at all true of me</td>
</tr>
<tr>
<td>strongly disagree</td>
</tr>
<tr>
<td>or neither agree nor disagree</td>
</tr>
<tr>
<td>disagree strongly</td>
</tr>
<tr>
<td>disagree strongly</td>
</tr>
<tr>
<td>disagree very strongly</td>
</tr>
<tr>
<td>completely disagree</td>
</tr>
<tr>
<td>completely disagree</td>
</tr>
<tr>
<td>Frequency or &quot;Degree&quot; Response Scales</td>
</tr>
<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>almost never</td>
</tr>
<tr>
<td>never</td>
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<tr>
<td>never</td>
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<tr>
<td>not at all</td>
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<td>never</td>
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<td>never</td>
</tr>
<tr>
<td>never</td>
</tr>
<tr>
<td>seldom</td>
</tr>
<tr>
<td>never</td>
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<tr>
<td>never</td>
</tr>
</tbody>
</table>
Survey Development References

Good General Textbooks & Articles:


Articles on Expert Validation:


Articles on Cognitive Interviewing:


Articles on Reliability and Factor Analyses:


Me, Myself & I – Can I Truly Be Objective?
Self-Assessment and Critical Reflection Techniques for the Administrator and the Student

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University of Pittsburgh

Julie Schaeff
Texas Tech University
Health Sciences Center Amarillo, TX

Sandra Newman
Pinnacle Health Hospitals

Amber Spector
Washington University in St. Louis School of Medicine

Critical Thinking for the Clerkship Administrator

Theresa Cullens
University of Pittsburgh
What is Critical Thinking?

Critical thinking is thinking about your thinking, while you’re thinking in order to make your thinking better.

Richard Paul

Six Stages of Development

- Unreflective Thinker – unaware of problems.
- Challenged Thinker – aware of problems in thinking.
- Beginning Thinker – trying to improve, not practicing.
Six Stages of Development

• Practicing Thinker – recognizes the need for practice.
• Advanced Thinker – effective thinking habits.
• Master Thinker – skilled & insightful thinking is second nature.
Elements of Thought

• Purpose – your goal.
• Question & Issue – guides our thinking.
• Information – facts, data, evidence.
• Interpretation & Inference – conclusions you’ve come to.
Elements of Thought

- Concepts – ideas, theories.
- Assumptions – beliefs you take for granted.
- Implications & Consequences – claims of truth/actions.
- Point of View – the way you see it.

Critical Thinking Exercise 1:
OH BROTHER!

None of the four Jones brothers is the same height. No brother is taller than a brother who is older. The brothers’ names are Don, Dan, Dave and Dick.

Read these three statements. Then answer the questions.
1. Dave is taller than Dan and Dick.
2. Don is older than Dave.
3. Dan is shorter than Dick.
1. Who is older, Dick or Dave?
2. Who is younger, Dave or Dan?
3. Which brother is older than Dan but younger than Dave?
4. Who is the oldest?
5. Who is the youngest?

Critical Thinking Exercise 2: Tour Guide for an Alien

Pretend that you have been assigned the task of conducting a tour for aliens who are visiting Earth and observing human life. You're riding along in a blimp, and you float over a professional baseball stadium. One of your aliens looks down and becomes very confused, so you tell him that there is a game going on.
Try to Answer the Following Questions for him.

- What is a game?
- Why are there no female players?
- Why do people get so passionate watching other people play games?
- What is a team?
- Why can't the people in the seats just go down on the field and join in?

How to Improve Critical Thinking

- Practice, Practice, Practice!
- Take time to think about the elements when making decisions.
- Strive to be a Master Thinker!
Critical and Reflexive Thinking for the Medical Student: The Differences

Sandra Newman
Pinnacle Health Hospitals

Critical Thinker

- **Critical thinking** is a way of deciding whether a claim is always true, sometimes true, partly true, or false.
- Critical thinking is an important component of most professions. It is a part of formal education and is increasingly significant as students progress through university to undergraduate education although there is debate among educators about its precise meaning and scope.
Critical Thinking Indicators

• Do the students build on previous messages/lessons?
• Do the students draw on their own experience?
• Do the students refer to their course material?
• Do the students refer to relevant material outside the course?

All of the above are indicators of critical thinking at different levels.

The next slide will provide ideas to help students stimulate their own critical thinking skills.
Helping your Students

• Use questions that require students to analyze problem etiology, compare alternative treatment modalities, provide rationales for plans of action and predict outcomes.
• Critique cases and review decisions to identify excellent practices and to identify errors.
• Write assignments that require students to analyze problem etiology, compare alternative treatment modalities, provide rationales for plans of action and predict outcomes.

The Reflexive Thinker

• The capacity to reflect and learn from experience as well as the ability to anticipate the likely reactions to our actions without having to actually engage in such actions.
Reflexive Thinking Indicators

- Metacognition
  - Critical self-reflection on one's own learning process.
- Consolidative reflection
  - Reflecting on the big messages and understandings from the learning experience.
- Active connection making
  - Actively seeking connections between newly learned information and existing knowledge.

Tips for Teaching Medical Students

- Provide enough wait-time for students to reflect when responding to inquiries.
- Provide emotionally supportive environments in the classroom encouraging reevaluation of conclusions.
- Prompt reviews of the learning situation, what is known, what is not yet known, and what has been learned.
- Provide authentic tasks involving ill-structured data to encourage reflective thinking during learning activities.
Tips for Teaching Medical Students

• Prompt students' reflection by asking questions that seek reasons and evidence.
• Provide some explanations to guide students' thought processes during explorations.
• Provide a less-structured learning environment that prompts students to explore what they think is important.
• Provide social-learning environments such as those inherent in peer-group works and small group activities to allow students to see other points of view.

Tips for Teaching Medical Students

• Provide reflective journal to write down students' positions, give reasons to support what they think, show awareness of opposing positions and the weaknesses of their own positions.
Self-Assessment for the Clerkship Administrator

Amber Specter
Washington University in St. Louis
School of Medicine

What is Self-Assessment?

• An evaluation of one's own abilities and failings.
• Should provide a clear picture of your performance and accomplishments.
• During a self assessment you gather information about yourself in order to make an informed decision.
Where do I start?

Personal Assessment

• Value Inventory
  – The things that are important to you, like achievement, status, and autonomy.
• Interest Inventory
  – What you enjoy doing, i.e. playing golf, taking long walks, hanging out with friends.
• Personality Inventory
  – A person’s individual traits, motivational drives, needs, and attitudes.
• Skills Inventory
  – The activities you are good like and are good at doing.

Inventory Activity!

Dig deep to find out more about yourself.
Where do I start?
Professional Assessment

• Review your organizational goals and critical elements.
• Review records and accomplishments of your work.

Using the S.T.A.R. Format
An easy way to capture performance activities and accomplishments.

• **Situation**
  – Describe the conditions under which you completed the task.
• **Task**
  – Describe what you did during the year to create the results you achieved.
• **Activity/Action**
  – Include additional activities you completed, or actions you took that contributed to your results.
• **Result**
  – Describe what you accomplished.
Putting it all Together
Helpful Hints- things not to do

• Do not use the task oriented language from your position description.
• Do not list accomplishments without referencing the critical element.
• Do not use terms or acronyms that others may not know.
• Do not assume that your supervisor or reviewing official is familiar with every detail of your job.

Putting it all Together
Helpful Hints- things TO do

• Focus on the results; your contributions to the mission and accomplishments.
• Be specific, factual, clear, and concise.
• Use action verbs, active voice.
• Own your shortcomings.
• Stay positive.
Self-Assessment for the Medical Student

Julie Burns Schaef
Texas Tech University
Health Sciences Center, Amarillo TX

THE END OF FIRST YEAR
FIRST YEAR WASN'T SO BAD...

THE END OF SECOND YEAR
SECOND YEAR WASN'T SO BAD...

THE END OF MEDICAL SCHOOL
 THAT WASN'T SO BAD...
What is Self-Assessment?

• Self-meaning you
• Assessment or evaluation of oneself or one’s actions and attitudes, in particular, of one’s performance at a job or learning task considered in relation to an objective standard.

3rd Year Medical Students

• Working into Professionalism
• Changes form 2nd year to 3rd year
  – Major gap- (assessment & plan)
• Ethical Principles or Concepts
• Learning Schedules
• Treatment of Humans
3rd Year Medical Students

- Studying for the boards (NRMP)
- Learning the policy of Health Care
- Quality of Teaching
- Books?
- End of 3rd year is overwhelming

4th Year Medical Student

“Thinking of Yourself as a True Physician”

- Setting up appointments to request letters.
- Still making changes to the 4th year schedule.
  Ex: away rotations-waiting for an answer.
- Responsibilities: Completing their CV, personal statement.
- Doing 4th year rotations
4th Year Medical Student
“Thinking of Yourself as a True Physician”

- Creating an account for ERAS
- Setting up the interviews: TTUHSC set’s up a pretend interviews with each student in the department of which the student is going into.
- Making their list of places as to how to rank them into the system once the interviews are done.
- Realizing that YOU ARE a physician.

What can we do as Mother Hen’s to help the Medical Students?

- Teaching needs to revolve around assessment & planning.
- Create a binder that is rotation specific by the coordinators or administrator.
- Have one book that students can read that is helpful for each rotation. (TTUHSC has a book that is case based questioning). Will pass around this book for you to look at.
  - This comes from MSIII’s that they want the book to be like the textbooks from MSII.
What Can We Do?

• Three Key Factors to Look At
  – Strong leadership during first few rotations—coordinators
  – Using Technology, ex: texting, schedule updates through the office calendar
  – Quality of Teaching—Coordinators, Residents, Attendings (Try the Apple Awards)

The Medical Student View
Assessment Exercise

• Now we get to see how an assessment is done from a student perspective.
• It will show us what a student goes through when face to face with a patient.

Thank you!

• Any questions?
• There is a handout available for you to take that includes an exercise for critical thinking skills.
Bibliography

• Theresa Cullens
  – http://www.criticalthinking.org
  – Dale Seymour Publications. Critical Thinking Activities in Patterns, Imagery, Logic

• Sandra Newman
  – BMJ 2008; 336 Col: http://dx.doi.org/10.1136/bmj.39503.608032.AD

• Amber Specter
  – FreeDictionary.com

• Julie Burns Schaaf
Several Milestones under the Core Competency of Interpersonal and Communication Skills deal with direct communication with patients/families. These skills can be learned/taught. Roleplaying is an essential part of the process, but can be daunting to the learner and time-consuming.
Angst About Roleplaying

- Stage-Fright
- Artificial
- Time-consuming

- These concerns can largely be mitigated with good planning, attention to detail, and some innovative methods.

Outline

- Introduce some elements of communication with seriously ill patients.
- Discuss the origin of the Google Chat idea, and rationale for use instead of traditional roleplay.
- Give results from pilot study of Google Chat.
- Demonstrate a live roleplay.
- Discuss future plans and possibilities for collaboration.
Resources

- “Mastering Communication with Seriously Ill Patients” Anthony Back, Robert Arnold, James Tulsky
- VitalTalk website at vitaltalk.blogspot.com

Basic Principles

- Start with the patient’s agenda.
- Track both cognitive AND emotional data.
- Articulate empathy explicitly.
- Start with big-picture goals before talking about specific medical interventions. (use Enhanced Autonomy)
Which skills?

- Many to choose from. Some easier to teach, high yield for learners:
- Setting an agenda
- SPIKES
- Ask-Tell-Ask
- Recognizing emotional vs. cognitive channel and responding appropriately.

Agenda

- You’ve got an agenda.
- Your patient does too.
- Explicitly asking about your patient’s agenda can save time and enhance rapport. (And stops the doorknob question.)
- Invite written questions for future visits.
**SPIKES**

- Setup
- Perception
- Invitation
- Knowledge
- Empathize
- Summarize

---

**S = SETUP**

- Prepare for the conversation
- Know your agenda
- If discussing serious news, then:
  - Appropriate place
  - Tissues, glasses of water if appropriate
  - Turn your pager off
**P = PERCEPTION**

- Assess patient’s (or family’s) perception.
- “What have the other doctors told you so far?” or “What do you understand about your heart problem?”
- Gauges the amount of info necessary to supply and the appropriate level to target.

**I = INVITATION**

- Ask for an explicit invitation to talk about the news.
- “Are you ready to talk about this?” – gives the patient a bit of control.
- “How do you and your family want to deal with serious news?” --to address potential cultural mismatch.
Consider a warning statement.
(Unless contraindicated) Disclose the news straightforwardly.
Avoid jargon.
Assess for understanding.
Perception/Invitation/Knowledge can be reframed as Ask-Tell-Ask

Ask-Tell-Ask

Ask the patient to describe current understanding
Tell the patient in straightforward language
Check for understanding
ASK-tell-ask

- Example questions:
  - “What is the most important issue for us to talk about today?” … “Anything else?”
  - “To make sure we are on the same page, can you tell me what your understanding of your [disease] is?”
  - “What have your other doctors been telling you about your illness since the last time we spoke?”

ask-TELL-ask

- Straightforward language
- Avoid jargon
- Avoid long pathophysiology lectures
- If necessary, divide the Ask-Tell-Ask into separate sections, i.e. one on diagnosis, one on treatment, one on prognosis.
ask-tell-ASK

- Confirm understanding
- Can ask what patient will tell their friends/family
- “Who are you going to tell about this visit when you get home?...To make sure I did a good job of explaining to you, can you tell me what you are going to say?”

E = EMOTION/EMPATHY

- Track patient’s emotion.
- Assess whether they are on the “emotional” or “cognitive” channel and gear your discussion to match.
- Express your empathy explicitly.
Cognitive vs Emotional Channel

- Cognitive = conscious intellectual processes (thinking, reasoning, judging)
- Emotion = involuntary, not under conscious control.
- Need to gauge which channel patient is on.
- Brain processes emotion before cognition.
- This is why the patient sometimes doesn’t seem to hear anything after “cancer”.

Responding to Emotion

- About more than just “being nice”.
- Ignoring emotion may prevent cognitive understanding.
- Need to track and respond to emotional data
- Improves with practice
- Roleplaying is well-suited to practicing this skill.
Responding to emotion

- Recognize emotional data.
- Notice the emotion, even name it (silently, for yourself)
- Explicitly acknowledge the emotion: both verbal and nonverbal expressions of understanding.
- Some are helped by the mnemonic acronym: NURSE

NURSE

- NAME the emotion
- UNDERSTAND the emotion
- RESPECT (praise) the patient
- SUPPORT the patient
- EXPLORE the emotion
S = SUMMARIZE

- Summarize the plan.
- Describe the next steps.
- Consider a brief written outline.

Enhanced Autonomy

- Tries to strike a balance between extremes of paternalism and patient autonomy.
- Exchange ideas, negotiate differences, elicit goals of care.
- Make recommendations based on goals.
- Check for concordance.
- Implement plan.
Google Chat as a Teaching Tool
Learner Centered Communication Skills Training

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Bruce Scott MD
Wright State University

Outline

• Origins of Google Chat
• Describe current use and findings
“Necessity of Mother of All Inventions”

- Oncotalk and Oncotalk Teach
  - When teaching, we must use SPIKES ourselves
    - Set up required (to assess and focus on goals – Perceptions of own skills and needs)
    - Provide learner centered feedback with empathy
    - Summarize session (take away points for each learner)

- Reality in New Brunswick
  - No Budget
  - No 5 day schedule for Aspen
  - Learners in 2 sites 20 miles apart

Communication Skills Teaching at RWJMS

- 2008-now
  - First year curriculum (PGY1) includes 2 week block on clinical skills
- 3 hours session on communication skills (5-7 learners)
- 60 minutes didactic
- 90 minutes in person role play (Fish bowl with 2-3 participants)
- Assessed feedback using Google Forms
- Findings
  - Learners engaged and participated
  - Learners desired more experience, more feedback
  - ALL wanted experience in “hot seat”
Innovations #1: Chat (2009)

- Use of Google Chat
  - Based on Deaf-Mute patient
  - Erasing Before “sending”
    - Pausing and reflecting
  - Allows for review of chat transcript
  - Allows for “rewinding” conversation

Innovation #2: Emotional Channel
Change the Channel

• You know there is inadequate communication, when…
  – You rather poke yourself in the eye
  – You cringe at looking at the name on your list
  – “They just don’t get it…”
  – “the conversation just going in circles”
  – Patient is not hearing you…

Innovation #2: Emotional Channel

• Use Google Chat with 2 channels
  – Set of 2 learners, 1 facilitator; 3 chats
Innovation #2: Emotional Channel

- Allows for replication of the Oncotalk set up
  - facilitation
    - Learner centered
  - Ability to rewind and review conversation
  - Feedback from patient
  - Learner community (2 at a time)
- Additional benefits
  - Feedback AS patient/family member

What we have seen

- 20 sessions, approximately 105 learners over 4 years; more than 55 anonymous feedback
- 10 minute real time = up to 30-40 minute chat time
- Responses
  - Using Google Forms
  - 100% agree or strongly agree that “allowed me time to think”
  - 54/55 would recommend to others
  - All “physicians” erased before submitting their response
Results

• Benefits
  – Transcripts available
    • Allows for review for specific learner centered goals
    • Allows for specific learner centered feedback (emotional channel can be used to transcribe thought process)
    • Allows for conversation to be dissected multiple times
  – “Erase” before “Enter”
    • Learners found that they were erasing what they were saying before they pressed enter “slow down the conversation” “I thought before saying anything”

What we have seen

• Learners can “try” new phrases not originally comfortable with (expanding learning edge)
  – Facilitator can communicate with the learner and suggest when learner “stuck”
  – “safe environment”
  – Additional Feedback
    • Wanted more experience as patient/MD
Case 1

- 56 yo male with history of coronary artery disease admitted to hospital with painless jaundice.
- In ER, evaluation found him to have liver mass; obstructive jaundice
- ERCP advised
- Biopsy found him to have adenocarcinoma of pancreatic origin
- Setting:
  - Hospital Room
  - Present: Patient, Wife,
Patients Story

- 56 yo male with wife, 2 kids,
- Works full time
- Define himself as family man
- Loves boating, fishing
- “I’ve been healthy all my life” – he has cardiac history
- Family history of cancer
  - Brother died of metastatic lung cancer (six months for Dx to death)
  - Had significant side effects (pain, fatigue, nausea and vomiting)
  - Wants good qol (no pain), ok to die early

Physician’s Story

- You are a learner on the medicine service
- Patient admitted to your service yesterday; had ERCP and biopsy with stent and biopsy yesterday
- Pathologist called to tell you the diagnosis
- you had met with patient and family yesterday and told them that you might have results today
Facilitators Goals

- Assess learners’ goals
- Set up the conversation to ensure skills can be assessed (skip to a specific challenge if necessary)
- Provide learner specific feedback
- Facilitate with intervention if necessary
Next Steps - Consolidation

- Consolidation
  - Literature suggests benefit of consolidation over time for skills acquisition
- Feasibility study for across several institutions
  - Single arm study
  - After first session, residents will be consented for participation
  - All will be asked to perform total of 6 chats in 6 months
  - First and last chat will be specific cases (serve as pre and post intervention)
  - Evaluate specific skills demonstration during first and last chat

Looking for Collaborators

- Link to a sample chat

- https://docs.google.com/spreadsheet/ccc?key=0AvPsWBUP9Pm5dFICNIh0T3BPSEdhSGIkQnFLZVkzV0E&usp=sharing
Potential Future Projects

1. Teaching Clinical reasoning

2. Evaluate and practice specific skill

3. Incorporate Google Hangout (video to evaluate physical aspects)

4. On demand consult

Skill evaluation

- Set up
  - Assess with questioning (mind set, preparation)

- Perceptions
  - Easily evaluated (feedback can be on specific questions asked, time before providing answers/knowledge)

- Invitation
  - Evaluated using transcript for transition ("is it ok if I tell you what results show?")

- Knowledge
  - Evaluated using the language used
  - Feedback from patient role

- Empathy
  - WORDS evaluated (NURSE); unable to evaluate silence or touch

- Summary
  - Whether summarized conversation or asked patient to summarize
Of EPIC Importance: Working with Students in the EMR

2013 CDIM NATIONAL MEETING
NEW ORLEANS, LA

Who are we?

- G Dodd Denton, MD MPH
  - General Practice Clerkship Director, University of Queensland/Ochsner Clinical School, New Orleans LA
- Rob Harrold
  - Third year student, University of Queensland/Ochsner Clinical School, New Orleans LA
- William Carter, MD
  - Internal Medicine Clerkship Director, University of Queensland/Ochsner Clinical School, New Orleans LA
- Domnica Fotino, MD MPH
  - Assistant Professor Internal Medicine, Tulane University School of Medicine, New Orleans LA
Who are we?

University of Queensland/Ochsner Clinical School
- Ochsner Clinic Foundation is a major health system in SE Louisiana, with 7 hospitals (and growing) and a couple dozen outpatient clinics in New Orleans and Baton Rouge.
- Long a major teaching site for LSU and Tulane, Ochsner partnered with UQ to establish a medical school in 2008.
- US college graduates spend 2 years in Australia, then 2 clinical years in New Orleans in the Ochsner system. Students enter US Residency Match program.
- EPIC gradually adopted through July 2012.

Who are we?

Tulane University School of Medicine
- Founded in 1834, a major teaching medical center in New Orleans.
- 4 teaching hospitals: Tulane Medical Center, Tulane-Lakeside Hospital, LCMC (Louisiana Children’s Medical Center, formerly Interim Louisiana State University Hospital) and Veterans Affairs.
- Several electronic medical records used: Meditech, VA, Cliq/EPIC.
Objectives

After this workshop, attendees will

- Be able to discuss rationale for student documentation in EMR
- Discuss work-arounds and short cuts in the EMR for students
- List best practices for working with students in the EMR

Defining the Problem

- 2009 American Recovery and Reinvestment Act gives incentives to EMR adoption
- Teaching documentation skills has always been a part of IM clerkships.
  - EMR's are being adopted at a fast pace
  - Education for students on EMR documentation skills lags behind.
- Administrators (in some clinical settings) read the Medicare rules and preclude or limit student documentation
- Different screen views for students than physicians limit ability of physicians to teach.
- Student documentation can slow teachers in clinic.
Regulations REQUIRE documentation

- LCME ED19:
  "The curriculum of a medical education program must include specific instruction in communication skills as they relate to physician responsibilities, including communication with patients and their families, colleagues, and other health professionals."
- USMLE Step 2 CS tests note writing
- ACGME core competencies require first year residents to write clear and efficient notes about their patient encounters.
  - If students don’t write notes, they’ll be unprepared for internship

Education Best Practices Include Student EMR Use

- Students interview patients, document findings in EMR, and serve as patient advocates by communicating issues to team
  - Thus, students facilitate transfer of information in healthcare teams.
- Medical record review is an assessment tool to measure competency
- Students can be marginalized when EMR access restricted.
  - Limits student growth towards independence
Medicare

- Allows students to document the following for billing purposes:
  - Past Medical and Surgical History
  - Family History
  - Social History
  - Review of Systems
- Does NOT restrict students from writing “non-billable” notes.
- To avoid “Medicare fraud”, some systems prohibit student documentation.

ACE Guidelines

- Alliance for Clinical Education (UME collaborative between OBG/IM/FM/Surg/Peds/Psych) published these recommendations in 2012:
  1. Students must document in the patient’s chart and notes should be reviewed for content and format
  2. Students must have opportunity to practice order entry in EMR
  3. Students should be exposed to utilization of decision aids in EMR
  4. Medical schools must develop set of competencies related to EMR charting
Dean’s Expectations

- 2007 Survey of Medical School Deans
  - 90% believed student notes belong in medical record
  - 42% had a policy
  - 93% felt that without student notes, education would be negatively affected
  - Limiting students’ notes negatively affect:
    - Feeling part of the team
    - Preparation for internship
    - Sense of involvement

Survey of Clerkship Directors

- Survey by ACE of all CD’s; 32% response rate precludes meaningful conclusions. However:
  - 90% allow student access to EMR
    - 32% “view only”; 41% view and write notes; 27% view, write notes and pend orders
  - 74% have templates; 26% do not allow student use
  - 57% of CD’s in this survey used student note to help document resident or attending note
    - Potential for insurance fraud if copying the wrong portion of the student note
  - 24% noted problems with individuals copying a provider’s note and claiming content as their own
Benefits of EHR:
- Increased legibility
- More complete (and remote) access to pt data
- Templates for standardization of care

Disadvantages of EHR:
- Copy and paste
- Stifle student thinking
- Spend time “watching preceptors type”
- More engaged with chart and computer than with patient

Note writing in EPIC

This presentation will be in the context of EPIC, but should be applicable to EMRs in general
Note writing in EPIC

- 2 ways to compose notes in EPIC
  - NoteWriter
  - New Note

NoteWriter

- Compose Subjective and Objective portion of the note through ‘click-to-add’ options
**Subjective:**

**Patient ID:**

**Chief Complaint:** Wheezing

**Physical Exam**

**Assessment:**

1. Asthma attack
2. Asthma
3. Immunization due

**Plan:**

---

**Wheeze:**

- **Cox:**
  - today
  - yesterday
  - in the past 7 days
  - 1 to 4 weeks ago
  - more than 1 month ago
  - more than 1 year ago

- **Frequency:**
  - constantly
  - 2 to 4 times per day
  - able
  - every several days
  - intermittent
  - rarely

- **Progression since onset:**
  - unchanged
  - resolved
  - gradually improving
  - rapidly improving
  - gradually worsening
  - rapidly worsening
  - waxing and waning

- **Severity:**
  - mild
  - moderate
  - severe

- **Associated symptoms:**
  - chest pain
  - hoarse voice
  - shortness of breath
  - wheezing
  - tightness
  - cough
  - orthopnea
  - sputum
  - dizziness
  - palpitations
  - fatigue
  - tachycardia

- **Aggravating by:**
  - nothing
  - activity
  - allergens
  - smoke exposure
  - a sitting position

- **Foreign body:**
  - no
  - inhaled
  - suspected

- **Steroid use:**
  - no prior steroid use
  - intermittent steroid use
  - currently using steroids

- **Treatments tried:**
  - nothing
  - oral
  - one or more OTC medications
  - one or more prescription drugs
  - beta-blocker inhalers
  - humidity
  - oxygen
  - nebulizer

- **Improvement on treatment:**
  - no relief
  - mild
  - moderate
  - significant
NoteWriter

- **Good**
  - Standardized ‘SOAP’ format
  - Self-populated text is editable
  - Efficient
NoteWriter

- **Bad**
  - ‘Click-to-add’ options can be a crutch to students and a roadblock to educational evaluation
  - Students may develop a reliance on selectable options in order to compose a note
  - The ‘Problem List’ is pre-generated for the student

New Note

- Patient documentation from scratch
Good

- Note synthesis without relying on a template
- Reinforces the medical student’s clinical thought process
- Allows faculty to effectively evaluate the medical student’s patient documentation
New Note

- **Bad**
  - Formatting is subject to individual style
  - Proper formatting can be inefficient
  - Workarounds (shortcuts) are easily accessible

Obstacles to medical student education in EPIC

- Workarounds
- Templates
  - Preset SOAP note with ‘fill in the blank’ and ‘click to add options’
  - Similar drawbacks to NoteWriter
SUBJECTIVE:

Chief Complaint/Reason for Admission:

Active Problems:
*No active hospital problems.*

History of Present Illness:
Patient is a [gender], female presents with ***. Onset of symptoms was [date; new onset 8/23/14] with [clinical condition: chronic]. Symptoms have been resolving since that time. Patient denies ... Symptoms are aggravated by ... Symptoms improve with***.

Pain Scale: [0-10: 0-10:24/24]

[Not in a hospital admission]

[No known allergies]

Past Medical History:

Diagnosis:
* [Asthma: well-controlled]

Review of Systems:

OBJECTIVE:

Eye:

ENT:

Cardiovascular:

Endocrine:

Gastrointestinal:

Hematology:

Integumentary:

Laboratory:

Physiological:

Physical Exam:

Psychiatric:

Diagnostic Results:

Final Diagnosis/Impression:

ASSESSMENT/PLAN:

Active Problems:
*No active hospital problems.*
SUBJECTIVE:

Chief Complaint/Reason for Admission:

Active Problems:

*Noc active hospital problems.*

History of Present Illness:
Patient is a 78 yo female presents with "***. Onset of symptoms was [desc, hiatal hernia] with [Desc, clinical condition 17: "unchanged"] course since that time. Patient denies ***. Symptoms are aggravated by ***. Symptoms improve with ***.

Pain Scale: (Fahn-10-10-10-10)

Past Medical History:

No Known Allergies

Past Medical History:

Problems:

- Asthma, well-controlled

Review of Systems:

Dysphagia: [100/100]
ENT: (304/304/304)
Respiratory: (304/304/304)
Cardiovascular: (304/304/304)
Electrolytes: (304/304/304)
Endocrine: (304/304/304)
Gastrointestinal: (304/304/304)
Genitourinary: (304/304/304)
Hematology/Lymphatics: (304/304/304)
Hepatic: (304/304/304)
Hepatitis:
Musculoskeletal: (304/304/304)
Neurological: (304/304/304)
Pulmonary: (304/304/304)
Renal:

SUBJECTIVE:

Chief Complaint/Reason for Admission:

Active Problems:

*Noc active hospital problems.*

History of Present Illness:
Patient is a 78 yo female presents with "***. Onset of symptoms was [desc, hiatal hernia] with [Desc, clinical condition 17: "unchanged"] course since that time. Patient denies ***. Symptoms are aggravated by ***. Symptoms improve with ***.

Pain Scale: (Fahn-10-10-10-10)

Past Medical History:

No Known Allergies

Past Medical History:

Problems:

- Asthma, well-controlled

Review of Systems:

Dysphagia: [100/100]
ENT: (304/304/304)
Respiratory: (304/304/304)
Cardiovascular: (304/304/304)
Electrolytes: (304/304/304)
Endocrine: (304/304/304)
Gastrointestinal: (304/304/304)
Genitourinary: (304/304/304)
Hematology/Lymphatics: (304/304/304)
Hepatic: (304/304/304)
Hepatitis:
Musculoskeletal: (304/304/304)
Neurological: (304/304/304)
Pulmonary: (304/304/304)
Renal:

OBJECTIVE:

Vital Signs (Most Recent)

Temp: 36.3°F (96.5°C) [5/25/13 10:01]

Physical Exam:

Examination:

Laboratory:

[Results: 05/18/11]
Obstacles to medical student education in EPIC

- Workarounds
- Macros
  - Commands that populate the note with patient information
  - Efficient way to provide pertinent information in a standardized format
<table>
<thead>
<tr>
<th>Medication</th>
<th>Strength</th>
<th>Frequency</th>
<th>Dispensed</th>
<th>Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>albuterol PROVENTIL 5 mg/mL nebulizer solution</td>
<td>0.5 mL (2.5 mg total)</td>
<td>by nebulization every 6 (six) hours as needed for Wheezing</td>
<td>20 mL</td>
<td>12</td>
</tr>
<tr>
<td>albuterol ACCUNEED 0.63 mg/mL Nebu</td>
<td>3 mL (0.63 mg total)</td>
<td>by nebulization every 6 (six) hours as needed</td>
<td>50 mL</td>
<td>12</td>
</tr>
<tr>
<td>albuterol PROAIR HFA 90 mcg/actuation HFA</td>
<td>Inhale 2 puffs into the lungs every 4 (four) hours as needed</td>
<td>1 Inhaler</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>albuterol PROAIR HFA 90 mcg/actuation HFA</td>
<td>Inhale 2 puffs into the lungs every 4 (four) hours as needed</td>
<td>1 Inhaler</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>albuterol PROVENTE HFA/VENTOLIN HFA 90 mcg/actuation HFA</td>
<td>Inhalation 2 puffs into the lungs every 4 (four) hours as needed</td>
<td>1 Inhaler</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>azithromycin 200 mg/5 mL ZITHROMAX 200 mg/5 mL suspension</td>
<td>Take 4 mL day one and 2 mL days 2-5</td>
<td>15 mL</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>budesonide PULMISATIN 0.25 mcg/mL nebulizer solution</td>
<td>Take 2 mL (0.25 mg total) by nebulization once daily</td>
<td>30 mL</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>cetirizine ZYRTEC 1 mg/mL syrup</td>
<td>Take 5 mL by mouth once daily</td>
<td>15 mL</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>sulfamethoxazole PRIMACTIN 100 mg/mL suspension</td>
<td>Take 3 mL by mouth every 6 hours as needed</td>
<td>10 mL</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>prednisolone ORAPRED 15 mg/mL solution</td>
<td>Take 1/2 tablespoon once daily</td>
<td>50 mL</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>prednisolone ORAPRED 15 mg/mL solution</td>
<td>Take 7.5 mL 3 times a day</td>
<td>25 mL</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>albuterol PROVENTIL 5 mg/mL nebulizer solution</td>
<td>Take 0.5 mL (2.5 mg total)</td>
<td>by nebulization every 6 (six) hours as needed for Wheezing</td>
<td>20 mL</td>
<td>12</td>
</tr>
<tr>
<td>budesonide PULMISATIN 0.25 mcg/mL nebulizer solution</td>
<td>Take 2 mL (0.25 mg total)</td>
<td>by nebulization every 6 (six) hours as needed for Wheezing</td>
<td>30 mL</td>
<td>3</td>
</tr>
<tr>
<td>fluticasone FLOVENT DISKUS 100 mcg/actuation inhaler</td>
<td>Inhalation 1 puff (100 mcg total) into the lungs every 2 (two) times daily</td>
<td>1 Inhaler</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
| Current outpatient prescriptions

- albuterol PROVENTIL 5 mg/mL nebulizer solution: Take 0.5 mL (2.5 mg total) by nebulization every 6 (six) hours as needed for Wheezing. Disp: 20 mL, RR: 12.
- albuterol ACCUNEED 0.63 mg/mL Nebu: Take 3 mL (0.63 mg total) by nebulization every 6 (six) hours as needed. Disp: 30 mL, RR: 12.
- albuterol PROAIR HFA 90 mcg/actuation HFA: Inhale 2 puffs into the lungs every 4 (four) hours as needed. Disp: 1 Inhaler, RR: 1.
- albuterol PROVENTIL HFA/VENTOLIN HFA 90 mcg/actuation HFA: Inhale 2 puffs into the lungs every 4 (four) hours as needed. Disp: 1 Inhaler, RR: 1.
- azithromycin 200 mg/5 mL ZITHROMAX 200 mg/5 mL suspension: Take 4 mL day one and 2 mL days 2-5. Disp: 15 mL, RR: 1.
- budesonide PULMISATIN 0.25 mcg/mL nebulizer solution: Take 2 mL (0.25 mg total) by nebulization once daily. Disp: 30 mL, RR: 3.
- cetirizine ZYRTEC 1 mg/mL syrup: Take 5 mL by mouth once daily. Disp: 30 mL, RR: 1.
- fluticasone FLOVENT DISKUS 100 mcg/actuation inhaler: Inhalation 1 puff (100 mcg total) into the lungs every 2 (two) times daily. Disp: 1 Inhaler, RR: 1.
- sufentanil PRIMACTIN 100 mg/mL suspension: Take 5 mL by mouth every 6 (six) hours as needed. Disp: 30 mL, RR: 1.
- montelukast SINGULAIR 4 mg chewable tablet: Take 1 tablet (4 mg total) by mouth every evening. Disp: 30 tablet, RR: 1.
- prednisolone ORAPRED 15 mg/mL solution: Take 1/2 teaspoon daily for 5 days. Disp: 50 mL, RR: 1.
- prednisolone ORAPRED 15 mg/mL solution: Take 1/2 teaspoon 3 times a day. Disp: 25 mL, RR: 1.
- prednisolone ORAPRED 15 mg/mL solution: Take 1 teaspoon twice a day for 5 days. Disp: 50 mL, RR: 1.
- DISCONTINUE: albuterol PROVENTIL 5 mg/mL nebulizer solution. Take 0.5 mL (2.5 mg total) by nebulization every 6 (six) hours as needed for Wheezing. Disp: 20 mL, RR: 12.
- DISCONTINUE: budesonide PULMISATIN 0.25 mcg/mL nebulizer solution. Take 2 mL (0.25 mg total) by nebulization once daily. Disp: 30 mL, RR: 3.
- DISCONTINUE: fluticasone FLOVENT DISKUS 100 mcg/actuation inhaler. Inhalation 1 puff (100 mcg total) into the lungs every 2 (two) times daily. Disp: 1 Inhaler, RR: 1.
Obstacles to medical student education in EPIC

- **Note Bloat**
  - Has been defined as “information so overwhelming that those of us sharing in the care of the individual are having difficulty weeding out the specific information quickly.”

- **Dangerous scenarios**
  - Copy and paste
  - Using a resident’s EMR access to write notes and order
Obstacles to medical student education in EPIC

- Pitfalls
  - Reading and regurgitating physician/resident notes
    - Useful for reviewing medical history
    - Obstacle when used instead of direct patient evaluation

- Lack of feedback on note writing
  - Feedback is an important part of the learning process and encourages better patient documentation
Optimal approach to training students to work in EMRs

- What is the optimal approach?
  - Students are notorious for trying to get through online modules as fast as possible because they are seen as busy work
  - Dedicated course on the use of EMRs prior to 3rd year
  - Distinct learning objectives designed to educate medical students on how to operate efficiently in the EMR

Optimal approach to training students to work in EMRs

- 4th year medical students
  - Hands-on teaching by proficient 4th year medical students in a computer lab setting
  - Instruction from a user that is familiar with the interface and issues that will be encountered
  - Stress importance of avoiding pitfalls, workarounds, and dangerous scenarios
  - Efficiently stress need-to-know information
Optimal approach to training students to work in EMRs

- Other options
  - Attending Physicians
    - Would not be as efficient due to variation in interface leading to significant time investment to learn then teach
  - EPIC trainers
    - Are extremely proficient in EPIC, but are not familiar with the problems that are unique to medical students

- Epic survival guide
  - Booklet that provides concise instruction to incoming students about working in EPIC
  - Good to for visiting students that cannot attend teaching sessions for specific EMR
  - Online modules may still be useful within the context of a visiting student, or for current user supplementation
Questions?

Small Groups 1: Define Best Practices

- At your table, spend 10 minutes discussing your clerkship, hospital or school’s policies about student note-writing.
  - Blue Tables: Is the student progress note a permanent part of record? Should it be?
  - Yellow Tables: Should students be allowed to use notewriter (templates for notes)? Why or Why not?
  - Red Tables: How does your institution teach students to use the EMR? How should this be done?
- Spend 5 minutes deciding on two “best practices”
- Report Out
At your table, spent 10 minutes brainstorming methods to get faculty to review student notes and give feedback

- Blue Tables: Inpatient notes
- Yellow/Red Tables: Clinic notes

Spent 5 minutes deciding on two “best practices”

Report out

References:

Simulation Medicine for Orientation, Competencies, and Case Conferences

CDIM National Meeting
Friday, October 4, 2013

Michael Maniaci, MD
Christopher Austin, MD
Julia Mueller, MD

Disclosures

• Michael Maniaci, MD¹
  • This faculty has no relationships with proprietary entities producing healthcare or simulation-related goods or services

• Christopher Austin, MD¹
  • This faculty has no relationships with proprietary entities producing healthcare or simulation-related goods or services

• Julia Mueller, MD¹
  • This faculty has no relationships with proprietary entities producing healthcare or simulation-related goods or services

¹Department of Internal Medicine, Mayo Clinic in Florida, Jacksonville FL
Objectives

• Develop skills and techniques to facilitate education and provide feedback related to student orientation skills including physician introductions, information gathering, and environmental recognition using the simulation environment

• Identify topics related to communication based interactions and determine simulation based interventions to address them. Communication based interactions include but are not limited to: effective staff handoffs, medical jargon and patient communication

• Recognize opportunities to implement simulation and other modalities to augment the learning of the students during clinical case presentations

How we gonna get there?

• Go over the basics of building a simulation

• Walk through the clinical competencies and see how simulation can be used in each to amplify learning

• Break up into workgroups, come up with some awesome simulation ideas

• Reassemble our group, discuss all workgroup ideas (we will scribe)

• Collect emails for work distribution
What am I walking away with?

• A universal simulation template
• A lot of good ideas
  ◦ Some from this talk
  ◦ Some from your work groups
• This presentation and 13 built simulations
  ◦ Practicing team introductions, teaching observational skills, introduction to codes, practicing handoffs, avoiding medical jargon, communicating with the non-English speaking patient, communicating with nurses using SBAR, delivering bad news, dealing with the deteriorating patient, dealing with pain medication seeking behavior, identifying acute stroke fast, hypovolemic shock, and acute respiratory failure

Some polling to see where we stand

• Who here already uses simulation?
• Who here has a simulation center?
• Who here has a built simulation curricula that is non-procedural in nature?
• What do you guys want to focus on?
Part One: How to Build a Basic Simulation

• Start with a goal
  ◦ You can begin broad and then specify
  ◦ If you have a particular learning point to focus in on, then go for it

• Ask yourself if simulation will help you achieve that goal more convincingly?
  ◦ Active learning vs Passive Learning

• What resources do I have available?
  ◦ Rate limiting step

Plan your session

• Start at the end and work backwards

• Follow an outline every time
  ◦ Easier for you
  ◦ Easier for your team
Practice your plan

- The simulation team must have adequate time to study your simulation and prepare
- You must do a dress rehearsal
- The 3 “P’s” of simulation are critical:
  - Preparation
  - Partnership
  - Practice

Our approach

- Actual simulation runs about 1/3 of the time
- The debriefing and discussion period runs 2/3 of the time
- Make sure everybody leaves knowing the objective of the simulation
- Once the class of learners has left, debrief with the simulation team
  - What went right, what could have been done better
Part Two: Taking on the Competencies

• Medical Knowledge
  • Can easily replace a morning report or noon conference
  • Best to build these to medical learner level
    • Specific objectives for each level
    • Rare case findings and reenactment

• System Based Practice
  • Orientation skills
  • Team building (multidiscipline simulations)

Competency based simulations

• Communication and Interpersonal Skills
  • Team introductions
  • Avoiding medical jargon
  • Practicing handoffs
  • Cultural diversity
  • Delivering bad news
  • Non-English speaking patients and family members
Competency based simulations

- Patient care
  - Information gathering
  - Clinical skills
  - Information organization
  - Clinical reasoning → Integration
  - Clinical Judgement → Decision Plan

- Professionalism
  - Earlier year simulations focus on institutional goal
  - Showing bad examples works well
    - Try to limit humor

- Practice based learning
  - Filmed scenarios
  - What could you have done better?
## Mayo Clinic Florida Multidisciplinary Simulation Center
### Scenario Builder

**INSTRUCTOR DOCUMENT – PRODUCTION MATERIAL**

<table>
<thead>
<tr>
<th>Detailed Case Data:</th>
<th>Name:</th>
<th>MC#:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Gender:</th>
<th>Age:</th>
<th>Weight:</th>
<th>Height:</th>
<th>BMI:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other information:**

**Vital Signs:** *enter time (min) or state for incremental change in hemodynamics as scenario progresses, consistent with flowchart*

<table>
<thead>
<tr>
<th>Time or State</th>
<th>Temperature</th>
<th>Heart Rate</th>
<th>Blood Pressure</th>
<th>Respiratory Rate</th>
<th>Pulmonary Pressures</th>
<th>Oxygen Saturation</th>
<th>Cardiac Rhythm</th>
<th>Other:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Chief Complaint:**

**Past Medical History:**

**Medications:**

**Allergies:**

**Data Summary:** (if normal, please indicate)

**Relevant Lab Data:**

**Relevant Imaging Data:**

**Relevant Physical Exam Findings:** *For Example:*
- Pain steady, nothing obviously makes it better or worse
- Constant, dull pain
- If asked, it does radiate to back
- If asked, drinks on weekends but not daily
- Requests pain medications- pain currently 8/10
- ROS otherwise negative
- Physical exam
  - Tender to palpation in mid upper abdomen
Flowchart/Decision Tree, branch points (tie with objectives), scoring points within flowchart: This graphically shows the way the scenario will proceed, with pathways for anticipated actions of the trainees. It outlines the physiological states of the patient so also acts as a guide for programming of the mannequin. The flowchart can be created in Microsoft Visio or Microsoft Word.

Example:

```
Alert & oriented x 3
BP 112/55
HR 92
O2 Sat 100%

Slurred speech
Profound L-sided
Weakness
Vital signs unchanged from above

Correct Decisions

Vital signs unchanged & scenario will end

Incorrect Decisions

BP 86/42
HR 110
O2 Sat 85%

Cardiac arrest
```
## SIMULATION TECHNICAL DOCUMENT

### Props and Equipment: Please indicate below the monitoring required as well as any other equipment/props that will be required.

<table>
<thead>
<tr>
<th>Monitor Display and Props</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>□ ECG:</td>
<td>□ NIPB:</td>
</tr>
<tr>
<td>□ SPO2:</td>
<td>□ ART:</td>
</tr>
<tr>
<td>□ CVP:</td>
<td>□ PAP:</td>
</tr>
<tr>
<td>□ Temp:</td>
<td>□ Resp Rate:</td>
</tr>
<tr>
<td>□ Cardiac Output:</td>
<td>□ Wedge:</td>
</tr>
<tr>
<td>□ ICP:</td>
<td>□ Alarm Setting:</td>
</tr>
<tr>
<td>□ Special Note:</td>
<td></td>
</tr>
</tbody>
</table>

### Venous Access

<table>
<thead>
<tr>
<th>Site:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Peripheral IV</td>
<td></td>
</tr>
<tr>
<td>□ Arterial Line</td>
<td></td>
</tr>
<tr>
<td>□ Triple Lumen</td>
<td></td>
</tr>
<tr>
<td>□ Swan Ganz</td>
<td></td>
</tr>
<tr>
<td>□ PICC</td>
<td></td>
</tr>
<tr>
<td>□ Dialysis Catheter</td>
<td></td>
</tr>
<tr>
<td>□ Other</td>
<td></td>
</tr>
</tbody>
</table>

### Oxygen Supplies Available (Available vs. At Bedside)

<table>
<thead>
<tr>
<th>Settings:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Mechanical Vent</td>
<td></td>
</tr>
<tr>
<td>□ BIPAP</td>
<td></td>
</tr>
<tr>
<td>□ Michigan Lung</td>
<td>□ Anesthesia Bag/Mask</td>
</tr>
<tr>
<td>□ Self-Inflating Bag/Mask</td>
<td>□ Flow Meter</td>
</tr>
<tr>
<td>□ Non-Rebreather Mask</td>
<td>□ Simple Mask</td>
</tr>
<tr>
<td>□ Nasal Cannula</td>
<td>□ Nebulizer Set up</td>
</tr>
<tr>
<td>□ Special Requests:</td>
<td></td>
</tr>
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### Airway Management

<table>
<thead>
<tr>
<th>Size:</th>
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<tbody>
<tr>
<td>□ ETT</td>
<td></td>
</tr>
<tr>
<td>□ LMA</td>
<td></td>
</tr>
<tr>
<td>□ Tracheotomy Tube</td>
<td>□ Type:</td>
</tr>
<tr>
<td>□ Bronchoscope</td>
<td>□ Type:</td>
</tr>
<tr>
<td>□ Special Requests</td>
<td></td>
</tr>
</tbody>
</table>

### Carts/Bags

|  |
|---------------------------|--|
| □ Code Cart | □ Intubation Cart |
| □ Emergency Trauma Cart | □ Respiratory Code Bag |
| □ Special Requests: |  |

### Intravenous
<table>
<thead>
<tr>
<th></th>
<th>IV Pump # needed:</th>
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<tbody>
<tr>
<td></td>
<td>Drug Drips or Fluids</td>
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<tr>
<td></td>
<td>□ Infusing</td>
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<td></td>
<td>□ Available</td>
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<table>
<thead>
<tr>
<th></th>
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<th>Bag Size:</th>
<th>Dose:</th>
<th>Rate:</th>
<th>Site:</th>
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<td>5)</td>
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### Medications

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<tr>
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<th>□ Syringe</th>
<th>Vial</th>
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### Blood Products

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<tr>
<th></th>
<th>□ RBC</th>
<th># of Units:</th>
<th>Blood Type:</th>
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<tbody>
<tr>
<td></td>
<td>□ FFP</td>
<td># of Units:</td>
<td>Blood Type:</td>
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<table>
<thead>
<tr>
<th></th>
<th>□ Platelets</th>
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<tr>
<td></td>
<td>□ Other</td>
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### Chest Tube

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>Size:</td>
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<tr>
<td></td>
<td>Oasis volume:</td>
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### Urinary Catheter

<table>
<thead>
<tr>
<th></th>
<th>Amount:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Color:</td>
</tr>
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</table>

### Moulage

|    | Moulage: Describe any moulage needs (i.e.: bruising, diaphoresis, skin ulcers, edema, etc.) |

### Miscellaneous

<table>
<thead>
<tr>
<th></th>
<th>Ultrasound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Other:</td>
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</tbody>
</table>
### Simulator Needs

**Simulator Features:** *Please check all of the simulator features that are needed to achieve the scenario objectives*

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tbody>
<tr>
<td>Blinking Eyes</td>
<td>Chest tube insertion</td>
</tr>
<tr>
<td>Pupil function</td>
<td>Bowel sounds</td>
</tr>
<tr>
<td>Airway intubation</td>
<td>Urinary Catheter</td>
</tr>
<tr>
<td>Cricotomy/Tracheotomy</td>
<td>Intraosseous</td>
</tr>
<tr>
<td>Mannequin Voice</td>
<td>Tremor/Seizure</td>
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<tr>
<td>Heart sounds</td>
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<tr>
<td>Normal</td>
<td>Pulse</td>
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<tr>
<td>Abnormal:</td>
<td>Carotid</td>
</tr>
<tr>
<td>Lung sounds</td>
<td>Brachial</td>
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<tr>
<td>Normal</td>
<td>Radial</td>
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<tr>
<td>Abnormal:</td>
<td>Femoral</td>
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<td>Other:</td>
<td>Popliteal</td>
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<tr>
<td>Other:</td>
<td>Pedal</td>
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**Standardized Patient Room**
- Meeting Style
- Hospital Room
- Outpatient Clinic Room
- Office Style
- ER Style

**OR/ER/ICU/Vasc Room**
- OR
- PACU
- Hospital Room
- ER
- ICU

**ICU/ER Combined** *(large area for multiple patients)*

**Audio/Visual Needs:** *Any special AV needs to run the scenario, any special camera views or special micro phoning?*
MAYO CLINIC FLORIDA MULTIDISCIPLINARY SIMULATION CENTER
EDUCATIONAL NEEDS ASSESSMENT

DEMOGRAPHIC INFORMATION

| Course Title: |  |
| Course Dates: |  |
| Course Timeframe | 8-12 □ 1-5 □ Full Day (8-5) □ 2 hours Specify: □  |
| New Course | □ Yes □ No |
| Multidisciplinary | □ Yes □ No |
| School/Department: | □ MSGME □ MSHS □ MSCME □ Nursing □ Other: □ |
| Program/Specialty: | □ Program: □ Specialty: |
| Program/Course Director: |  |
| Education Coordinator: |  |
| Company/PAU: |  |

COURSE INFORMATION

Course Description/Title

List Learning Goals and Objectives:
1. 
2. 

Gap Analysis
Can a research project result from this training?

Briefly describe education:

Method of Evaluation:

<p>| Length of session: |  |
| Learner Level: |  |
| Specialty instructor(s): | 1.  |
| | 2.  |
| | 3.  |
| Participant type: |  |
| Number of participants: |  |
| Sim Faculty support needed: | □ Yes □ No |
| Block calendars |  |
| Respiratory Therapy support: | □ Yes □ No |
| Standardized Patient (SP) support needed: | □ Yes □ No |
| Submit SP Request Form |  |
| SP feedback: | □ Yes □ No |
| Submit SP Request Form |  |
| Written Evaluation/No direct feedback to learner |  |
| Verbal direct feedback at the end of each scenario in scenario room |  |</p>
<table>
<thead>
<tr>
<th>Teaching methodology: (check all that apply)</th>
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<tbody>
<tr>
<td>Mannequin-based with a scenario (s)</td>
</tr>
<tr>
<td>Task trainer</td>
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<tr>
<td>Didactic</td>
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<td>Standardized patient</td>
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</table>

<table>
<thead>
<tr>
<th>Simulation Center 360 Evaluation Tool</th>
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</thead>
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<table>
<thead>
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<th>Role evaluation:</th>
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<table>
<thead>
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<table>
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<th>Contact Hour Certificates</th>
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<td>Yes</td>
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</table>

<table>
<thead>
<tr>
<th>Send map/orientation to sim information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
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</tbody>
</table>

### SIMULATION CENTER CHECKLIST

**Additional course development meetings/communication:**

**Team Meeting:** *(mandatory)*

- **Date:**
- **Attendees:** *(Faculty, EC, RT, AV, SP Coord.)*

**Dry Run:** *(optional)*

- **Yes** | **No**
- **Date:**
- **Attendees:**

**Specialty equipment/supplies:**

**Debrief session(faculty and staff):** *(optional)*

- **Yes** | **No**
- **Date:**
- **Attendees:**

**Designated leader for day of session:**

**Scenario Titles:**

1.

**Additional Comments/Follow up:** *(Total number of rooms, specific rooms, specific mannequin requests, etc.)*

### AUDIOVISUAL NEEDS

- [ ] Video Playback in Debriefing Session
- [ ] PowerPoint Support
- [ ] Archive Footage
- [ ] “Discrete” Communication (Headset usage)
- [ ] No Archiving of Video
- [ ] Other:

### ROOM/RESOURCE CHECKLIST
<table>
<thead>
<tr>
<th>Room Setup</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Room</td>
<td>OR</td>
</tr>
<tr>
<td>Emergency Room</td>
<td>ER</td>
</tr>
<tr>
<td>Med/Surg Room</td>
<td>Med Surg</td>
</tr>
<tr>
<td>ICU Room</td>
<td>ICU</td>
</tr>
<tr>
<td>Clinic Room 1</td>
<td>Clinic Room</td>
</tr>
<tr>
<td>Clinic Room 2</td>
<td>Clinic Room</td>
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<tr>
<td>Procedural Skills Room</td>
<td>Procedural Skills</td>
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<tr>
<td>Debrief Room</td>
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<tr>
<td>Learning Center A</td>
<td>Lecture Style</td>
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<tr>
<td>Learning Center B</td>
<td>Lecture Style</td>
</tr>
<tr>
<td>Task Training Room</td>
<td></td>
</tr>
</tbody>
</table>

**ADDITIONAL ROOM SETUP NOTES**

Information for SIM team and/or observers:

Case root: This is a __ year old lady/gentleman who presents with

Vitals
Physical exam findings

Pertinent Labs

Pertinent Radiography or Procedures
Respiratory Failure

Goals:
- Review causes and differential hypoxic and hypercapnic respiratory failure
- Review importance of correct ABG interpretation
- Review initial treatment of respiratory failure

Scenario #1 – Hypoxic respiratory failure due to PE
63 yo F admitted to IMED service for cholecystitis, HD #3. POD #2 from laproscopic cholecystectomy. PGY-2 called by PGY-1 for patient with acute onset SOB starting ~5 min ago. PGY 1 has already ordered CXR, ABG, EKG.

VS: HR 110 (sinus tach), BP 95/76, RR 30, satting 75% on RA
PE: CVS – tachy, no murmurs, Lungs – clear, Ext – SCDs on bilaterally

Enter PGY-2 – PGY-1 explains situation . . . allow to simulate a few min while studies return . . .

Stop after CXR, ABG, labs come back and discuss . . .

CXR – clear (can we put it on screen?)
ABG: pH 7.52, CO2 30.9, HCO3 24.8, pa02: 40 (a:a gradient 72)
Labs: CBC normal, renal profile normal

Discussion points:
- Debrief from simulation
- differential diagnosis for hypoxia
- abg interpretation
- calculation and use of A:a gradient
- treatment of hypoxic respiratory failure

Scenario #2: Hypercapnic respiratory failure due to oversedation
38 yo M with history of ALS admitted for worsening SOB. Overnight very agitated and given 1mg IV ativan. PGY 2 called by PGY 1 for decreased mentation and low oxygen saturations on monitor. Has already ordered CXR, ABG, EKG.

VS: HR 95 (sinus tach), BP 95/76, RR 7, satting 88% on RA
PE: neuro: constricted pupils, incomprehensible response to questions, CVS: normal, Lungs: normal

Enter PGY2 – PGY 1 explains situation . . . allow to simulate a few minutes while studies return

ABG: pH 7.29, CO2 58.9, HCO3 25
CXR: clear

Discussion points
- debrief from simulation
- ABG interpretation
- Differential diagnosis of hypercapnic respiratory failure
- Treatment of hypercapnic respiratory failure
Interacting with Non-English speaking patients.

Objectives:
1. Practice interviewing a patient that does not speak English fluently
2. Discuss plan of care for heart failure with a non-English speaking patient.
3. Explain proper technique and etiquette of working with an interpreter.

Key Participants:
IMED Residents
Standardized Patient-Spanish Speaking
Interpreter from International Services
Sim Center team
ED/Hospital Room
Learning Center Room

Plan:
8am-805am: Introduce the scenario of the interpreter
805-815am: Scenario #1
815-825am: Debrief
825-830: Wrap-up

Scenario #1: Interviewing a patient

Resident Prompt: Ms. Rivera is a 37 year old woman who was admitted to the hospital for increasing dyspnea x3 days.

Patient’s Background(not given to residents): 37 year old woman who presented to the ER with three days of worsening dyspnea on exertion. ROS: +cough, 5lb weight gain, +chills, +nausea, slight dizziness, abdominal fullness, otherwise negative. This has never happened before.
Patient delivered a healthy 8 lb baby boy six weeks ago (only reveal if asked)
Past Medical History: None
Past Surgical History:
Medications: Oral Contraceptive Medications
Allergies: sulfa drugs
Social History: denies tobacco use, rare alcohol use, no illicits. Married, works as a secretary at a law firm, recently returned to work
Family History: mother with high blood pressure father alive with heart failure

Scenario #2: Explaining Medical Problems to a patient with an Interpreter

Today you are seeing Ms. Rivera, a 38 year old woman on rounds who was admitted to the hospital for a postpartum cardiomyopathy. On admission, patient was only on oral contraceptive medications. In the hospital, you removed fluid with lasix and patient is now feeling markedly improved. Today your responsibility is to explain to the patient her disease process and plan for discharge. You will be discharging the patient with lasix and metoprolol,
among other medications. In addition, she will be following heart failure guidelines (weighing daily, following the diet, etc).

Resources:
http://intranet.mayo.edu/charlie/international-services/language-services/rochester/working-with-an-interpreter/
SIM CENTER CURRICULUM-Receiving SBAR from Nurses

Goals:
- Reinforce the importance of appropriately responding to SBAR Calls from Nursing
- Practice responding to overnight SBAR calls from RNs

Participants:
- Internal Medicine Residents
- Sim Center Staff
- Volunteer Nurses
- Internal Medicine Chief Residents

Location and Materials:
- SimCenter B
- Med/Surg Room
- Scenarios from "positive assertion modules"

Timeline:
800-805: Recap from Session 1: (SBAR format and PEARLS)
805-820: Residents given scenarios. Residents practice receiving SBARs from Nurses with nurse volunteers.
820-830: Debrief

Scenarios:
- Positive Assertion Training Scenarios from Dr. Maniaci

Key Discussion Points:
- It is important to respond to every page from RN and every SBAR
- The phrase “I need a little clarity” means that the staff member is concerned about the patient and does not understand the plan. It is not meant to be a threatening phrase. This phrase warrants further discussion about the patient so all members of the patient care team are on the same page.
- It is important to ask "are there any questions" to RN to ensure clarity on patient care plan.

References:
Dealing with Pain Seeking Behavior

Goals of Exercise
- Illustrate difficult nature of encounter with pain seeking patients
- Emphasize importance of good communication with difficult patients – PEARLS (Partnership, Empathy, Respect, Legitimization, Support)

Participants:
Facilitators: IMED Chiefs, Faculty
Learners: IMED Residents
Sim Center Standardized Patient (Conrad)
Sim Center Staff

Location and Materials
Hospital Room (non-ICU)
Conference room B

Timeline
- Introduce patient scenario (2 min)
- First Group (5 min)
- Debrief (15 min)

Scenario:
35 yo M with longstanding history of complicated Crohn’s disease, on home fentanyl patch with po dilaudid for breakthrough pain, followed by our pain service as outpatient. Admitted for increased abdominal pain, hospital day #3. Hospitalization has included extensive workup including CT scan, GI evaluation, surgical and urological evaluation, all without any source of pain. Crohn’s disease is stable and no intervention recommended. During the hospitalization the patient has required and requested increasing amounts of IV dilaudid, currently taking 2mg q2h and is requesting more for his pain.

You are rounding with your team in the morning, and you are going to go tell the patient that there is no acute cause of pain and that you are going to be transitioning to po pain regimen in preparation for discharge.

Standardized patient:
Sleeping in bed, comfortably when team enters
Wakes up when team awakens him.
Immediately appears in pain once wakes up, wincing, grabbing stomach.
Expresses severe pain to team.
If examined – severe pain when examining stomach, tenses stomach as if does not want to be touched, bring knees up to stomach as if to protect
As plan explained to patient he gets increasingly angry, argues that he knows something is wrong and that the only medication that treats his pain is IV dilaudid and he cannot be off of it or leave the hospital.

Discussion points
- Debrief, what went good, what went bad?
- Discuss how to handle patient
- PEARLS – (Partnership, Empathy, Apology, Respect, Legitimization, Support)
- Come up with “PEARLS” statements that may help facilitate communication
**GIVING “BAD” NEWS: Utilizing Plain Language.**

*Goals of exercise:*
- Demonstrate communication of bad news in an empathetic and effective manner
- Practice explaining disease processes using plain language

*Participants:*
Facilitators: IMED Chiefs, Faculty
Learners: IMED Residents
Sim Center Standardized Patient
Sim Center Staff

*Location and Materials:*
ED/ICU Room
Debrief Room

*Timeline:*
- Introduce Scenario (2 min)
- First Group – likely PGY2/3s… will deliver the bad news to the patient ineffectively (5 min)
- Debrief… (10 min)
- Second group: several interns to deliver bad news. (5 min)
- Debrief: (5-10 min)

**Plain language scenario:** 24 year old gentleman with increasing thirst, increased urination, and weight loss who presented to the emergency department for nausea and dizziness. He was found to have a blood sugar of 500 with blood salt abnormalities and acute kidney failure. He was treated for diabetic ketoacidosis (acid in the blood from high sugar in the blood) and diagnosed with diabetes mellitus. This is hospital day two, and the team is responsible for telling the patient that he has diabetes mellitus and kidney failure (which will improve by discharge). Patient as he has been treated for his high blood sugar, is feeling much better; his dizziness has resolved and he is tolerating food. However, once told, this diagnosis is extremely upsetting for the patient, as the patient has a distant cousin who has diabetes and has had several toes amputated. The patient has difficulty understanding that diabetes is a manageable disease as long as the patient maintains a diabetic diet, takes his medications, monitors his blood sugar and blood pressure, exercises, and gets regular follow ups with his doctors. The patient will need to give himself shots of insulin initially but may be able to come off of it or reduce the amount after a few months. He will have to take several other pills daily to prevent… If the patient does not take care of himself, the patient is at substantial risk for heart attack, kidney failure requiring dialysis, stroke, ulcers, and eye problems.

**Scenario to be given to residents:** 24 year old gentleman with polyuria, polydypsia, and polyphagia, and weight loss presenting with nausea and dizziness, found to be in DKA with new onset diabetes mellitus, with metabolic acidosis and acute renal failure. Gap was closed about 6-8 hours after admission. Patient tolerating diet. Is being transitioned to detemir and SSI. Renal...
function is improving, but is not back to presumed baseline for patient. The purpose of this visit with the patient is to explain to the patient that he has diabetes mellitus and what that means, including what is required for this patient for the management of his condition as well as the consequences of diabetes if he does not take care of himself.

**References on using plain language in medicine:**

WSJ
http://online.wsj.com/article/SB10001424052748703620604575349110536435630.html?mod=WSJ_hps_MIDDLESecondNews#articleTabs%3Dvideo

AMA Video:
http://www.youtube.com/watch?v=cGtTZ_vxjyA

CDC
http://www.cdc.gov/healthliteracy/training/page661.html

Reference: WSJ Article:
http://online.wsj.com/article/SB10001424052748703620604575349110536435630.html?mod=WSJ_hps_MIDDLESecondNews#articleTabs%3Darticle

**References on Diabetes Mellitus:**

Patients:

Medical Residents
http://care.diabetesjournals.org/content/35/Supplement_1/S11.full.pdf+html
Recognize the Deteriorating Patient

Goals:
- Practice intervention on Deteriorating Patient.
- Remind the residents about the team structure for codes
- Discuss ways to assist during codes
- Review the ACLS Pulseless arrest algorithm

Plan:
- Introduce the teams
- Solicit volunteers: second year, several first years. Need a resident for nurse and for pharmacist.
- Run deteriorating patient scenario.

- Debrief
  - What went well?
  - What went wrong?
  - How does each team member participate and contribute to the situation?

- Review Pulseless Arrest algorithm
- Run code #2 with new volunteers.

- Debrief.

- Run Code #3
- Debrief

Scenarios for tomorrow for facilitators’ benefit:

1) 65 year old admitted for syncope. PMH significant for Htn and MSK pain, hx of ibuprofen for tx of pain. VS on admission: 37.4, 110, 98/65, RR18. Hgb 12. You called to bedside due patient complaint of nausea, dizziness. Patient will go into PEA…we will control from the control room

2) 91 year old admitted the hospitalist service for CAP. VS: 38.8, HR114, BP 110/78, RR25, Pox 88% 2L NC. (Patient DNR)

3) (Will not give this to residents… we are just going to “call the CODE”). 72 year old admitted for chest pain, goes into VTach (VS on admission: 36.6, P97, BP 145/88, RR20, Pox 100% 2L NC)
Beyond ‘Show and Tell:’
Promoting Physical Examination Skills as Essential Habits of Reflective Practice

Subha Ramani, MD, BWH
Kathleen Finn, MD, MGH
Maria Yialamas, MD, BWH
&
Joel Katz, MD, BWH

Agenda
• Introductions and workshop goals
• Group exercise I
  • A bedside teaching scene
  • Debate utility of Physical Diagnosis (PDx) in modern day patient care
  • Discuss challenges to teaching PDx
• Group exercise II
  • Discuss PDx teaching curricula / methods at different programs
  • Select strategies to implement at own institution
• Presentations
  • Using art to improve clinical skills
  • Teaching resident electives
  • Faculty development
  • The reflective PDx
• Conclusions and take home points
Session goals

• Debate the utility of physical findings and appropriate application in patient care
• Identify the various challenges of teaching PDx within a busy clinical environment and develop potential solutions.
• Discuss some creative approaches to teaching PDx skills and understand their advantages and disadvantages.
• Be inspired to structure curricula at own institution to improve PDx skills among residents and/or faculty.

Physical Exam skills

• Cardiac auscultation skills of 314 residents from Canada, USA & Britain
  • 20-26% mean accuracy rate (Am J Med 2001;110:210-216)
• Standardized test of 133 internists and family physicians given a patient complaining of fatigue, fever, arthralgia
  • 17% detected his generalized lymphadenopathy (JAMA 1995;274:1380-1382)
• Gross discrepancy between assessment of resident competency when done through case presentations versus direct observation at the bedside (Acad Emerg Med 1996;3:345-351)
• Cardiac examination skills do not improve after MS3 and may decline after years in (Arch Intern Med. 2006;166(12):1294)
The New Bedside

Teaching Physical Diagnosis

?? Physical Exam

40% Medical Knowledge
15% Communication
30% Patient Care – Medical Thinking
5% Systems Based Practice
5% Practice Based Learning
5% Professionalism
Video clip

Group exercise I

• Debate the utility of PDx in modern day patient care, how much to teach and how to teach it efficiently
• Discuss barriers to teaching PDx
• Generate potential solutions
• Report back
Group exercise II

• Discuss PDx teaching curricula / methods at different programs within your group
• List 3 strategies you might try implementing at your institution, addressing challenges discussed earlier
• Report Back

CREATIVE APPROACHES TO REVIVING PHYSICAL EXAM TEACHING
Using Art to Teach Physical Diagnosis

The task of education is to make the strange familiar, and the familiar strange.

So too with art.

Courtesy of Elizabeth Gaufberg
Why is VTS so well suited to medical education?

- Student-centered
- Beginner viewers
- Safe space to explore ambiguity
- Platform for self-reflection
- Promotes aesthetic development
- Evidence-based

Training the Eye: Improving the art of physical diagnosis

Harvard Medical School
Museum of Fine Arts
Isabel Stewart Gardner Museum
Boston
“Training the Eye” (TE) course

- Preclinical HMS 1st year elective
- 24 students, 11 sessions, spring term
  - Paired observation exercises + didactics
  - Weekly physical examination rounds
  - 2-day life drawing workshop
  - 1-day VTS workshop
  - Reading, journal & sketching assignments
- Professional art educators


TE Goals:

- Practice and improve physical diagnostic skills (inspection)
- Gain confidence in making unique and important observations
- Explore how physical examination affects the process of diagnosis
TE sessions:

1. Introduction to Visual Literacy
2. Formal Analysis
3. Color & Luminance (vision)
4. Contour (thoracic imaging)
5. Line & Symmetry (cranial nerve exam)
6. Patterns & Texture (skin exam)
7. Motion (neurological exam)
8. Form (respiratory exam)
9. Figure Drawing Workshop
10. VTS training
11. Putting it All Together

*Mean observation score on pre-versus post-test observations

* p-value<0.05
• Graded impact of attendance on mean score on pre- vs. post-test observations of all images

Teaching Resident Elective

• 2 to 4 week elective for senior residents

• Observe H&Ps of medical students and give feedback to students

• Physical exam rounds with students
  • direct observation and feedback by senior faculty member

• Physical exam focused morning report
Faculty Development

• Monthly noon conference series by Master Clinicians and Educators
  • Review of physical exam
  • Tips on how to teach residents the physical exam

• After one year, 30% more teaching and better quality teaching at the bedside for those who attended the series

Faculty Development

Large Scale
More Practical Scale
Smaller Scale

2. Monthly Bedside Diagnosis Group
   - Invite Master Clinicians
   - Teach each other
     JAMA Rational Exam Series
     Text Books (Practice on each other)
     Go to the bedside

3. Peer Observation
   - “What did you hear?”
The Reflective Physical Exam

Teaching the Reflective physical exam- Why?

• 56-88% of the correct diagnoses are made from the history alone
• 73-100% of the correct diagnoses are made by the end of the examination
• A hypothesis-driven physical examination approach provides a clinical context to practice exam and diagnostic reasoning at the bedside
Teaching the Reflective physical exam - What?

1. Anticipate and select relevant physical examination maneuvers given a history and differential diagnosis
2. Execute the relevant physical examination maneuvers correctly
3. Identify findings from the physical examination maneuvers
4. Interpret the findings to sort out a differential diagnosis
5. Justify a working diagnosis

Teaching the Reflective physical exam - How?

Exercises for the team

- What is your differential hypothesis based on history?
- How will you confirm your hypothesis on physical exam?
- What investigations would you order to confirm your diagnosis?
- Predict the results of the investigations
- Return to the bedside to integrate the imaging report with the clinical exam
- Integrate basic sciences with history and physical exam findings (anatomy and neurologic localization, pathophysiology of a systolic murmur)
Return to the bedside

Take-home points
References

Date: 11/28/11 0630 Medical Student H&P

CHIEF COMPLAINT: “My stomach hurts”

HISTORY: Mr. ___ is a 54 year old obese male presenting with nausea, vomiting and intermittent diffuse lower abdominal pain for the past month. This is presumed to be a flare-up of his diverticulosis which was diagnosed one month ago by CT colonoscopy at __ hospital. He complains of mixed diarrhea and solid stool earlier this morning, and pain worse on palpation (going from a 3 to a 7/10 on Likert scale). He states that overnight his pain has increased from a 2/10 to a 3/10 on Likert scale today. He does not report a fever, chills or frank blood per rectum. His dietary habits are significant for a lack of vegetables and other dietary fiber. He has not recently traveled, taken antibiotics or lost weight.

PAST MEDICAL HISTORY: Up to date on vaccinations, colonoscopy and digital rectal exam performed 2 years ago. Patient states that he has yearly physicals. Patient comes with a long list of medical conditions but with minimal detail about each; we have sent away for records from outside hospitals
   - diabetes mellitus type two (DM2)
   - hypercholesterolemia
   - morbid obesity
   - hypertriglyceridemia
   - hypertension
   - trifascicular heart block
   - a pacemaker, type unknown
   - coronary artery disease
   - COPD
   - Bronchitis
asthma
GERD
Osteoarthritis of all four extremities
hearing loss, uses hearing aids
lungs carcinoma, further details unknown, with unspecified chemo/radiation treatment (see surgical hx)
Anemia

PAST SURGICAL HISTORY:
Quadruple bypass (coronary artery bypass grafts) 2000
three stents (Percutaneous transluminal coronary angioplasty) in 2000
umbilical hernia repair 2000 without complications
partial (2/3) pneumonectomy of the right lung in 2004
pacemaker placement 2009
Tonsils removed as a child
No history of appendectomy (relevant given location of pain)

SOCIAL HISTORY:
Work: disabled and unemployed, but previously worked for a computer repair business. Fairly sedentary work habits, worse since unemployment
Living situation: Lives at home with 2 dogs and wife in Albany
Partner: wife of 7yrs, no other partners.
Sexual: no, wants viagra but can’t because of isosoride. impotent 1.5 yrs.
Prefers sex with women only
STD/STI: no history of STIs
Safe at home: yes
Psych: no history, recent or remote
Smokes:1pk/d /Hx same Drinks:no /Hx 1qt scotch/wk
Drugs: no /Hx marijuana

FAMILY HISTORY: noncontributory
Father: hypertension, living
Mother: diabetes, living
No siblings or children

ALLERGIES: Ciprofloxacin: facial swelling and “skin eruptions” (possibly hives)

MEDICATIONS:
- Albuterol MDI 90mcg q6 prn inhaler for asthma/COPD
- Albuterol 2.5mg/3mL q4 prn inhaler for asthma/COPD
- Aspirin 81mg po for history of coronary artery disease
- Calcium/D 500/200mg bid po for prophylactic supplementation
- Clopidogrel 75mg qd po for history of coronary artery disease
- Flunisolide bid by nose for congestion
- Formoterol 12mcg q12 inhaler for asthma/COPD
- Glipizide 7.5 qd for diabetes
- Insulin aspart sliding scale 100u/1ml for diabetes
- Insulin glargine 100u/1ml 35u qd for diabetes
- Isosorbide mononitrate 30mg po qd (hold if sbp<90 or hr<60) for history of coronary artery disease
- Lisinopril 40mg po qd (hold if sbp<90 or hr<60) for hypertension
- Metoprolol 100mg po qd (hold if sbp<90 or hr<60) for hypertension
- Niacin 1g po qhs (bedtime) for coronary artery disease
- Nitroglycerin sublingual 0.3mg q5m x3 prn for coronary artery disease
- Omeprazole enteric coated PO 40mg qam for gastroesophageal reflux disease
- Terazosin 2mg po qhs (hold if sbp<90 or hr<60) for hypertension
- Tiotropium 18mcg inhaler qd for asthma
- Varenicline 1 po as directed on starter pack; request new pack in 2 weeks for smoking cessation

Meds added in hospital:
- Docusate/sennosides bid po for constipation
heparin 500u/1ml sc q8 to prevent DVTs
metronidazole 500mg/100ml normal saline IV over 1hr for diverticulitis
piperacillin/tazobactam 3.375g/50ml IV in D5 over 4hrs qd for diverticulitis

REVIEW OF SYSTEMS: General: Recent drop in weight reported “30lbs in a few months”, recent reduction in appetite, no fatigue or fevers

- Neuro: No dizziness, seizures, fainting, blackouts. No memory or personality changes. No bradykinesia or involuntary movements, though reports a tremor once a few weeks ago, tested fingerstick blood glucose within normal limits at the time

- Head: No headache or recent trauma reported
  - Eyes: No vision changes or loss, no haloes, wears glasses. He saw flashes and floaters a few weeks ago, tested fingerstick blood glucose within normal limits at the time
  - Ears: No earaches, tinnitus, discharge or blood. Uses hearing aids.
  - Nose: Denies epistaxis, rhinorrhea or discharge. No allergies.
  - Throat: No hoarseness, trouble swallowing or fullness in throat.
  - Dental: Full orthodontics. No dry mouth.

- Cardio: Positive for chest pain. Positive edema for 10 years with some skin discoloration around the ankles per patient report. No murmurs, rubs, gallops or clicks per patient report; no palpitations, racing pulse, orthopnea, claudication.

- Resp: No dyspnea, wheezing or cough. Denies chest pain or shortness of breath. No sputum or hemoptysis. Positive asthma, emphysema, chronic obstructive pulmonary disease. No history of tuberculosis

- GI: Denies nausea and vomiting. Mild heartburn, treated with omeprazole per report. No food intolerance, frank blood or melena, changes in bowels or bowel habits. No jaundice. He complains of mixed diarrhea and solid stool earlier this morning, and pain in the left lower quadrant worse on palpation (going from a 3 to a 7/10 on Likert scale). He states that overnight his pain has increased from a 2/10 to a 3/10 on Likert scale today.
• GU: No hematuria, increased urgency or frequency, nocturia, urinary tract infections, STI's or stress/urge/overflow incontinence
• MS: No tremor, weakness, or paralysis. No joint swelling, redness, pain on passive motion. Normal gait and balance, though obesity makes ambulation difficult. Also suffers from shortness of breath and heaviness in arms on even minor ambulation. Says doctors tell him he has osteoarthritis but he “does not feel it.”
• Endo: No heat/cold intolerance, no cachexia, polyphagia or polydipsia. Reports that this summer he felt very cold at times and needed to wear several sweaters.
• Heme: Some easy bruising (presumed due to clopidogrel). No bleeding or history of hematologic disease. Denies fatigue or weakness, denies pallor.
• Psych: No changes in mood, affect, personality. Denies suicidal or homicidal ideation. Enjoys activities of daily living. No anxiety.
• Skin: No complaints of dryness, itchiness, redness, pain or flaking.

PHYSICAL EXAMINATION:
• GENERAL: Patient seen and examined at 0630 this morning. Patient is awake, A&Ox3 and in no acute distress. Appears stated age. Well developed and well nourished.
• Vitals: T97.8    BP140 / 81 right arm, BP 142/80 left arm, BP 136/77 standing (orthostatic) HR   98  RR 18 O₂sat  95 /RA. Height 5’11” Weight 240lbs BMI 33.5
  ○ Patient has mild body odor and urine smell; patient reports he has not been able to shower in hospital for 1 day
• HEENT: Normocephalic, atraumatic. No signs of bleeding or trauma.
  ○ Ears: Nontender nonerythematous. Membranes clear nondistended without evidence of trauma bilaterally. Normal weber and rinne: air conduction greater than bone conduction, and sound did not lateralize
  ○ Eyes: PERRLA, EOMI, conjunctiva pink, sclera clear, no evidence of jaundice or anemia bilaterally. Normal visual field and depth perception.
Macula visualised and vessels traced without notching, edema or evidence of bleeds
○ Nose: Nontender, nonerythematos. Lower and middle turbinates visualized. No rhinorrhea epistaxis or exudates.
○ Mouth: Throat is nonerythematos without exudates. Equal palatal elevation. Mucosa is moist. No patches, ulcers, exudates. Full orthodontics.
● NECK: No lymphadenopathy or palpable thyroid, no nuchal rigidity or JVD, neck veins not visible. Some fullness in neck that may be radiation scarring. No carotid bruits
● CARDIO: RRR with normal S1/S2, no rubs, gallops, clicks or murmurs. Pulses equal and symmetric.
● RESP: No rhonchi. Positive wheezes or rales in lower right and left lobes, with significant SOB on even minor ambulation (gait exam). No abnormalities on tests for egophony, pectoriloquy or tactile fremitus. Diaphragm moves well with respiration.
● ABDOMEN: Soft, obese abdomen without hernias, masses or hepatosplenomegaly. Negative Murphy’s sign. No rebound or guarding. There is no tenderness at McBurney’s point. Positive bowel sounds in all four quadrants. Left lower quadrant pain on deep palpation 7/10 but otherwise NT. No rebound tenderness or succussion splash. Small incision scar 2.5cm below the umbilicus, well healed, from hernia repair per patient report.
● BACK: No CVA tenderness or pain on spinal percussion; no pain on or restriction of spinal motion.
● SKIN: Skin is pink, warm, and dry. No rashes noted. No scars other than noted, no evidence of bleeding or petechiae.
● MS: Full range of motion, and strength 5/5 in all four extremities without edema, joint swelling, joint instability or tenderness. Pulses +2 in all four extremities. Hyporeflexic but able to obtain patellar reflexes bilaterally. Patient has reduced tactile sensation on the heels of his feet compared to the balls of his feet. Muscle bulk and tone are appropriate, without peripheral fasciculations. No joint deformities noted.
• NEURO: Negative Rhomberg test, no pronator drift. Normal heel-shin. Sensation is intact throughout to sharp touch, dull touch and vibration in all four extremities. Babinski equivocal. Poor heel-toe walk and balance on one foot (either foot). No tremor noted. Normal gait though slowed possibly by significant obesity. CN II-XII intact bilaterally.

• PELVIC EXAM: Normal male genitalia without lesions, scars, induration or masses. Patient is not circumcised, and states that urine smell is from mild dribble collecting in his foreskin introitus. No inguinal lymphadenopathy or evidence of hernias. No evidence of incontinence, no pain on deep palpation above pubic symphysis.

• RECTAL EXAM: no hemorrhoids noted, no masses noted on digital rectal exam with 360° sweep, positive guaiac x3.

**Labs:**

Na 140  K 4.5  Cl107  CO₂ 23  BUN 21  Glc219  
WBC9.8  Hb11.9  Hct37.6  PLT199  MCV 88.2  
Neutrophils 80%

Urine : trace urine ketones

CT : diverticular disease without signs of perforation or abscess. 
No masses or strictures noted 
question of gallstones and/or sludge. left renal cyst noted.

**Problem List:**

- Diverticular disease
- Hypertension
- Coronary Artery Disease
- COPD
- Asthma
- Anemia
- Diabetes Mellitus Type 2
- GERD
Impotence
Osteoarthritis
Hearing loss
History of lung cancer, resolved
History of umbilical hernia, repaired

**DDX:**

In considering diffuse abdominal pain accompanied by nausea, vomiting and diarrhea, in addition to diverticular disease, I would think about inflammatory bowel disease, Crohn’s disease, intestinal obstruction, ulcerative colitis, celiac disease, appendicitis or mesenteric infarction, among other causes. However, given a prior diagnosis and confirmed in-house CT findings, these are much less likely. If our patient had recently come out of surgery, had an unrepaired hernia, or was severely bloated and constipated, we might consider a small bowel obstruction, which is a surgical emergency. However, given absence of these findings as well as multiple CTs negative for SBO, I do not think this is likely. Appendicitis was high on my differential as well, especially given that I know the patient still has his appendix. However, the lack of severity of symptoms, relatively normal vital signs, low WBC count, and lack of tenderness at McBurney’s point as well as the lack of acuteness of this patient’s pain makes this seem less likely, along with negative CT results. Fibrous adhesions are a remote possibility, however given the fact that his surgery did not involve the peritoneal cavity, this is highly unlikely.

Mesenteric ischemia, caused by reduction in intestinal blood flow due to occlusion, spasm or other hypoperfusion is also a medical emergency, and thus I considered it at the top of my differential along with SBO and appendicitis until proven otherwise. However, again, his relatively normal vital signs, lack of elevated WBC, fever or correlating CT findings, and lack of severity of symptoms, along with the lack of an obvious cause made this less likely.
Given a lack of positive correlating findings on CT for SBO, mesenteric ischemia or appendicitis, and positive findings for diverticulitis, we proceeded to treat.

Diverticulitis is the inflammation or infection of pockets within the intestine, most commonly the large intestine, or colon. Though it is uncertain what causes diverticulosis, a low fiber diet high in processed foods appears to increase the likelihood of diverticulosis, most likely through straining while passing stools when constipated, increasing pressure on the intestines. Diverticulosis is found in more than half of Americans over the age of 60, though far fewer will develop diverticulitis. The inflammation and/or infection seen in diverticulitis are caused by obstruction or stasis related to diverticula, and the stasis this causes allows bacteria to multiply instead of being passed in stool.

Patients with diverticulosis have fewer symptoms or none at all. Most common are bloating, cramping and blood in the stool. As diverticulosis develops into diverticulitis, patients will note tenderness, frequently acute and in the left lower quadrant; increased bloating and gas; fever and/or chills nausea, vomiting and loss of appetite /sudden unintended weight loss, as was seen in this patient.

**Assessment/Plan:** 54yo male with a history of coronary artery disease s/p CABG, trifascicular block s/p ppm, diabetes mellitus type 2, osteoarthritis, COPD. He was seen at ___ hospital for diverticulitis 1 month ago, and again at the ___ ED one week ago with recurrent abdominal pain. He presented with left lower quadrant pain and nausea/vomiting on 11/27/11. CT at that time showed diverticular disease without perforation or abscess.

1) Diverticulitis - improving clinically on non-surgical management. We will continue piperacillin/tazobactam and metronidazole for 5-7 days total. Patient was started on PO diet today, well tolerated, and had a bowel movement this AM with mixed solid and diarrhea without frank blood, melena or pain on defecation. Surgery has suggested that colorectal surgery attending see patient if in-house, else will follow with Dr. ___ as an outpatient. In case of multiple attacks, it is
frequently recommended that the patient undergo elective resection, as this is safer than an eventual emergency surgery. (Touzios JG et al. Diverticulosis and acute diverticulitis. Gastroenterol Clin North Am. 2009 Sep;38(3):513–25. [PMID: 19699411])

2) Hypertension and coronary artery disease status post coronary artery bypass graft; Trifascicular block. Condition is currently stable on medical management. Plan is to continue on daily metoprolol, lisinopril, clopidogrel, terazosin, aspirin and niacin, and with isosorbide as needed (PRN - pro re nata). Would like to consider starting a statin for hyperlipidemia evidenced in historical laboratory values (cholesterol over 300, but test more than 6 months old). I would also like to run a fresh lipid panel. It is our goal to keep blood pressure under 130/80, and thus I would also like to consider increasing either lisinopril or metoprolol after consulting his cardiologist.

3) Shortness of breath. Patient suffers significant SOB on even minor exertion, would like to consider titrating dosages up, or perhaps starting a portable O2 tank to allow patient to ambulate more; this would hopefully improve respiratory status as well as his morbid obesity, which is not being helped by being bedridden. I believe that his COPD, asthma and smoking combine to cause this shortness of breath, exacerbated by his lack of regular exercise, which is complicated by his habitus. Advised patient to try to quit smoking, and he reports he recently started Chantix (varenicline). I encouraged this positive behavior, and reminded him of the impacts of smoking not only on chances of lung cancer, but his COPD and heart disease as well. I believe that this is a patient who will respond positively to strong assistance in quitting.

4) Anemia: High RDW with mild drop in hemoglobin and hematocrit from 12.9 11/26 to 11.9 today. For this, I am thinking most likely causes to be bleeding, intravascular hemolysis or due to repeat blood draws. I would like to see further fecal occult blood tests (guaiac) and periodic CBC during his stay.
5) Diabetes mellitus type 2: continue insulin. We may want to adjust daily dosage to 40u Glargine insulin QAM (every morning) based on unsatisfactory historical FSBG’s (fingerstick blood glucose). Significant obesity noted with venous insufficiency and edema in legs bilaterally with mildly reduced tactile sensation, though vibratory sensation was intact. I spent about 30 minutes on patient counseling on diet and low glycemic index foods; I encouraged more whole grains and vegetables and less protein (which would also help his diverticular disease). We will measure his hemoglobin A1c at this time as well, and his glucose will be monitored in house.

6) Impotence, 1.5 years. I am considering atherosclerotic coronary vascular disease, diabetes, stress, other psychogenic causes. He has been told he cannot use Viagra due to his isosorbide prescription; I would like to look for other solutions for this gentleman.

7) Recent weight loss. For this I am thinking most likely his diverticular disease, though also keeping in mind hyperthyroidism, diabetes, cancer recurrence, reduced absorption in the gut and infection, among other things. Controlled, intentional weight loss would be beneficial for this individual. Once his diverticulitis resolves, hopefully we can start him on a regimen to induce gradual, safe weight loss, and get him exercising.

8) Gastroesophageal reflux disease. I have counseled this patient regarding foods which are known to make reflux worse, and have suggested avoiding them. He is taking omeprazole 40mg enteric coated, with good results, so I would like to continue this treatment.

9) DVT prophylaxis: heparin subcutaneous (SC) along with sequential compression devices (SCDs) which patient was not wearing at time of exam. Since this patient is obese and typically bedridden, heparin SC along with SCD
usage is critical in this patient to reduce the risk of venous thromboembolism progressing to a pulmonary embolism.

10) pt/ot: would like a consult on his ambulatory status and balance, and regarding interaction of his COPD with ambulation, which I believe is keeping him from exercising sufficiently.

11) diet: on diabetic diet. counseled patient on ways to improve diet and encouraged safe, paced weight loss.

12) full code
EXHIBIT B

History and PE #2

**Identifier:** Patient is an apple-shaped obese 72yo female with a history of diabetes mellitus type 2, hypertension, and hyperlipidemia who presents to the ED for 5 days of watery diarrhea and extreme fatigue.

**CC:** “watery diarrhea and extreme fatigue”

**HPI:** Patient states that 5 days ago in the morning she began to experience some mild pain in her right lower quadrant. She continued her day normally without any change in diet or activity. By suppertime the pain had increased to moderate and she had her first episode of “very watery, diarrhea”. She states that the diarrhea was and still is non-bloody, non-ordorous, watery, and yellowish in color. At that time the diarrhea briefly relieved her abdominal pain but shortly after her pain began again. Then 30 minutes later she again had another diarrheal episode. This cycle continued all night long with diarrheal episodes about every 30min. She also complained of a little nausea throughout the first night but no vomiting, and it went away by the morning. The following day she was going every hour with the same watery diarrhea. She was able to intake food and fluids and tried to drink a lot of water so that “she wouldn’t get dehydrated”. The diarrheal episodes continued for another couple of days, but decreased in frequency to every 1-2 hours. By day three they were becoming even more spaced out, every 4-5 hours but still the same watery consistency. The entire time she had been getting weaker and weaker and it has been harder for her to get around due to fatigue. She has been able to eat and keep food down, though her appetite has significantly decreased. She comes in today due to extreme fatigue and continued diarrhea. Today she states her bowel movements are still watery but less than they were and they are now approximately every 5 hours. She currently denies any nausea or vomiting.

She denies eating anything unusual within the last week, including fish/shellfish or undercooked meat. She denies any recent travel or antibiotics use recently. None of her close contacts are sick. She denies any history of diarrhea or constipation in the past other than the usual “food poisoning” she’s had a few times in her life but they were always over in a couple of days. The patient denies any fever, chills or recent weight loss. She denies any hematuria, dysuria, or flank pain. No headaches, dizziness, or blurry vision. She denies any chest pain, palpitations, or shortness of breath. The patient’s states that her pain is 0/10.

**PMH:**

**Childhood:** She had all of her childhood immunizations. She denies any childhood illnesses, or accidents.

**Childhood Surgeries:** Tonsillectomy, Appendectomy

**Adult Immunizations:** Flu vaccine in 10/2010, Pneumovax in 2005
**Surgical-**
- 1990’s – Cholecystectomy
- 2000 – Right Breast Abscess removed
- 2002 – Umbilical Hernia
- 2004 – Left Hip Replacement

**Medical-**
1. Diabetes Mellitus Type 2 – dx 2002. Treated with metformin, glybizide and 22 Units of Lantus before bedtime. She’s very good about checking her blood sugar which she does 4 times a day with fingersticks.
2. Hypertension, dx over 10 years ago but well controlled with Carvedilol, Chlorthalidone, and Lisinopril.
3. GERD, dx last year ago but well controlled with Omeprazole.
4. Dyslipidemia, dx over 10 years ago but well controlled by Lovastatin and Gemfibrozil

**Medications:**
- Insulin Lantus (22 units) SQ Bedtime for DM2
- Glipizide ER 10mg PO Daily for DM2
- Metformin 500mg PO Daily for DM2
- Omeprazole 20mg PO Daily for GERD
- Carvedilol 6.25mg PO Twice a Day for hypertension
- Chlorthalidone 25mg PO Daily for hypertension
- Lisinopril 10mg PO Daily for hypertension
- Gemfibrozil 600mg PO Daily for dyslipidemia
- Lovastatin 80mg PO Daily for dyslipidemia
- Aspirin 81mg PO for thrombotic event prevention

**Allergies:** NKDA

**Social History:**
The patient is a retired hairdresser who lives in Herkimer with her husband. They have been married for over 53yrs and they have two daughters who are now in their 30’s. She has medicare part D and is able to afford her medications. She denies ever smoking. She denies any alcohol or recreational drug use. She denies any recent travel. She is no longer sexually active and reports no history of STIs.

**Family History:**
Father died of a hyperglycemic coma secondary to uncontrolled diabetes at 46 yo.
Mother died of PE at 40 yo.
8 siblings: 2 siblings died of cancer (one lung cancer, one prostate cancer). 2 siblings died of an MI.
   2 siblings have CAD
ROS:

General: Patient describes that she is “extremely fatigued”. She denies any recent weight loss or gain. She had a decreased appetite.

Skin, Hair, Nails: Patient denies any rashes, or dry skin. She denies any changes in her hair or nails.

HEENT: Patient denies any rhinorrhea, epitaxis, sinus pain, sore throat, odynophagia, dysphagia, or changes in hearing. She wears reading eyeglasses.

Respiratory: Patient denies episodes of dyspnea, hemoptysis, wheezing or coughing.

Cardiovascular: Patient denies palpations, or chest pain. No complains of edema.

Gastrointestinal: The patient has had diarrhea for 5 days, see HPI. She currently denies any vomiting, hematemesis, melena, or hematochezia. She did have some mild nausea 5 days ago. She states that she has some mild pain in the RLQ. She has had some heartburn in the past but is on omeprazole for it. No history of chronic diarrhea or constipation.

Genito-Urinary: Denies any dysuria, hematuria, or frequency urinating.

Menstrual: Patient had menopause when she was 55 yo.

Musculoskeletal: Patient denies any muscle weakness or trouble ambulating.

Neurologic: Patient denies any headaches, lightheadness or dizziness. She denies any changes in sensation or strength.

Endocrine: Patient denies any heat or cold intolerance.

Hematopoietic: Patient denies any easy bruising, or uncontrollable bleeding.

Physical Exam:

Vitals: T 98.9, BP 110/53, HR 74, RR 18, SpO2 95% on RA.

General Appearance: Pleasant, cooperative, apple-shaped obese women who appears fatigued but looks her age and is in no acute distress. She is awake, alert and oriented times three.

Skin: No ecchymosis on arms, legs or abdomen. Skin is warm.

Head: Normocephalic, atraumatic.


Ears: External auditory canals symmetric without discharge. Tympanic membranes pearly and non-bulldging. Hearing intact. Air conduction is greater than bone conduction. Weber test is normal.

Nose: Nasal mucosa pink and intact, septum midline. No rhinorrhea, epitaxis, or nasal exudates.

Throat and mouth: Oral mucosa is moist. Gums are pink, uvula is midline. No erythema visualized in oral pharynx. Nontender, nonpruritic. No patches on the sides of the tongues, walls of the mouth, or sublinguinally. Dentition poor.

Neck: Neck has good mobility. No supraclavicular, occipital or pre-auricular lymphadenopathy. Trachea is midline and thyroid gland is not enlarged.

Cardiovascular: Regular rate, and rhythm. Normal S1 and S2. No murmurs, gallops or rubs heard on exam. Upon palpation, point maximum impulse is non-displaced located in the 5th intercostal space slightly to the left of the mid-clavicular line. No carotid bruits appreciated.

Vascularure: Radial, and carotid pulses are 4/4 bilaterally. Posterior tibial and dorsal pedal pulses 4/4 on both extremities. Pulse regular rate and rhythm.
**Lungs:** Breath sounds sound normal in all lung fields. Clear to auscultation bilaterally. No dullness to percussion. No rails, rhonci, or wheezes. No tactile fremitus or egophony.

**Abdomen:** Patient is obese (apple-shaped). Abdomen is flat, soft, nondistended, no guarding or rebound tenderness, no hepatosplenomegaly or masses appreciated. Mildly tender upon deep palpation on the RLQ. Bowel sounds present in all four quadrants. No CVA tenderness.

**Extremities:** No lower extremity edema observed. No clubbing or cyanosis appreciated.

**Musculoskeletal:** Strength is 5/5 in upper and lower extremities. Positive range of motion in the upper and lower extremities.

**Nervous System:**
- CN I: Not tested
- CN II, III, IV, & IV: pupils equal, round, and reactive to light and accommodation, extraocular muscles intact. Visual fields intact bilaterally.
- CN V: Intact to light sensation equally and bilaterally. Masseter and temporalis muscles with good strength bilaterally.
- CN VII: No weakness or drooping. Facial muscles intact with good strength.
- CN VIII: Hearing intact bilaterally to finger rub.
- CN IX, X: No uvular deviation. Palate elevation equal.
- CNXI: Shoulder shrug with good strength bilaterally. Neck with full range of motion.
- CNXII: No tongue deviation
- Cerebellar: Rapid alternating movements intact with no dysdiadochokinesia appreciated. Finger to nose test intact without dysmetria. No tremor note.
- Sensation: Sharp and dull sensation intact in UE and LE.
- Deep Tendon Reflexes: 2+ bilaterally in patellar, biceps, and triceps.

**Labs:**
Weight 105.8 kg Height 5’5”

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Na - 137</td>
<td>WBC - 7.9</td>
<td>Neutrophils – 76%</td>
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<tr>
<td>K - 4.0</td>
<td>Hb - 12.1</td>
<td>Lymphs - 10.8%</td>
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<tr>
<td>Cl - 108</td>
<td>Hct - 34.3</td>
<td>Monocytes -10.4%</td>
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<tr>
<td>HCO3 - 22</td>
<td>MCV - 83.7</td>
<td>Eosinophils - 2.1%</td>
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<tr>
<td>Bun - 39 H</td>
<td>RDW - 44.7</td>
<td>Basophils - 0%</td>
</tr>
<tr>
<td>Creatinine - 2.3 H</td>
<td>Platelets - 202</td>
<td></td>
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<tr>
<td>Glucose - 143</td>
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**Assessment and Plan:**
This is an apple-shaped obese 72yo female with a history of diabetes mellitus type 2, hypertension, and hyperlipidemia who presents to the ED for 5 days of watery diarrhea and extreme fatigue.

1. **Diarrhea**
The patient is has 72 yo female with voluminous, yellow, watery diarrhea. Since the onset of the diarrhea was abrupt it’s most likely caused by acute infectious process. And although she states that she never had a fever, she did have abdominal tenderness that again makes this an infectious
process. To determine the etiology of the diarrhea one must think of bacterial, toxin, viral and parasitic causes. The process is also most consistent of a non-inflammatory process as it is voluminous, initially associated with nausea and didn’t present with any obvious blood in the stool. Though to truly make sure there is no blood in the stool a fecal occult blood test needs to be done. Bacterial cause is most likely due to the nature of the voluminous and watery diarrhea. The most likely cause if this is non-inflammatory is E. coli, the toxigenic strain, which produces a cholera-like toxin (causing voluminous watery diarrhea, consistent with the patients symptoms), and symptoms can last up to 7 days. Vibrio cholera could also be the cause due to the voluminous amount, but less likely as the patient denies any recent travel, consumption of fish/shellfish and it is rare in the US. Other bacterial causes could include Campylobacter, Salmonella, and Shigella. And although these bacteria are more common they usually present as an small volume inflammatory process diarrhea with fever, tenesmus, and LLQ cramping.

Since the diarrhea has lasted >24 hours it is not likely that the cause is a preformed toxin coming from either S. aureus, B. Cereus, or C. perfringens. Viral causes such as Rotavirus and Norovirus are possible but close contacts would most likely be affected as well. Furthermore, Rotavirus is more common in a daycare setting and norovirus is more common in the winter making these less likely the culprits. Finally, parasitic infections such as Giardia, Cryptosporidia, or Cyclospora could be the culprits but her lack of travel of camping make these less of a possibility. But to make sure they aren’t the cause an easy Ova and Parasite stool sample should be collected.

It is also important to think of causes that are more dangerous but less likely such as E. Coli O157:H7, C. difficile or E. histolytica. E. coli O157:H7 is a strain of bacteria that can cause kidney damage, and could have been the cause of her elevated BUN/creatinine levels, though the lack of bloody diarrhea makes this etiology less likely. Furthermore, if it is E. coli O157:H7 it’s important not to treat her with antibiotics as it increases the chance of hemolytic uremic syndrome which is a life-threatening condition that can cause kidney failure. C. difficile would most likely have presented after antibiotic use, with a high WBC count and very odorous diarrhea but since it can cause pseudomembranous colitis or toxic megacolon both severe conditions that can cause permanent GI complications, it’s important to rule out and get a stool ELISA for it. Finally, E. histolytica can have serious complications causing liver abscesses so it’s important to rule out via serology even though it’s rarely seen in the US.

Lastly, we must think about a chronic process that could be causing her diarrhea which may be just starting to present. Though it is rather unlikely given that this she doesn’t have any history of diarrhea or constipation in the past it is, it is important to rule them out. She has not noticed any steatorrhea making chronic malabsorption causes such as Celiac disease, Whipple’s disease, bacterial overgrowth, pancreatic insufficiency or decreased production in bile acids very unlikely. She also has not started taking any new medications lately, ruling out medication-induced diarrhea. Additionally, she mostly like is not having a flare up of inflammatory bowel disease as she has not noticed any fecal occult blood, any history of bowel irregularities and has not had a fever recently. It is also unlikely that a gut motility problem is causing her diarrhea, as her presentation doesn’t have
any substantial abdominal pain with it. Finally, it could be a type of osmotic diarrhea such as lactose intolerance but it would be unlikely to present in a person in their 70’s. Also, since lactose intolerance is mostly in non-whites (75%), it is even more unlikely.

Plan:
  o Fluid replacement with normal saline
  o Stool culture to determine cause and rule out E. Coli O157:H7
  o Fecal WBC
  o Fecal Occult Blood test
  o Chem panel to make sure her she doesn’t have hypokalemia a common side-effect of diarrhea
  o CBC to determine if she has an elevated WBC, further indicating an infectious process
  o C. Difficle toxin ELISA (toxin A and B), if toxins are positive then start on Vancomysin should be started for 10-14 days.
  o E. Histolytica serology
  o Loperamide and Bismuth Subsalicylate to help slow down the diarrhea
  o Antibiotic treatment should be held for now since symptoms seem to be improving but if cultures come back and show antibiotics are indicated, targeted antibiotic use should be started.

2. Elevated BUN/Creatinine – Acute Kidney Injury
   It is of concern that the patient has elevated BUN/Creatinine levels though it is most likely due to dehydration from the voluminous watery diarrhea that the patient presents with. Though in order to rule out other more serious causes of her acute kidney injury a urine evaluation including a urinalysis (UA), urine sediment, electrolytes and osmolality should be done. Additionally, a measurement of her fractional excretion of sodium (FENa) should be ordered. This would help us to determine if the cause is prerenal, post-renal or intrinsic. The urine evaluation will most likely show a prerenal picture with Uosm > 500, and FENa<1% further proving it’s a decreased effective arterial volume secondary to dehydration that’s the cause. Additionally, renal vasoconstriction secondary to her ACEI could also be contributing to the acute kidney injury so her ACEI should be held until her BUN/Creatinine normalize.

   If it is something intrinsic to the kidney that is causing the elevation in BUN/Creatinine such as Acute Tubular Necrosis (ATN), Acute Interstitial Nephritis (AIN), or Glomerular disease it will be evident by the urinalysis. Though these causes are less likely since the presentation follows a diarrhea episode and she has never had any problems in the past with her kidneys. Though a thrombotic microangiopathy such as E. coli O157:H7 could also cause her diarrhea as well as her loss of kidney function so it’d be important to look for RBC’s in her UA and urine eosinophils. Finally, a post renal etiology could be the case of her kidney injury, though this is unlikely since the patient has not had trouble urinating or had any flank pain indicating severe kidney problems.
Plan:
- Urine Evaluation with urinalysis, sediment, electrolytes and osmolality
- HOLD Lisinopril until BUN/Creatinine are normalized
- Fractional excretion of sodium (FENa)
- Repeat BUN/Creatinine in 24 hours
- Replace Fluids with normal saline

3. Diabetes Mellitus Type 2
Currently, the patient’s blood glucose is high at 143. The ADA recommends that the glycemic goals are less stringent for patients with advanced complications, or advanced age aiming for a preprandial glucose level of 100-140. Therefore it is important to discuss with the patient how important it is to monitor her glucose levels regularly in order to prevent cardiovascular disease, and other diabetic complications. To ensure that the patient knows how to monitor her glucose levels properly, the patient should be referred to a Diabetes Educator to discuss the complications of uncontrolled diabetes and learn more about how to monitor her diet and medications to keep her glucose levels under control. The patient should also be instructed about following up with the ophthalmologist every year as diabetic patients often develop retinopathy that can lead to blindness.

Plan:
- Continue patient’s insulin regimen of Insulin Lantus (22 units) SQ Bedtime for DM2
- Continue DM2 medications: Glipizide ER 10mg PO Daily and Metformin 500mg PO Daily
- Check HgbA1c to see how well controlled the patient’s blood glucose levels have been
- Discuss with patient the symptoms of hypoglycemia and hyperglycemia and what to do if she experiences any of these symptoms.
- Discuss importance of follow-up with ophthalmologist every year.

4. Hyperlipidemia
The patient currently takes Gemfibrozil 600mg PO Daily and Lovastatin 80mg PO Daily for cholesterol control. There have been several studies that show if LDL is kept below 100 there is a significant reductions in mortality and this is currently the treatment goal for patients with diabetes. Since this patient has a history of diabetes it is especially important to monitor her lipids and making sure that her HDL >40, triglycerides <150 and LDL<100.

Plan:
- Order lipid panel.
- Continue Gemfibrozil 600mg PO Daily and Lovastatin 80mg PO Daily for dyslipidemia.
5. **Hypertension**

The patient is on Carvedilol 6.25mg PO Twice a Day, and Chlorthalidone 25mg PO daily control her hypertension. And today the patient’s BP seems to be controlled and therefore there is no need to add an additional medication. It is important to control her hypertension in the future because that’s an important risk factor for having a cardiac event.

**Plan:**

- HOLD Lisinopril 10mg, until the BUN/Creatinine levels are back in the normal range.
- Continue with Carvedilol 6.25mg PO Twice a Day, Chlorthalidone 25mg PO Daily for hypertension.

6. **Metabolic Syndrome - Obesity**

Patient is 5’5” and 105.8 kgs. The patient has a BMI of 36.8. The International Diabetes Federation defines metabolic syndrome as 1. Central obesity (but is BMI is >30 kg/m², central obesity can be assumed and waist circumference does not need to be measured), 2. AND any two of the following: raised triglycerides: > 150 mg/dL; reduced HDL cholesterol: < 50 mg/dL (1.29 mmol/L) in females; raised blood pressure: systolic BP > 130 or diastolic BP >85 mm Hg, or treatment of previously diagnosed hypertension; raised fasting plasma glucose : (FPG)>100 mg/dL (5.6 mmol/L), or previously diagnosed type 2 diabetes. This patient meets the criteria for metabolic syndrome since she has BMI >30, and has diagnosed dyslipidemia, hypertension, and diabetes mellitus type 2. This puts the patient at an increased risk for cardiovascular disease, some studies even increasing the risk by 400%. Therefore it is particularly important to counsel this patient on ways to lose weight through diet and exercise that can help her overall health. An appointment with a dietician would be helpful for her to explore different ways to change her diet in order to help her lose weight as well as better manage her diabetes. It would be beneficial for her to see both a physical therapist and occupational therapist to come up with a plan for her to get some and learn different exercises to increase her mobility.

**Plan:**

- Continue Aspirin 81mg PO for thrombotic event prevention due to her high risk for CAD dx.
- Suggest ways to start exercising, like parking farther away in a parking lot, going for a walk every day, or joining a gym.
- Schedule appointment with dietician, to help her discuss better ways to eat and find a diet that she can stick to.
7. GERD

The patient is not currently exhibiting or reporting any symptoms related to her GERD. Therefore, her symptoms are being adequately managed by her Omeprazole 20mg PO daily and should be continued throughout her hospital stay. She should be monitored for any change or appearance of symptoms which may be exacerbated by lack of mobility in her hospital bed.

Plan:
- Continue Omeprazole 20mg PO Daily for GERD.

Resources:

EXHIBIT C

H&P #1

Chief Complaint: tarry black stool for 5 days with dizziness

History of Present Illness: This is a 59 year old male with HIV and hepatitis C who comes in with the complaint of having had tarry black stools for five days. He came in today because of a feeling of extreme weakness and lightheadedness along with the melanotic stool. He denies having had melanotic stools before, but he has a history of hematemesis from Mallory Weiss tears, for which he was admitted twice. He has not had any nausea, vomiting, diarrhea, fever, easy bruising or recent unintentional weight loss. He denies any chest pain, reflux symptoms, or abdominal pain. He denies use of aspirin or other NSAIDs or Coumadin on a daily basis. He has a history of noncompliance with his antiretroviral therapy.

Past Medical History:

HIV CDC class B2
Syncope
Chronic Hepatitis C
Mallory-Weiss Tears type II
Grade 2 esophageal varices
Left ventricular hypertrophy
+ PPD post INH treatment
Pancytopenia
ITP previously treated with steroids
Hiatal hernia
Internal hemorrhoids
Herpes zoster
Cholelithiasis

Past Surgical History:

Endoscopy with banding of esophageal varices

Medications: Dapsone 50mg, Etravirine 200mg bid, Maraviroc 600mg bid, Tenofovir 300mg, Cholestipol 5mg, Tylenol 325mg prn

Allergies: Penicillins (hives), Azactam (nausea), Crixivan (unknown rxn), Intelence (diarrhea), Kaletra (unknown rxn), Ziagen (unknown rxn)

Social history: Smokes ½ pack a day for 40 years. Does not use alcohol. History of cocaine and heroine abuse, quit in 1999. Lives by himself for now, has an ex wife that lives nearby. No longer works.
**Family History:** Father deceased from colon cancer in his 80s, mother has COPD. One grandmother has diabetes, a sister died of leukemia. No known heart disease in family.

**Review of Systems:**

HEENT: no complaints of headache, changes in vision, or hearing. Has had problems with epistaxis previously.
Cardiovascular: denies any chest pain or rapid heart rate
Pulmonary: has some shortness of breath “occasionally”, no cough or wheezing noted
Gastrointestinal: see HPI
Genitourinary: no pain or difficulty with urination or incontinence.
Musculoskeletal: no muscle aches or cramping/arthralgias
Neurological: dizziness per HPI, no seizures or blackouts
Hematologic: notable for thrombocytopenia, epistaxis

**Physical Exam:**

Height  167.64cm    Weight 67kg       BMI 23.8

Vitals: T 98.1   BP 109/59   HR  65  RR 16  O2 sat 99% on room air

**General:** Hispanic-American man, able to communicate clearly, appears jaundiced, in no acute distress
**HEENT:** Head normocephalic and atraumatic, no scalp lesions noted. Pupils were equally round, 3mm, and reactive to light, extraocular motions intact, the sclera were mildly icteric, the conjunctiva were not pale. Oral mucosa pink and moist, he had poor dentition with many missing teeth. There were two bright red purpura on the soft palate. Nasal mucosa was normal, no nasal discharge. Ears not examined. Throat had no erythema or exudates, tongue was normal.
**Neck:** supple with normal range of motion, trachea midline, no JVD
**Cardiac:** Regular rate and rhythm, normal S1/S2, no murmurs, rubs, or gallops
**Pulmonary:** No chest wall tenderness; lungs were clear to auscultation bilaterally with no dullness to percussion, no wheezes, rales or rhonchi.
**Abdomen:** soft, nontender, nondistended; negative Murphy’s sign, negative McBurney’s point and Rovsing’s sign, bowel sounds of normal intensity in all four quadrants, no fluid wave present. The lower liver edge is 4cm below the costal margin by percussion, firm to palpation. Negative shifting dullness exam.
**Musculoskeletal:** strength 5/5 throughout all extremities
**Extremities:** no edema, clubbing, or cyanosis; dorsalis pedis pulses 1+ bilaterally, radial pulses 2+ bilaterally
**Neurologic:** Alert and oriented x3 with appropriate speech; cranial nerves II-XII normal, reflexes symmetric and 2+ in all extremities, sensation intact in bilateral upper and lower extremities. Negative asterixis.
**Skin:** no spider angiomata, no lesions or rashes; some jaundice throughout
**Lymphatic:** no axillary, cervical, or inguinal lymphadenopathy
**Genital/Rectal exam:** The external genitalia is normal upon visual inspection. There is good rectal tone, some melanotic stool, but no bright red blood per rectum.

**Labs:**
WBC 10.0, Hgb 7.4, Hct 22, Platelets 41
MCV 93.3
INR 1.4
Glucose 106   Na 134   K 4.2   HCO3 23   Creatinine 1.1
Ca 8.3
Total bilirubin 1.7   AST 113   ALT 66   Albumin 2.3
CK-MB 9.5, Troponin 0.19

CD4 count 133
HIV Viral load 139

**EKG:** normal sinus rhythm, no ST elevations

**Problem List:**
1. GI bleeding
2. Weakness and lightheadedness
3. Thrombocytopenia
4. HIV
5. Chronic hepatitis C

**Assessment and Differentials**

1. GI Bleeding - The patient has melanotic stool, which is generally more suggestive of an upper GI bleed. There are multiple red flags in the patient’s history that are pertinent here: (1) He has a history of chronic hepatitis C and known portal hypertensive gastropathy per previous endoscopy. This would make us suspect bleeding esophageal varices. His AST and ALT are elevated, indicating some sort of hepatic process going on, and his total bilirubin is elevated. Going against this diagnosis is the fact that he has had no hematemesis, and few other signs of severe liver dysfunction such as ascites or spider angiomas. (2) The patient has a history of Mallory-Weiss tears—however again he has had no hematemesis in this incident, and he has not reported any repeated vomiting. These tears are therefore of unknown causal events, although the patient did have poor dentition which has the slight possibility of being caused by repeated vomiting. (3) The family history of colon cancer in his father. A colonic malignancy in this patient might more likely cause fresh blood in the stool as well as changes in bowel habits, but it still remains a possibility for cause of GI bleed. (4) The patient has chronic liver disease and dysfunction—this could cause a deficiency of clotting factors increasing the risk of bleeding internally. (5) He has underlying thrombocytopenia from ITP, which has been followed by a hematologist but appears to be not well controlled due to his low platelets—this can only worsen the risk of bleeding. Other causes of GI bleeding include diverticulosis (not as likely here because of a lack of any pain) and perforated duodenal or peptic ulcer (again less likely due to denial of past pain or reflux.
symptoms). He has a history of internal hemorrhoids discovered on routine colonoscopy, however if they had been bleeding it would have more likely produced bright red blood in the stool.

Therefore, the most likely cause of this patient’s GI bleed seems to be possible bleeding esophageal varices secondary to portal hypertension.

2. Weakness, occasional shortness of breath and lightheadedness - These symptoms are concerning for a couple of reasons. First, we may hypothesize that it is likely due to prolonged blood loss over these five days leading to a normocytic anemia and possibly hypovolemia. His low hemoglobin and hematocrit seem to support this hypothesis. We also need to be careful about a cardiac origin of these symptoms since he has a history of admission for likely syncope with T wave inversions of unknown cause.

He may also have an underlying anemia due to his history of multiple chronic diseases. This could contribute to shortness of breath and fatigue. His MCV is elevated, which could be secondary to alcoholism, despite denial by the patient or nutritional deficiency of folate or B12. MCV can also increase in the setting of antiviral drugs which he is on for his HIV.

The most likely etiology here seems to be hypovolemia with anemia secondary to prolonged blood loss and chronic disease.

3. History of Thrombocytopenia – this is a likely explanation for the very low platelet count; however we cannot ignore the fact that there is concurrent liver compromise due to hepatitis C, which can contribute to thrombocytopenia

4. Elevated CK-MB/Troponin with NSTEMI – The patient has evidence of what is likely a non-ST elevation MI, as his CK-MB and troponin are elevated without any chest pain or EKG changes. The prolonged blood loss and anemia lead to a need for increased cardiac output to get oxygen to the tissues, causing strain on the heart. This increased work and shortened diastole may have resulted in possible ischemic injury to the organ, releasing cardiac enzymes. Likely NSTEMI secondary to prolonged blood loss

5. Chronic Hepatitis C and HIV – these additional problems need to be managed seriously. Given a history of noncompliance with his HIV medication, he is at increased risk for opportunistic infections in the hospital setting. His last CD4 count was low at 133. This level of immunocompromise puts him at risk for bacterial infections, tuberculosis, Pneumocystis pneumonia, and possibly Mycobacterial pneumonias along with the usual infections that are a threat to individuals with a normal immune system. He does report Dapsone prophylaxis as a medication but we don’t have sure evidence that he is taking it, so we must be sure to give him prophylaxis while he is admitted. While there is not much to be done for his hepatitis C as far as treatment, it remains a problem that contributes to his hematologic and metabolic derangements, and he already has known portal hypertensive gastropathy.

Plan

1. First assess the ABC’s: the airway and breathing are not compromised. The patient is not hypotensive, however he has reported prolonged blood loss and he is having symptoms concordant with his low Hgb/Hct so he should be bloused with fluids through 2 large bore IVs and be typed and crossed
in case of a need for blood. His hemoglobin is close to the cutoff of <7, and he has significant comorbidities so he would be a good candidate for transfusion. However, if he has evidence per NG tube of active bleeding, a transfusion right away may not be useful since it could increase the bleeding rate.

2. Once determined hemodynamically stable, the source of the GI bleed should be determined. First a nasogastric tube should be placed to look for any new blood in the stomach. If fresh blood is suctioned out, endoscopy should be performed to examine the bleed and assess the need for banding. If no blood is suctioned, endoscopy is less urgent but it could still be a possibility for visualizing the varices to look for recent bleeds, or to look for new Mallory-Weiss tears. If endoscopy is not performed now, the patient should be placed on an IV proton pump inhibitor such as Esomeprazole, since decreased acid production will lower the risk of rebleeding. If there is no blood on nasogastric lavage, IV PPI alone may suffice to prevent further bleeding. Octreotide IV may also be started in this case due to the high possibility of a variceal bleed. This is a somatostatin analogue that probably decreases GI mucosal blood flow which would be helpful in the case of esophageal variceal bleeding.

An active variceal bleed should also be treated with prophylactic antibiotics before endoscopy such as ciprofloxacin. The bleeding can also be controlled with an IV vasopressin bolus and/or octreotide. Surgically, the varices can be banded or a transjugular intrahepatic portosystemic shunt can be placed in patients with refractory bleeding to decrease portal hypertension.

3. The patient appears to have had an NSTEMI. For this, we should replace volume losses and try to stabilize the hemoglobin and hematocrit. Given the history of syncope, we might want to place the patient on telemetry for a day or so to be sure there are no concurrent arrhythmias. We should also follow the CK-MB and troponin to be sure that they are trending down over the next few days. We could consider echocardiography to look for any cardiac structural abnormalities given the history of some changes on EKG with the previous syncopal episode.

4. For the patient’s HIV, Dapsone for PJP pneumonia prophylaxis should be continued, and his antiretroviral therapy should be continued. We should get a chest x-ray to get a baseline due to his increased risk of pneumonia and his already low CD4 count.

5. For the patient’s hepatitis C, there are no current antiviral treatments being given. However he is having consequences of what seems like some cirrhosis and liver dysfunction leading to jaundice and hypertension. His MELD score is calculated to be 13, which puts him just under the cutoff of 14 for higher likelihood of good outcome from a TIPS procedure. He also has a predicted three month survival after transplant of 95%, which is fairly good.

We can get a fractionated bilirubin to evaluate the source of his elevated bilirubin—we might expect more direct if it is from the liver. If he is having excessive itching we can give him cholestyramine for some relief. Given that his AST was quite a lot higher than his ALT, we might want to see if we can elicit any history of excessive alcohol use from him too (CAGE questions, etc), and advise him that it is not good to put this excessive strain on his liver if he is drinking a lot.
He does not have a physical exam suggestive of ascites so there is no need to worry about the threat of spontaneous bacterial peritonitis. However, he will get IV antibiotics anyway since he has an acute GI bleed and cirrhosis so this would be covered for.

6. The patient has thrombocytopenia, which could be either from his ITP or his liver dysfunction or both. It seems from his history that the ITP was responsive to steroids, so this is a possibility for treatment. However given his immunocompromised state, it may not be the best idea to start steroids now. We could administer platelets as a transfusion in the meantime to bring his counts up and try to decrease his rebleeding risk. Other management of ITP includes a trial of IV Ig, or splenectomy.
EXHIBIT D

CC:
78 year old male with a history of arthritis presents with a 2 week history of lower extremity joint pain, “dizziness” and unsteady gait that has worsened over the past 3 days.

HPI:
The patient is a 78 year old male with a history of arthritis (Dx 4/09) who began to have severe bilateral lower extremity pain localized to the foot and knee joints two weeks ago. He also noted hip and low back pain starting at the same time and for the same duration. The pain is 7/10 when standing but diminishes to 0/10 upon lying supine in bed. He states the pain is the worst in the morning when he gets up and that it subsides slightly as the day goes on.

The patient also complains of feeling “dizzy” after sitting up from a supine position and also after standing up from a sitting position. This “dizziness” began 2 weeks ago and never occurs while he is lying in bed. When prompted to clarify the term “dizziness” he described it as a feeling that everything around him is in motion, denying the term lightheadedness. Both the joint pains and dizziness/vertigo have increased in severity over the past 3 days and have caused this patient’s gait to be unsteady. He says that he “can’t control his feet when walking” and admits that he feels like he will fall, so is cautious and deliberate when ambulating. He currently takes shuffling steps and uses a walker with wheels for assistance, but has been out of bed only to use the toilet over the past 2 weeks on account of his joint pain, vertigo, unsteady gait and fear of falling. Over the past 2 weeks he has also experienced worsening urinary urgency and incontinence, commenting that he “can not control” his urine when he gets the sudden urge to go. He also reports occasional bowel incontinence. His neighbor assists him with ADLs in the morning and a nursing aide assists him in the evenings. He clearly communicates his symptoms, but is a poor historian.

He denies fever, chills, headache, head trauma, loss of consciousness, muscle aches/pains, chest pain, palpitations, shortness of breath, dysuria, constipation, diarrhea. He has had 3-4 similar episodes of severe joint pain during the previous year that resolved on their own with time. He has not taken any medicine to alleviate his current pain as he does not believe anyone can help alleviate arthritic pain.

PMH:
Arthritis: diagnosed 4/09, no pain control
Vertigo: over 2 years, controlled with meclizine but feels lethargic after taking it
CHF: Dx date unknown
COPD: Dx date unknown, treated with tiotropium, prednisone, on 3L O2 at home
Gout: treated with allopurinol 100 mg PO daily
HTN: treated with doxazosin
Mild aortic stenosis: Dx date unknown, reconfirmed on (8/22) ECG
Paroxysmal Atrial Fibrillation: Dx date unknown
Chronic Renal Insufficiency: Dx date unknown, treated with telmisartan
Incontinence of bladder and bowel: began gradually a few years ago, does not wear incontinence pads at home

PSH:
Appendectomy s/p perforated appendix-no negative sequelae, age unclear

Medications:
Allopurinol 100 mg PO daily (gout)
Cholecalciferol 400iu PO daily (low vitamin D)
Dalteparin: 5000 units SC daily (DVT prophylaxis, A-fib clot prophylaxis)
Diltiazem: 120 mg PO daily (A-Fib)
Meclizine: 25 mg PO tid (vertigo)
Multivitamin: (1) cap PO daily
Prednisone: 10 mg PO daily (Presumed pulmonary inflammation)
Telmisartan: 40 mg PO daily (Hypertension, CRI)
Tiotropium: INH Powder 18 mcg inhalation daily (COPD exacerbations)

Family Hx:
Overall, his family history is significant for DVTs. Her mother passed away at 83 years old due to debility and had a history of a DVT. His father passed away at age 51 from complications of chronic chewing tobacco. He has 3 brothers, one of which is currently living. His eldest brother had a DVT and passed away in his late 80s, and his youngest brother passed away at age 18 in WWI. His living older brother is 89 yo with no significant medical conditions that he knows about. His wife had a history of colon cancer and passed away 6 years ago. He has no children.

Allergies:
No know drug or food allergies

Social Hx:
The patient currently lives at home on the 2nd level of an apartment building with elevator access. He was married for over 40 years, but is now a widow. He is a retired tile layer who enjoys watching television. He lived in Eastern Germany until he moved to the US at 30 years of age. His neighbor, who brought him to the ED yesterday, visits in the morning to assist with AM ADLs, set up medications and visit, while a nursing aide visits in the evening to assist with PM ADLs, including a tub bath. He has a strong relationship with his neighbor who is also his healthcare proxy.

The patient smoked a pipe for 30 years, and quit roughly 40 years ago. He has no current alcohol usage and no past alcohol dependence or heavy usage. He does not use herbal or recreational/illicit drugs. He is not sexually active and has no history of recent travel. His breakfast, lunch and dinner are provided by Meals on Wheels, and he enjoys the taste of the food. He drinks 1-2 glasses of water a day. He does daily leg exercises while lying in bed with the assistance of the nursing aide, but voiced that he does not think they make any difference. He visited his primary care physician 2 weeks ago concerning his increased sensation of vertigo. It is not known if he received the flu vaccine earlier this year or if his immunizations are up to date.

ROS:

**Constitutional:** no recent weight loss, no night sweats

**Skin:** no skin lesions or rashes, no pruritis

**Head:** no trauma, no pain

**Eyes:** He wears glasses with an old prescription and has not been to the eye doctor in over 4 years. He says the L eye is more blurry than the right. He reports having a procedure done where they injected a substance into his eye.

**Ears:** difficulty hearing, nurse in the ED cleaned ear wax out of his ear canals and he reports improved hearing

**Nose:** cannula in nostrils, dry

**Throat:** has full dentures, no pain or difficulty swallowing

**Neck:** supple, no swelling or pain

**Cardiovascular:** no chest tightness or pain with exertion, no edema in extremities

**Resp:** positive non-productive chronic cough, no hemoptysis, no wheezing

**Neuro:** no numbness, tingling, slurred speech

**GI:** no abdominal pain, no bloody diarrhea, no melena. He usually has a soft stool BM around noon and throughout the day returns to the bathroom because he feels like he needs to wipe his bottom. When he wipes his bottom there is a small amount of watery stool present.
GU: no hematuria, no catheters, no flank pain

Musculoskeletal: no pain or weakness in upper extremities

Endocrine: no abnormal sweating, no intolerance to heat to cold

Lymph/Heme: no easy bruising, no nosebleeds

Psych: states he is not anxious or depressed, just upset about being in the ED; he wants to get up and leave as he doesn’t understand why he needs to stay

PE:
Vitals: 98.2 HR: 67
RR:16 O2 sat: 95% on RA
BP: supine (117/69), unable to do ortostatic BP check secondary to his immobility in ED
Height: 70” Weight: 195.5 BMI: 28.1

General: lying in bed in NAD, A&O x3, conversational, friendly, angry at prospect of staying in the hospital due to fiscal concerns, pants wet secondary to not being able to grab the bedside urinal in time

Skin: no tears, abrasions or pressure sores. Skin on top of foot is dry.

HEENT:
Head: NC/AT, no tenderness to palpation
Eyes: PERRLA, EOM intact, peripheral vision intact. Fundus visualized with clear borders; no hemorrhages or exudates.
Ears: light reflex visualized, canals cleaned by RN earlier and are clear, poor hearing
Nose: dry, nasal cannula, mucosa pink, no masses, septum midline
Throat: no ulcers, sores, lesions in oral cavity, upper and lower dentures, mucosa pink/red, lips are slightly dry

Neck: no swelling, no tenderness to palpation, good ROM

Cardiovascular: RRR, S1 S2, no murmurs, no edema in extremities, brachial pulses and carotid pulses are strong and regular at 2+, no carotid bruits, DP and PT pulses difficult to appreciate

Respiratory: lungs are clear to auscultation at 6 locations on back, no wheezing, rales or rhonchi. No dullness to percussion. Good breathing stamina while conversating.
**Abdominal:** non-tender, soft, non-distended. No masses or hepatosplenomegaly. Bowel sounds present in all four quadrants

**Genitourinary:** no CVA or suprapubic tenderness

**Musculoskeletal:** full range of motion at ankle, knee, hip joints bilaterally
   full range of motion at finger, wrist, elbow, shoulder joints bilaterally
   enlargement of knee joints bilaterally without edema, no swelling or tenderness of any other joints of his body bilaterally
   no muscle pain or tenderness

**Neuro:**
Oriented to person, place and time but a poor historian

Cranial Nerves:
I: not tested
II: poor acuity in left eye, decent acuity when both eyes are open
III, IV, VI: EOM intact, pupils equally round and reactive to light, consensual papillary reflex intact, no nystagmus
V: facial sensation intact to fine touch and pressure and symmetrical bilaterally in V1, V2, V3 distribution, masseter muscle strong with good tone bilaterally
VII: facial muscles have good tone and strength bilaterally on resisting eyelid opening, cheek puffing smiling, lip pursing
VIII: not directly tested, poor hearing and does not wear hearing aids
IX, X: uvula midline, soft palate and uvula rise symmetrically
XI: SCM strength 4/5 upon R head turn, 5/5 upon L head turn, trapezius strength 5/5 bilaterally
XII: tongue midline with symmetric lateral movements upon protrusion

Strength: RUE 5/5     RLE 5/5     grasp 5/5 bilaterally
      LUE 4/5     LLE 4/5

Sensation: Pressure, light touch, pain intact in lower and upper extremities bilaterally

Cerebellar: F→N normal bilaterally, H →S done supine, normal bilaterally
   Gait not tested secondary to his unsteady gait and dizziness, plan to assess gait with nursing assistance to prevent fall.
Labs Upon Admission

GFR: 48L/min
Albumin: 3.5
Globin: 2.6
Total Protein: 6
Calcium: 8.6
Total Bilirubin: 0.9
Creatine Kinase: 34
Troponin: 0.02
Alk Phos: 42
AST: 23
ALT: 27

Imaging:

1. Chest X-ray (8/22): There is no acute pathology. The mediastinum and cardiac silhouette are within normal contour limits. There is minimal stable left basilar atelectasis and appearance of stable pleural calcifications.

2. Head CT (8/22) compared to previous CT done on (9/08) still shows prominent bilateral ventricular prominences.

3. ECG (8/22) showed normal sinus rhythm with a left anterior fascicular block and
non-specific T wave abnormality that was worse in the anterolateral lead compared to ECG done on 4/27/10.

Assessment

A 78 year old man with a 2 week history of arthritis, gout, paroxysmal atrial fibrillation and vertigo complains of severe lower extremity joint pain bilaterally, hip and lower back pain, unsteady gait and vertigo upon assuming an upright position.

Problem List

1. Joint Pain
2. Vertigo associated with movement to an upright position
3. Unsteady gait
4. Worsening urinary urgency and incontinence, stool incontinence
5. Elevated BUN and decreased GFR

1. This patient was diagnosed with arthritis last year. He is not specific about the specifics regarding this diagnosis, but several items in his history and physical make me believe this is osteoarthritis (OA). With his advanced age of 87 years, he is at high risk of having OA, and evidence of osteoarthritic changes can be seen in almost every elderly individual by the time of their death. The symmetrical involvement of the foot, knee and hip joint pain, along with the lower back pain are suggestive of OA. While not a morbidly obese man, the extra weight that he carries (evidenced by his BMI of 28.1) is a risk factor of developing OA. The fact that his pain is movement and activity based, only causing him discomfort upon walking, is another symptom that suggests his pain is related to OA. He was diagnosed with arthritis 16 months ago, and reports tolerable, minimal pain broken up by similar episodes as his current situation where the pain comes on suddenly and is extremely severe. He noted that these episodes usually resolve on their own, and this story fits that of OA well. In the early stages of OA, the pain is episodic and subsides within a few days. As time progresses, however, the painful periods last longer, are more severe and tend to transition into a situation of continuous pain. The lack of joint redness, heat or swelling makes me think this is not inflammatory arthritis so a synovial tap would be contraindicated at this point. Being that his WBC count is within normal limits, and also because the joints do not show any signs of acute inflammation, I do not suspect this is a case of septic arthritis either.

With his history of gout in mind, it is important to consider an acute episode of gouty arthritis as a cause of his symptoms. After the initial presentation of gout
that is usually monoarticular involving the big toe, subsequent episodes can involve the tarsal, ankle and knee joints. The course can be similar to that given in his history of past episodes of 2 week severe pain that resolved on its own. A urine sample testing for uric acid levels and/or a serum specimen measuring uric acid levels would be indicated if gouty arthritis was suspected. Only about 40% of patients with acute gouty arthritis have elevated uric acid levels in the serum, however, so this would not be a definitive test. CRP or ESR levels could be obtained, but these are non-specific and would not reveal much information. The important fact that his joints were not, and are not, red, swollen or warm almost rules out the notion of gouty arthritis, where you would expect such manifestations. Again, a synovial draw could show you crystals if present, but would only be warranted if you strongly suspected gout to be the etiology of his pain.

One of the mainstays of treatment for OA is exercise, and he is already performing these with the assistance of his home health aide. He says that he does them but that “they do nothing” and his pain has not been diminished. As it seems to be the case that he is not on any pharmacologic agents to decrease his pain, I would plan to start him on acetaminophen, as it is the starting point of treatment for OA. If this provides inadequate pain control, I would move him to NSAIDS. If his pain did not subside on the medications, and because his pain is so severe that it is debilitating, I would look into intraarticular injections further down the road. Before moving forward, however, and because serum and urine samples are easy, quick and fairly cost effective, I would want to see uric acid levels to rule out gout as you would not want to miss this. His is currently on allopurinol to control his gouty episodes, but I would still want to check this.

Vertigo and dizziness can get complicated quickly. He initially described his symptoms upon standing from a sitting position and sitting from a supine position as dizziness. A symptom such as this immediately makes me think of a pre-syncopal episode that could be due to a low volume status (as possibly suggested by his low water intake and slightly dry mucous membranes), electrolyte abnormalities (of which he has none of significance) or an underlying cardiac abnormality (of which he does have a history). His paroxysmal A-fib could cause dizziness, but it would not be expected to be reproduced reliably upon each episode of standing/sitting upright. His mild aortic stenosis could contribute to the dizziness sensation described, especially since the problem occurs upon exertion. This is a possibility, but I think that the standing is more of an elevation of the body and not as much of an exertion in the sense of the word. Having a low volume status can create dizziness upon standing as the heart has to work extra hard to pump a low volume of blood to the brain, leaving the brain in a state of hypoperfusion. The same situation applies for his fascicular block as it could cause abnormal beating of the heart and irregular pumping of blood resulting in a low volume reaching the brain. His low volume of fluid intake concerns me and makes me think that this is a contributing cause. He was started on 0.9% normal
saline for hydration. With the assistance of nursing, I would want to get an orthostatic blood pressure on him as soon as possible and to follow this as he continues with hydration. True vertigo can be caused by a number of vestibular diseases, and further testing (such as cold caloric, nystagmus assessment) would be warranted. He is taking Meclizine 25 mg PO tid and states that this helps with the vertigo so he should continue to take this. I would like to follow his status after hydration therapy is complete.

3. Unsteady gait can be caused by a multitude of factors, but this problem can be logically linked to the previous two. He has no muscle pain, no recent trauma or damage to his legs, no tingling, numbness or loss of sensation in his feet and no dizziness or pain while lying supine. This information suggests that he is unsteady because it is difficult to walk with severe joint pain and even more so when dizziness/vertigo is piled on top of that. The plan is to treat the pain and dizziness/vertigo to increase the steadiness of his gait.

4. His worsening urinary incontinence, his unsteady gait and his fluctuation of emotions in the ED should bring to mind the triad of normal pressure hydrocephalus (NPH) known as: wet, wobbly and wacky, with the wet being the urinary incontinence. Suspecting this, a CT of his head was ordered and found possible periventricular venous lakes. In NPH one would expect to see enlargement of the lateral ventricles, a dilated aqueduct and stretching of white matter tracks. This patient was a poor historian, but did not seem to exhibit signs of true dementia, so I would rule out NPH. Urinary incontinence is common in elderly individuals as the muscles weaken. I would plan to order a CT of the abdomen to look for any masses that could be pressing on the nerves to the bladder, the bladder itself or other pelvic structures. Taking into account the fact that he has also had increased urgency of urination, I would plan to do a prostate exam to test for BPH and prostate cancer. As he has never had a colonoscopy and has incontinence of stool as well, I would order a colonoscopy and would like to test the strength of the anal sphincter. The combination of these plans would take steps in figuring out the incontinence.

5. The elevated BUN could be an indicator of renal insufficiency or it could be as simple as him eating a low protein diet. The creatinine being normal suggests an extra-renal cause of the elevated BUN, but with a history of renal insufficiency and a GFR of 48mL/min, renal causes seem more likely. If he has been lying in bed for 2 weeks, he probably has significant muscle breakdown from immobility and atrophy; protein breakdown releases urea, which would increase the BUN without increasing the creatinine. The low GFR could cause low levels of EPO, which would explain the low normal values of the hemoglobin and hematocrit. His renal function should continue to be monitored as his treatment progresses.
Reflection Defined

“Critical reflection is the process of analyzing, questioning and reframing an experience in order to make an assessment for purposes of learning and/or improve practice.”

Aronson L: Med Teacher 2011;33:200-5
Experiential Learning Cycle
(Andrea Corney at www.edbatista.com/2007/10/experiential.html)

ACT
Noticing an Event
Facts (What happened?)

APPLY
Action Plan
Future (What will I do differently?)

REFLECT
Reflective Observation
Feelings (What did I experience?)

CONCEPTUALIZE
Making Meaning—Analysis & Learning
Findings (Why did this happen? What did I learn?)

Why Do Reflection?

- Develops critical thinking skills and clinical reasoning
- Failure to reflect leads to “physician overconfidence” and diagnostic error
- Fosters professionalism
- Improved therapeutic relationship
- Necessary for effective use of feedback
Introduction

- Prior to our intervention, students were given a reflective writing assignment with no explanation of critical reflection.

- Primary Research Hypothesis:
  
  *A new curriculum enhancement was introduced during the third year of medical school that would facilitate the development of written critical reflection.*

Teaching Reflection
Teaching Reflection

- **90-Minute Reflection Curriculum**

  - Four minute video from the TV show *Scrubs*
  - Large group discussion of the key concepts and core components
  - Small group interactive exercise to practice
  - A faculty presenter shared a personal reflection.

---

Teaching Reflection

- Students were then asked to write a reflection paper based on an open ended prompt.

Please write a 1-2 page typed reflection paper regarding interactions you have had with patients. Ideas for the theme:

1. The impact a certain patient had on you or your impact on a patient
2. Some personal lesson learned
3. Some struggle a patient had to endure
Evaluating our Curriculum

Evaluation of the Curriculum

Research Design:

➢ Historic Group Comparison*
  - Current academic year June 2012 – June 2013
  - Past 3 academic years matched to the same month

Evaluation of the Curriculum

Research Design:

- **Written Reflection Papers**
  - Four faculty reviewers graded each reflection papers using the REFLECT rubric.
  - Faculty were blinded to the names of the students and the year written.
  - Discrepancies in grading were resolved by consensus.
  - Faculty piloted the process with 30 past reflection papers (not included in the final analysis).

- **Primary Outcome - “Critical Reflection” level 4 using the REFLECT rubric**


---

Evaluation of the Curriculum

**Fostering and Evaluating Reflective Capacity in Medical Education: Developing the REFLECT Rubric for Assessing Reflective Writing**

Hedy S. Wald, PhD, Jeffrey M. Borkan, MD, PhD, Julie Scott Taylor, MD, MSc, David Anthony, MD, MSc, and Shmuel P. Reis, MD, MHPE
### Evaluation of the Curriculum

**REFLECT Rubric**  

<table>
<thead>
<tr>
<th>Reflection Level</th>
<th>Non-Reflective 1</th>
<th>Thoughtful Action 2</th>
<th>Reflection 3</th>
<th>Critical Reflection 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Writing Spectrum</strong></td>
<td>Superficial descriptive writing approach (fact reporting, vague impressions)</td>
<td>Elaborated descriptive writing approach and impressions without reflection</td>
<td>Attempting to understand, question, or analyze the event</td>
<td>Exploration and critique of assumptions, values, beliefs, and/or biases and the consequences of action</td>
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<td><strong>Sense of Writer Presence</strong></td>
<td>Writer partially present</td>
<td>Writer partially present</td>
<td>Writer largely or fully present</td>
<td>Writer largely or fully present</td>
</tr>
<tr>
<td><strong>Description of Conflict, Disorienting Dilemma, Challenge or Issue of Concern</strong></td>
<td>No description</td>
<td>Absent or weak description</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td><strong>Attending to Emotions</strong></td>
<td>Little or no recognition or attention to</td>
<td>Recognition but no exploration or attention to</td>
<td>Recognition, exploration, and attention to</td>
<td>Recognition, exploration, attention to, and gain of emotional insight</td>
</tr>
<tr>
<td><strong>Analysis &amp; Meaning Making</strong></td>
<td>None</td>
<td>Little or unclear</td>
<td>Some</td>
<td>Comprehensive</td>
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Evaluation of the Curriculum

Research Design:

➢ Statistical Analysis:
  - Primary Outcome: non-parametric tests using Mann-Whitney U test
  - Inter-rater reliability: kappa statistic

➢ Statistical Significance:
  - Standard \( p \leq 0.05 \)

Evaluation of the Curriculum

Results: Descriptive: \( N = 310 \)
Evaluation of the Curriculum

**Results:** Primary Outcome – Level 4

![Graph showing number of papers at different levels]

**Results:** Inter-rater Reliability (weighted kappa statistic)

<table>
<thead>
<tr>
<th>10-week Junior Medical Student Rotation</th>
<th>Kappa Statistic*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A (June – August 2012)</td>
<td>0.33</td>
</tr>
<tr>
<td>Group B (August – November 2012)</td>
<td>0.37</td>
</tr>
<tr>
<td>Group C (November – January 2013)</td>
<td>0.36</td>
</tr>
<tr>
<td>Group D (January – April 2013)</td>
<td>0.27</td>
</tr>
<tr>
<td>Group E (April – June 2013)</td>
<td>0.38</td>
</tr>
</tbody>
</table>

Kappa statistic interpretation*

<table>
<thead>
<tr>
<th>Agreement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$K = 0$</td>
<td>&quot;poor&quot;</td>
</tr>
<tr>
<td>$= 0.20$</td>
<td>&quot;slight&quot;</td>
</tr>
<tr>
<td>$0.21 - 0.40$</td>
<td>&quot;fair&quot;</td>
</tr>
<tr>
<td>$0.41 - 0.60$</td>
<td>&quot;moderate&quot;</td>
</tr>
<tr>
<td>$0.61 - 0.80$</td>
<td>&quot;substantial&quot;</td>
</tr>
<tr>
<td>$0.80 - 1.0$</td>
<td>&quot;almost perfect&quot;</td>
</tr>
</tbody>
</table>

Evaluation of the Curriculum

Results: Effectiveness of blinding of “old” (O) versus “present” (P) written reflection papers

Overall Percentage Agreement = 59%
(Overall percentage agreement expected by chance = 50%
\( p > 0.05 \)

Kappa (\( K \)) statistic = 0.17

Discussion: Conclusion

- Our 90-minute educational intervention improved “critical reflection” (level 4 of the REFLECT rubric) by junior medical students
Evaluation of the Curriculum

Discussion: Strengths of the Study

- Blinding of faculty graders was successful
- Comparison group pre- and post-intervention
- Four independent faculty graders

Discussion: Limitations of the Study

- Not a true randomized trial
- Low inter-rater reliability among the 4 faculty graders. Possibly due to
  - Graders themselves
  - Interpretation of the REFLECT rubric
  - Limitations of the analytical approach

Results are strengthened by the final decision based on consensus.
Evaluation of the Curriculum

Discussion: Conclusion

- More students are able to reflect “deeper” than prior to the intervention
- May improve their professionalism, response to feedback and coping skills
- When replicated we believe our intervention could produce similar results

Discussion: Next Steps

- Improve inter-rater reliability
- Other methods to improve critical reflection
  - Feedback, integrated teaching throughout the 4 years of med school
- Correlations with other clinical outcomes
- Partnering with other institutions
Teaching Medical Students to Reflect “Deeper”

Acknowledgements

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Teaching Medical Students to Reflect “Deeper”

Introduction
While many schools have examined the impact of reflection in medical education, there is a paucity of research exploring the effect of encouragement of medical students to reflect in a structured manner. To facilitate the development of critical reflection, a new curriculum was introduced during the first year of medical school.

Methods
In June 2012, a 90-minute interactive learning session was introduced to all junior medical students enrolled in the Internal Medicine Clerkship at Loma Linda University. Key components included:

- Students were then asked to write two reflective papers during the 90-minute session. A previously developed and validated tool, the Reflective Learning Questionnaire (RLQ), was used to grade the written reflective papers on four levels.

Table 1: Reflective Learning Questionnaire (RLQ) (N=288)

<table>
<thead>
<tr>
<th>Level</th>
<th>1</th>
<th>2</th>
<th>3</th>
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Extraneous variables such as prior to the intervention were compared to the reflective papers written after the intervention. To minimize bias and blind the peer faculty grader, names and dates were removed from these reflective papers. Differences in grading were compared and resolved by consensus.

Results
The grades for the reflective papers prior to and after the introduction of the curriculum enhancement were compared to Table 1 and Figure 1. The paired Wilcoxon test was used to compare the medians of the two groups. A difference of 0.05 was considered significant.

Conclusions
In the initial analysis, our 90-minute educational intervention was found to be effective in improving the level of reflective writing in medical students. Further research is needed to understand the impact of our intervention on the development of critical thinking.

References

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<td>12</td>
<td>13</td>
<td>13</td>
<td>10</td>
</tr>
</tbody>
</table>

Figure 1: "Critical reflection" as a measure of med student performance

The four faculty were asked to judge whether each reflective paper was "high," "moderate," or "low" in terms of "critical reflection." The proportion agreement was calculated and p<0.05 was considered as statistically significant.
HEY DOC, PAY ATTENTION TO ME:
TEACHING PATIENT-CENTERED EMR USE

Wei Wei Lee MD MPH, Lolita Alkureishi MD, Jeanne Farnan MD MHPE, Vineet Arora MD MAPP
AIMW 2013
New Orleans, LA

The Cost of Technology

Young RK, JAMA 2012
The ‘iPatient’

On my first day as an attending physician in a new hospital, I found my house staff and students in the team room, a snug bunker filled with glowing monitors. Instead of sitting down to hear about the patients, I suggested we head out to see them. My team came willingly, though they probably felt that everything...
Troubling Behaviors

- Back to Patient
- Poor eye contact
- Long silences
- Screen not visible to patient
- Typing during sensitive discussion
- Computer guided questioning

Best Practices

EHRs in the Exam Room:
Tips on Patient-Centered Care
Aims

• Implement Patient-Centered EMR Curriculum
  • MS2 Students – Clinical Skills Course
  • Lecture and OSCE

• Evaluate Impact on Knowledge, Attitude & Skills
  • Improve knowledge, attitudes, skills
  • Rate topic as important to current & future practice

Lecture

• 1 hour lecture
• Reflection exercise
• Teaching Video: ‘What Not to Do’
  • Checklist: Barriers to patient-centered EMR use
• Background and Literature Review
• Why is this topic important?
Distracted Doctoring!

Lecture

- Best Practices
  - Key Skills and Behaviors
  - Pocket card: HUMAN LEVEL mnemonic
- Teaching Video 2: Ideal interaction
## Best Practices

### HUMAN
- Honor ‘Golden Minute’
- Use ‘Triangle of Trust’
- Maximize Patient Interaction
- Acquaint w/chart
- Nix screen

### LEVEL\(^1\)
- Let the patient look on
- Eye contact
- Value the Computer
- Explain what you’re doing
- Log Off

---

1. Mann WR, Slaboch K. The Permanente Journal 2004; 8 (4); 49-51

## OSCE

- Required for all MS2s (n=88)
  - w/in 1 wk of lecture
- Group OSCE
  - 1 preceptor, 4 students
    - 1 student interacts w/SP
    - 3 student observers
  - 15min encounter; 10min feedback
  - Videotaped
OSCE

• Setting: Primary Care Clinic
• Objectives:
  • Log in/navigate EMR
  • Review chart, address CC
  • Use EMR to *counsel* on obesity
Evaluation Strategies

- Overall Curriculum
  - Surveys: Pre-Lecture and Post-OSCE
- OSCE
  - Feedback from self, SP, preceptor, peers
  - Evaluation tools
    - e-CEX
    - SP evaluation tool

Results

- Sample: MS2 class (n=88)*
  - * Roughly 50% attend lectures
- Starting Cohort
  - Students who attended lecture
  - Pre-survey distributed to 45 students (39/45; 87%)
- Final Cohort
  - Students completed pre-lecture & post-OSCE surveys (33/39, 85%)
  - Paired analysis/ t test
- SP Evaluations: 1 SP evaluated 22 students
Self Reported Training, Knowledge & Skills (n=33)

- Training ($p < 0.001$)
- Knowledge ($p < 0.001$)
- Skills ($p < 0.001$)

Importance to Clinical Practice (n=33)

- At Current level of training ($p<0.001$)
- As Future provider ($p=0.04$)
Required Training (n=33)

- Education & training should be required for all students

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Lecture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-OSCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SP Evaluation (n=22)

Student’s Ability to use EMR to Enhance Patient-Provider Communication

- Excellent: 5%
- Good: 30%
- Average: 65%
Limitations

• Low participation rate, partly due to class attendance
  – Future work: Does OSCE performance differ based on class attendance?
• Not observing actual clinical practice
• Not all students ‘actively’ participated in OSCE
• ‘Socially desirable response bias’

Conclusions

• Patient-centered EMR curriculum is innovative, timely and addresses gap in medical education
• Students report topic is:
  – Important to clinical practice
  – Should be required
• Training has potential to enhance patient-provider communication
Next Steps

• Analyze videos to rate actual performance
  • Code videos for skills, using e-CEX
• Adapt for wider range of users
  • Residents, Attendings, Allied Health Professionals
• Understand Patient Perspective
• Effect of inpatient mobile technology use

Acknowledgements

• CPC: Kris Slawinski, Susan Abelson, Deni Mayer
• Funding
  • Picker Institute-Gold Foundation GME Challenge Grant
  • Academy of Distinguished Medical Educators
  • Bucksbaum Institute
• Participating Students
Thank You!

Questions? For toolkit email: 
patient.centered.tech@gmail.com
Increase in Domain by # Students
(Pre-Lecture to Post-OSCE; n=33)

<table>
<thead>
<tr>
<th>Domain Level</th>
<th>Knowledge</th>
<th>Skill</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>no change</td>
<td>4</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>inc 1 pt</td>
<td>10</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>inc 2+pts</td>
<td>19</td>
<td>18</td>
<td>6</td>
</tr>
</tbody>
</table>

Change in Pre-Lecture and Post-OSCE scores

Practice and Feedback

Importance of:
• Practice with SP
• Attending Observation
• Real Patient Feedback
• Not at all (1) to Extremely (5)
• p-values
  • <0.009  SP
  • <0.001  Attending
  • <0.003  Patient
Timing of Training

<table>
<thead>
<tr>
<th>When to teach Patient - Centered EMR curriculum</th>
<th>Pre-Lecture (n=39)</th>
<th>Post-Lecture (n=45)</th>
<th>Post-OSCE (n=80)</th>
</tr>
</thead>
<tbody>
<tr>
<td>During MS2 year</td>
<td>62%</td>
<td>78%</td>
<td>76%</td>
</tr>
<tr>
<td>During MS3 year</td>
<td>79%</td>
<td>78%</td>
<td>71%</td>
</tr>
<tr>
<td>During Intern year</td>
<td>44%</td>
<td>49%</td>
<td>49%</td>
</tr>
</tbody>
</table>

Patient-Centered EMR Curriculum

Kolb’s Experiential Learning Cycle

- **Concrete Experience**
  
  MS3 practice patient-centered technology use with patients in clinic and inpatient services & CPX

- **Active Experimentation**
  
  MS2 OSCE on patient-centered technology use

- **Reflective Observation**
  
  MS2: reflective writing on personal experience with technology and medical care

- **Abstract Conceptualization**
  
  MS2: lecture on patient-centered technology use
Medical Students’ Perceptions of the Impact of the 2011 Resident Duty Hour Regulations on Student Education During Internal Medicine Rotations

Jennifer R. Kogan MD
Perelman School of Medicine
University of Pennsylvania

Karen E. Hauer MD
University of California, San Francisco

Collaborators

Jennifer Lapin PhD

<table>
<thead>
<tr>
<th>Eva Aagaard MD</th>
<th>Michael Elnicki MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meenakshy K. Aiyer MD</td>
<td>Sara B. Fazio MD</td>
</tr>
<tr>
<td>Danielle Cayea MD</td>
<td>Valerie J Lang MD</td>
</tr>
<tr>
<td>Adam Cifu MD</td>
<td>Matthew Mintz MD</td>
</tr>
<tr>
<td>Gretchen Diemer MD</td>
<td>L. James Nixon MD</td>
</tr>
<tr>
<td>Steven Durning MD PhD</td>
<td>Doug Paauw MD</td>
</tr>
</tbody>
</table>
Background

- Medical student clinical training is predominantly inpatient

- 2003: ACGME Duty Hour Regulations (DHR) implemented

- Studies examined impact of DHR on education
  - Clerkship directors’ perceptions negative
  - Students’ perceptions mixed

Background

- 2011: ACGME DHR further restricted hours

- Many residency programs restructured rotations

- Program directors believed the student learning environment would be negatively affected

- Actual influence of 2011 DHR on medical student educational experiences unknown
Purpose

- Understand impact of 2011 DHR on students’ experiences during inpatient IM clerkship and sub-I
  - Teaching/supervision
  - Feedback/assessment
  - Patient care experiences
  - Wellbeing

- Hypothesis: Negative influence in all domains except wellbeing

Methods

- Multi-institution (n=14)
  - Geographically diverse, public/private
  - Hadn’t implemented 2011 DHR prior to July 2011

- Quasi-experimental pre-post study design
  - Before July 2011 (pre-DHR)
  - After July 2011 (post-DHR)
### Subjects

<table>
<thead>
<tr>
<th></th>
<th>Pre-DHR Sample</th>
<th>Post –DHR Sample (Post July 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clerkship</td>
<td>March-June 2011</td>
<td>March-June 2012</td>
</tr>
<tr>
<td>Sub-I</td>
<td>March-June 2011</td>
<td>March-June 2012</td>
</tr>
</tbody>
</table>

- IRB approval/exemption obtained from each site
Surveys

- Clerkship (49 items); Sub-I (50 items)
- Demographics
- Attitude items rated on 5-point Likert scale
  - (1=strongly disagree, 3=neutral, 5=strongly agree)
- Percentage of patients admitted as holdovers
  - 0-25%, 26-50%, 51-75%, 76-100%

Survey Implementation

- Students notified during classes/via email
- Participation voluntary
- Survey invitation with email link sent last week of student’s rotation
- Non-respondents received 4 reminders
Data Analysis

- 5-point scale collapsed: Disagree, Neutral, Agree
- Calculated % students who agreed with each item
  - Examined change % pre to post DHR
  - Z-test for proportions used to determine significance
- Chi square analysis to look at change in % holdover patients

Results: Response Rate

<table>
<thead>
<tr>
<th></th>
<th>Pre-DHR Sample</th>
<th>Post –DHR Sample (Post July 2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clerkship</td>
<td>72% (602/839)</td>
<td>56% (501/895)</td>
</tr>
<tr>
<td>Sub-I</td>
<td>60% (136/228)</td>
<td>50% (189/377)</td>
</tr>
</tbody>
</table>

No significant differences in demographics
### Teaching/Supervision

<table>
<thead>
<tr>
<th></th>
<th>My attending(s). . .</th>
<th>My resident(s). . .</th>
<th>My intern(s). . .</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>had enough time to teach me</td>
<td>had enough time to teach me</td>
<td>had enough time to teach me</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>79</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>were able to observe me at the bedside with patients</td>
<td>were able to observe me at the bedside with patients</td>
<td>were able to observe me at the bedside with patients</td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>provided effective teaching</td>
<td>provided effective teaching</td>
<td>provided effective teaching</td>
</tr>
<tr>
<td></td>
<td>85</td>
<td>86</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>were committed to teaching me</td>
<td>were committed to teaching me</td>
<td>were committed to teaching me</td>
</tr>
<tr>
<td></td>
<td>82</td>
<td>82</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>appropriately supervised me</td>
<td>appropriately supervised me</td>
<td>appropriately supervised me</td>
</tr>
<tr>
<td></td>
<td>63</td>
<td>83</td>
<td>78</td>
</tr>
</tbody>
</table>

### Teaching/Supervision

<table>
<thead>
<tr>
<th></th>
<th>My attending(s). . .</th>
<th>My resident(s). . .</th>
<th>My intern(s). . .</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>had enough time to teach me</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>78</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>were able to observe me at the bedside with patients</td>
<td>were able to observe me at the bedside with patients</td>
<td>were able to observe me at the bedside with patients</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>provided effective teaching</td>
<td>provided effective teaching</td>
<td>provided effective teaching</td>
</tr>
<tr>
<td></td>
<td>88</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>were committed to teaching me</td>
<td>were committed to teaching me</td>
<td>were committed to teaching me</td>
</tr>
<tr>
<td></td>
<td>81</td>
<td>78</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>appropriately supervised me</td>
<td>appropriately supervised me</td>
<td>appropriately supervised me</td>
</tr>
<tr>
<td></td>
<td>71</td>
<td>88</td>
<td>88</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>Clerkship</strong></th>
<th><strong>Sub-Interns</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Pre-DHR</strong> 2011 %</td>
<td><strong>Post-DHR</strong> 2012 %</td>
</tr>
<tr>
<td></td>
<td><strong>Post-DHR</strong> 2011 %</td>
<td><strong>Post-DHR</strong> 2012 %</td>
</tr>
<tr>
<td>had enough time to teach me</td>
<td>75 76</td>
<td>78 79</td>
</tr>
<tr>
<td>were able to observe me at the bedside with patients</td>
<td>40 51</td>
<td>69 71</td>
</tr>
<tr>
<td>provided effective teaching</td>
<td>88 89</td>
<td>85 88</td>
</tr>
<tr>
<td>were committed to teaching me</td>
<td>81 86</td>
<td>78 88</td>
</tr>
<tr>
<td>appropriately supervised me</td>
<td>71 71</td>
<td>88 91</td>
</tr>
</tbody>
</table>
## Feedback/Assessment

<table>
<thead>
<tr>
<th>My attending(s) . . .</th>
<th>Clerkship</th>
<th>Pre-DHR 2011 (%)</th>
<th>Post-DHR 2012 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>gave me useful, timely feedback</td>
<td></td>
<td>74</td>
<td>81</td>
</tr>
<tr>
<td>had sufficient exposure to evaluate my performance</td>
<td></td>
<td>67</td>
<td>67</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>My resident(s) . . .</th>
<th>Clerkship</th>
<th>Pre-DHR 2011 (%)</th>
<th>Post-DHR 2012 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>gave me useful, timely feedback</td>
<td></td>
<td>81</td>
<td>83</td>
</tr>
<tr>
<td>had sufficient exposure to evaluate my performance</td>
<td></td>
<td>86</td>
<td>89</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>My intern(s) . . .</th>
<th>Clerkship</th>
<th>Pre-DHR 2011 (%)</th>
<th>Post-DHR 2012 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>gave me useful, timely feedback</td>
<td></td>
<td>71</td>
<td>80</td>
</tr>
<tr>
<td>had sufficient exposure to evaluate my performance</td>
<td></td>
<td>82</td>
<td>88</td>
</tr>
</tbody>
</table>

No change in sub-interns perceptions (data not shown)

## Patient Care

<table>
<thead>
<tr>
<th></th>
<th>Clerkship</th>
<th>Sub-internship</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-DHR 2011 %</td>
<td>Post-DHR 2011 %</td>
</tr>
<tr>
<td>I am satisfied with the patient care I was able to deliver</td>
<td>85</td>
<td>88</td>
</tr>
<tr>
<td>I was able to follow a patient through their hospitalization</td>
<td>94</td>
<td>97</td>
</tr>
<tr>
<td>The care of patients on this service was fragmented (i.e. multiple patient handoffs)</td>
<td>27</td>
<td>34</td>
</tr>
</tbody>
</table>
Holdovers

<table>
<thead>
<tr>
<th>Holdover Patients</th>
<th>Clerkship*</th>
<th>Sub-internship †</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25%</td>
<td>50.4</td>
<td>36.1</td>
</tr>
<tr>
<td>26-50%</td>
<td>27.3</td>
<td>33.6</td>
</tr>
<tr>
<td>51-75%</td>
<td>15.9</td>
<td>20.9</td>
</tr>
<tr>
<td>76-100%</td>
<td>6.4</td>
<td>9.5</td>
</tr>
</tbody>
</table>

* p=0.001 for difference
† p=.012 for difference

Well-Being

- No significant change in wellbeing items
  - Supported by the team
  - Meaningful relationships with patients
  - Adequate time away from hospital
  - Well rested
  - Good life-work balance
Conclusions

- IM clerkship students and sub-Is perceived few adverse consequences of the 2011 DHR

- In some areas, educational experiences slightly improved

- Students perceived increases in fragmentation of patient care and percentage of holdover patients admitted

Limitations

- Did not measure actual changes in experience
- Response bias
- Sub-interns could have taken the pre-DHR clerkship survey
- Generalizability of findings
  - Sampled small proportion of medical schools
  - Not generalizable to schools with significant changes in students’ schedules
Implications

- Identify strategies to maintain students’ ability to see entire course of patient’s illness
- Optimize organizational structures and consider how UME fits into GME
- Explore the impact of fragmented care on
  - Student-patient relationship
  - Developing professionalism
  - Ability to learn clinical medicine/acquire core clinical skills

Questions

Thank you
Creation of a Virtual Team Room:
Using Secure Social Media
in Medical Education

Martin D. Muntz, MD
Associate Professor
General Internal Medicine

Disclosures

• MCW Learning Resources Fund

• No other disclosures
Background

- Barriers to clinical teaching
  - Duty hour restrictions
  - Competing faculty responsibilities
  - Distance between multiple clinical sites

- Increasing impact on quantity and quality of clerkship education

- Social media’s ability to augment traditional curriculum $^{1,4,5}$

Aims

1. To increase student exposure to CDIM training problems and core competencies

2. To overcome barriers to teaching/learning using social media

3. To foster student-initiated discussion regarding actual clinical experiences
Methods

• IRB approval
  – Expedited review
  – Pilot June-December 2012
  – Protocol amended and approved December 2012
  – Study January-June 2013

• Learning theory\(^2,3\)
  – Social Constructivism
  – Experiential Learning Theory

Methods

• Secure social media platform
  – Yammer\(^*\)

• Student initiated discussions regarding:
  – Actual Clinical Experiences
  – “Pearls” from rounds or conferences
  – Student presentations made to team

• Faculty reinforcement of key concepts
• Broadened student clinical exposures
Why Yammer®?

• A “secure” social media platform
  – Requires mcw.edu domain e-mail and invitation to participate
  – Allows for “de-identified” patient information
• “Feels like” Facebook
• Features that enhance learning
  – Library of attached files
  – Tagging capabilities for searching

Methods

• Secure social media platform
  – Yammer®
• Student initiated discussions regarding:
  – Actual Clinical Experiences
  – “Pearls” from rounds or conferences
  – Student presentations made to team
• Faculty reinforcement of key concepts
• Broadened student clinical exposures
We Practice What We Teach

**Broadening Exposure**

- Your Patients
- Your Team’s Patients
- All Patients

**Methods**

- **Clerkship requirement**
  - One-month rotation at primary teaching hospital
  - Minimum of eight substantive posts

- **Faculty facilitation**
  - M3 Clerkship Director
  - M4 Ambulatory and Sub-I Directors
  - Vice Chair for Education
**Methods**

- **Student survey**
  - Student satisfaction
  - Perceived educational value

- **Discussion “tags”**
  - CDIM training problems and core competencies
  - Additional tags added in vivo based on emerging student-initiated themes

**Student-Initiated Post**

January Virtual Team Room

I have a patient with cerebral palsy who was recently admitted for sepsis and suspected pneumonia. What I found interesting was what happened during his most recent hospitalization around January 1st. All the time he received two days worth of IV vancomycin for suspected pneumonia. On the third day, his creatinine doubled to 1.4, then 3.7 the following day, then 5x by the next 5 days. 

We Practice What We Teach
Faculty Reinforcement

We Practice What We Teach

Example of Files

That’s exactly what it is and what we did. So the night I saw here, we did a transbronchial that showed BOS and I would have drawn much more of bloody fluid. Actually showed the fluid had high LDH and protein. He had another transbronchial performed a week earlier that showed clear yellow fluid and cytology revealed no malignant cells. We still have some issues and it’s traumatic tap but now he is hemorrhaging into his plural spaces, malignancy, is offensive in these type of cases. June 14 at 1:42pm. Reply. Share. More.

Marty: Murat: How regularly was he going to do this?


It seems that pleural fluid cytology is an insensitive and fairly sensitive minimally test that we can do. Sensitivity is ~70% for malignations or bronchogenic carcinoma. And, it is a feeing if reference standard diagnostic procedure for bronchogenic carcinoma per chest guidelines.

Chest guidelines. Uploaded to June 2013 Virtual Team. Share + Files.

Legal at 2013. Uploaded to June 2013 Virtual Team. Share + Files.

We Practice What We Teach
We Practice What We Teach

Student/Faculty Discussion, files

We Practice What We Teach

Files Library

We Practice What We Teach
Heart Failure “Tag”

We Practice What We Teach

Results

January-June 2013

- 1513 total posts
  - 1029 (68%) by students
  - 484 (32%) by faculty

- Average of 10.3 posts/student

We Practice What We Teach
Results

CDIM Training Problems (N=33)

We Practice What We Teach

Training Problems Discussed

<table>
<thead>
<tr>
<th>Abdominal Pain</th>
<th>Fever</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute MI</td>
<td>Fluid, Electrolyte, &amp; Acid-Base Disorders</td>
</tr>
<tr>
<td>Acute Renal Failure/Chronic Kidney Disease</td>
<td>GI Bleed</td>
</tr>
<tr>
<td>Altered Mental Status</td>
<td>Healthy Patient: Prevention &amp; Screening</td>
</tr>
<tr>
<td>Anemia</td>
<td>Heart Failure</td>
</tr>
<tr>
<td>Back Pain</td>
<td>HIV</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Common Cancers</td>
<td>Rheumatologic Problems</td>
</tr>
<tr>
<td>COPD</td>
<td>Liver Disease</td>
</tr>
<tr>
<td>Cough</td>
<td>Nosocomial Infections</td>
</tr>
<tr>
<td>Depression</td>
<td>Obesity</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>Pneumonia</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>Rash</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>Substance Abuse</td>
</tr>
<tr>
<td>Dysuria</td>
<td>Venous Thromboembolism</td>
</tr>
</tbody>
</table>
Training Problems Not Discussed

Knee Pain

Upper Respiratory Complaints

Smoking Cessation

Results

CDIM Core Competencies

- Discussed (N=14)
- Not Discussed (N=3)
Clinical Core Competencies

- Diagnostic Decision Making
  - Case Presentation
  - History Taking & Physical Examination
- Communication and Relationships with Patients and Colleagues
- Interpretation of Clinical Information
- Therapeutic Decision Making
  - Bioethics of Care
  - Self-Directed Learning
- Continuous Improvement in Systems of Medical Practice

We Practice What We Teach

Results

- Student-initiated topics
  - High-Value Care (10.7% of all posts)
  - End-of-Life Care (3.8% of all posts)

- Topics not otherwise addressed in classroom sessions

We Practice What We Teach
We Practice What We Teach

High-Value Care

One thing I have noticed about smart doctors is the massive amount of information that gets an echo or repeats itself. Most of these phrases are very similar whether you're a practicing oncologist, internist, or whatever. Sometimes all you need to do is check the literature. But I've found that the amount of repetition is alarming. January 8 at 7:42pm from iPad · Unlike · Reply · Share · More · Liked by you.

We've been getting BMPs on patients who had an EKG and it's showing nothing. It's supposed to be more sensitive for heart failure, but the results are not consistent. The update is BMP is now as a diagnostic tool. Is there any data on the treatment of patients with heart failure? January 10 at 12:20pm from iPad · Unlike · Reply · Share · More · Liked by you.

Mark Monte: BMPs, one of my favorite (best friends?). It's a useful test. Agree that it seems far more useful to be used as a diagnostic tool for heart failure in the setting of an echocardiogram. Some people use it to assess the severity of heart failure in a particular patient, and there is some evidence for this, but the evidence is weak - we never use this way. Clinicians in general - and making sure your patients' CHF needs are treated.

And if a patient with known CHF presents with a 12 L lying in the setting of running out of meds for 2 weeks - I promise you don't need to BMP to make the diagnosis! January 10 at 9:30pm · Unlike · Reply · Share · More · Liked by.

I've also asked about the utility of BMP. As my resident explained, it doesn't change management much when the rest of the history and physical exam. But I would hope if you're trying to sort out the causes of dyspnea in a patient who has multiple comorbidities that could be the origin, such as someone with COPD and CHF. January 8 at 9:00pm · Unlike · Reply · Share · More · Liked by you.

High-Value Care

Michael Thomas: There is some evidence a decrease BMP is helpful to predict the future condition of a patient, although I will say I've never done it. Also, I find that when co-dosing CO2 in patients and repeat GFR or when they're prior to surgery that we aim other medicine. January 7 at 12:20pm · Like · Reply · Share · More

Mark Monte: hemoglobin. Rarely indicated in the inpatient setting.

Can anyone recall some situations where they've seen hemoglobin levels indicated as the treatment? Or maybe inappropriate? January 13 at 12:00pm from Phone · Like · Reply · Share · More

in reply to Marty Monte: I had a 53 year old female that initially presented to the hospital in November for a subdural hematoma that was complicated by antral abscess and chronic sutured abdomen. We used hemoglobin as part of the workup to try and determine if the patient had a琳瑯 heart disease, whether it could be associated with aortic regurgitation, or if there was another issue in the area. It was just one of the many labs we did and seems appropriate based on the duration of the symptoms and the amount of fluid. For screening in inpatient I'm not sure if hemoglobin would be appropriate, there was no current presentation like in my patient. January 13 at 10:50pm · Like · Reply · Share · More

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My team had a patient who had been here for weeks with a stomach issues and several other issues. We had a major drop in her Hgb. We didn't find a source and a hematologist was negative as we looked for occult blood which was negative. It turned out she had a soft tissue issue based in her right axilla. January 14 at 8:57pm from iPad · Like · Reply · Share · More · Liked by you.

One patient who had a significant amount of blood in the abdomen that got an echo or repeat test. Most of these phrases are very similar whether you're a practicing oncologist, internist, or whatever. Sometimes all you need to do is check the literature. But I've found that the amount of repetition is alarming. January 8 at 7:42pm from iPad · Unlike · Reply · Share · More · Liked by you.

We've been getting BMPs on patients who had an EKG and it's showing nothing. It's supposed to be more sensitive for heart failure, but the results are not consistent. The update is BMP is now as a diagnostic tool. Is there any data on the treatment of patients with heart failure? January 10 at 12:20pm from iPad · Unlike · Reply · Share · More · Liked by you.

Mark Monte: BMPs, one of my favorite (best friends?). It's a useful test. Agree that it seems far more useful to be used as a diagnostic tool for heart failure in the setting of an echocardiogram. Some people use it to assess the severity of heart failure in a particular patient, and there is some evidence for this, but the evidence is weak - we never use this way. Clinicians in general - and making sure your patients' CHF needs are treated.

And if a patient with known CHF presents with a 12 L lying in the setting of running out of meds for 2 weeks - I promise you don't need to BMP to make the diagnosis! January 10 at 9:30pm · Unlike · Reply · Share · More · Liked by.

I've also asked about the utility of BMP. As my resident explained, it doesn't change management much when the rest of the history and physical exam. But I would hope if you're trying to sort out the causes of dyspnea in a patient who has multiple comorbidities that could be the origin, such as someone with COPD and CHF. January 8 at 9:00pm · Unlike · Reply · Share · More · Liked by you.

Michael Thomas: There is some evidence a decrease BMP is helpful to predict the future condition of a patient, although I will say I've never done it. Also, I find that when co-dosing CO2 in patients and repeat GFR or when they're prior to surgery that we aim other medicine. January 7 at 12:20pm · Like · Reply · Share · More

Mark Monte: hemoglobin. Rarely indicated in the inpatient setting.

Can anyone recall some situations where they've seen hemoglobin levels indicated as the treatment? Or maybe inappropriate? January 13 at 12:00pm from Phone · Like · Reply · Share · More

in reply to Marty Monte: I had a 53 year old female that initially presented to the hospital in November for a subdural hematoma that was complicated by antral abscess and chronic sutured abdomen. We used hemoglobin as part of the workup to try and determine if the patient had a琳瑯 heart disease, whether it could be associated with aortic regurgitation, or if there was another issue in the area. It was just one of the many labs we did and seems appropriate based on the duration of the symptoms and the amount of fluid. For screening in inpatient I'm not sure if hemoglobin would be appropriate, there was no current presentation like in my patient. January 13 at 10:50pm · Like · Reply · Share · More

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Results

• 85 of 93 students (91%) consented to participate
• 59 participants (69.4%) completed the survey
• 44 of 59 students (74.5%) rated educational value as “Good” or “Excellent”
• 45.7% of student expressed interest in using Yammer® in other clerkships
  – 22% were “Undecided”
• Primary barriers to participation
  – Lack of time
  – Internet access restrictions

Student Feedback – “The good...”

• It “made me aware of what other students were experiencing and made me reflect more on my own experiences in the hospital.”

• “Easy way to communicate with other students information you are learning. It is helpful to talk about medicine with other students– learning through interacting rather than just reading on your own.”

• “Yammer gave us a broader exposure to interesting cases that would not have been possible otherwise. I also liked that the discussions about other topics such as cost containment that are not discussed much during medical school.”

• “I picked up information that I wouldn't have learned otherwise, and it encouraged me to read more literature on certain topics.”
Student Feedback – “The bad...”

- “I felt like I was forced to post on Yammer, and some of the posts of other members were too lengthy. Often I felt like much of the posts on Yammer were pretty complex and I won't remember them unless I am following a patient with similar findings. I generally don't like social media anyways.”

- “I don't particularly like social media. I have a Facebook, but I rarely go on it or post. I felt a little uncomfortable posting on the internet.”

- “I felt like it was just something else I have to do. I don't have time to study, read up on my patients, read up on my teams patients and then also read Yammer. We just don't have that much time.”

- “It didn't feel appropriate to use in front of attendings/residents.”

Student Feedback – “The constructive”

- “Two of the cases I posted on Yammer turned out to be exactly like questions on the shelf exam. One of the questions I would have missed for sure if it wasn't for posting the case. I was very skeptical about the value of Yammer but it turned out to exceed my expectations. It forced me to spend more time learning about all the patients on my team.”

- “Give access to students when they are at different sites so they can still participate in discussions and read about interesting cases.”

- “Have a daily feed about something relevant for boards and wards (e.g practice questions with answers the next day).”

- “Consider opening up Yammer for non-mandatory participation between students on other clerkships.”
Conclusion

• Successful engagement of students and core faculty in asynchronous discussion
• Helpful in overcoming increasingly restrictive barriers to clinical teaching
• May be especially useful for
  – Developing teaching strategies for multiple and distant clinical sites
  – Addressing emerging themes less conducive to classroom-based sessions

Conclusion

• Barriers to broad implementation
  – Some students disliked it
    • Too busy
    • Discomfort in sharing patient information
    • Discomfort with social media
  – Social media platform “fit” and cost
  – Universal access to mobile technology
  – Faculty and staff time
    • Timely facilitation of clinical cases
    • Supervision of post appropriateness
Conclusion

• Continuing data analysis on tool’s utility in medical education
• Use of Yammer® expanded for 2013-14 academic year
  – All four inpatient sites
  – Two months of participation
  – Shifted some classroom time to patient care
  – Considering other curricular opportunities

Acknowledgements

• Virtual Team Room Project Team
  – Kerrie L. Quirk
  – Michael O. Frank, MD
  – Jaren G. Thomas, MD
  – Ankur Segon, MD
  – Keith Murphy
• MCW Learning Resources Grant
• CDIM
References


5. Rowe, M. “The use of assisted performance within an online social network to develop reflective reasoning in undergraduate physiotherapy students.” *Medical Teacher* 2012 34(7): e469-e475.

We Practice What We Teach

Questions?

Thank you!
**PHI - Acceptable Information**

*****FROEDTERT ONLY*****

- Hospital Unit and Room #
- Diagnosis
- Age
- Pertinent medical, surgical, family, and social history
- Pertinent physical examination findings
- Diagnostic test results
- Treatment plan
- EKG/x-ray – de-identify
- Pictures – patients must consent

**PHI - Unacceptable Information**

- Name
- Address
- Date of birth
- Phone or fax number
- E-mail or web addresses
- Social Security Number
- Medical record or account numbers
- Beneficiary information
- Certificate or license numbers
- Automobile-related numbers
- Medical device identifiers
- Biometric identifiers (voice, finger prints)
- Full face or comparable images
- Any other unique identifying number, characteristic, code
HIPAA Compliance

• **Students are forbidden from copying, printing, saving, and/or sharing information outside of the Yammer network for any reason.**

• Failure to adhere to this policy may constitute a HIPAA violation and subject the individual(s) to civil and criminal penalties.

Survey

1. What type of team did you work on?
   – Housestaff, Hospitalist, or Subspecialist

2. What device did you use?
   – iPod Touch, iPad/tablet, iPhone/smart phone, hospital computer, personal computer

3. Compared to other social media platforms you have used, the ease of use/navigability of Yammer is:
   – Much worse, worse, about the same, better, much better, not applicable
Survey

4. The educational value of using Yammer on the clerkship is:
   – Very poor, poor, neutral, good, excellent

5. If given the option, would you continue to use Yammer on your clerkships?
   – Yes, No

6. Please lists the strengths/positives.

7. Please list the weaknesses/negatives.

8. Please provide any additional comments or suggestions.
“You can observe a lot by watching”

An easy-fit faculty development model for direct clinical observation of medical trainees

Danit Arad, MD
Manuela Calvo, MD
Amanda Raff, MD
Sheira Schlair, MD
Dennis Chang, MD
Mentor: Maria T. Santos, MD

By the end of this session, participants will be able to:

- List the clinical and interpersonal skills assessed through direct observation
- Identify essential components for a successful direct observation
- Identify strategies for giving effective feedback on the observed clinical encounters
Agenda

• Why? (bothering with direct observation)
• How? (and…When, where, and for how long)
• Practice observation
• The good old feedback
• Practice feedback
• Wrap up- take home points

Vocabulary Check

DCO= Direct Clinical Observation
OCE= Observed Clinical Encounter

Mini CEX= Mini Clinical Evaluation eXercise-direct observation of “snapshot” of trainee-patient interaction

OSCE= Observed Structured Clinical Examination (standardized patients)
Why do we need to do it?

Liaison Committee on Medical Education (LCME)

ED-27:
A medical education program must include ongoing assessment activities that ensure that medical students have acquired and can demonstrate on direct observation the core clinical skills, behaviors, and attitudes that have been specified in the program's educational objectives.
Accreditation Council for Graduate Medical Education (ACGME)

• The core faculty must spend significant time in the evaluation of residents including the direct observation of residents with patients.

• Patient care assessment must involve direct observation of resident-patient encounters.

What you heard is what you got?
Take home point #1:
Observation is essential to assess

Communication Skills

Professionalism

Clinical competence
Observation is a great way to ensure that clinical competence exist

Agenda

• Why? (bothering with direct observation)
• How? (and…When, where, and for how long)
• Practice (makes perfect)
• The good old feedback
• More practice
• Wrap up- take home points
Essential Components for a Successful Observation

- Prepare yourself
  - Familiarize yourself with the observation tool

- Prepare the patient

- Prepare the medical trainee
Prepare yourself

- Designate time for observation and feedback.
- Avoid interruptions
- Close the door

Govaerts et al. 2005
Prepare yourself

- Reserve Judgment

Prepare the patient

- Choose an appropriate patient
- Do not ask the trainee to find a patient
- Ask for patient’s permission ahead of time
Prepare the learner

• Clarify learners goals

Prepare the learner

• Clarify how much time the trainee has to complete each part of the clinical encounter
Prepare the learner

- Let the learner get familiar with the assessment tool
- Emphasize this a **formative** not a summative encounter

Malhotra et al. 2008*

Agenda

- Why? (bothering with direct observation)
- How? (and…When, where, and for how long)
- **Practice observation**
- The good old feedback
- Practice Feedback
- Wrap up- take home points
Take home point #2: Take notes

Agenda

• Why? (bothering with direct observation)
• How? (and... When, where, and for how long)
• Practice (makes perfect)
• The good old feedback
• More practice
• Wrap up- take home points
Feedback Framework

- **Opening**
  Self assessment

- **Dialogue**
  Areas for reinforcement
  Areas for improvement

- **Plan**
  Specific and achievable

- **Closure**

Effective Feedback

- Immediate (timely)
- Specific (behavioral)
- Focused and Balanced
- Non-judgmental
- Collaborative and related to trainee's personal goals
- Constructive
- Sensitive to trainee emotion and developmental stage
Effective Feedback

- Timely

Effectively Feedback

- Specific (behavioral)
  Concrete on the action

  “I saw you lean forward when the patient was upset.”

  “When the patient said that she was stressed, I did not hear you follow up.”
Effective Feedback

**Balanced:**
- Areas for reinforcement
- Areas for improvement
- Not too much but not too little

**Focus**

Don’t dump everything at once…

Archer 2010
Effective Feedback

• Non judgmental

Roman B et al. 2007

Effective Feedback

• Related to trainee personal goals

Kluger et al. 1996
Effective Feedback

Constructive/ Beneficial for the receiver:

• Emphasize behaviors the student can change/improve

• Avoid summative statements

Van Merriënboer et al. 2010

Effective Feedback

• Considerate of the developmental state of the learner
Effective Feedback

• Sensitive to trainees emotions

Sargeant et al. 2005

Effective Feedback

Show the student how to **recognize, receive, solicit** and **respond** to feedback!
Agenda

- Why? (bothering with direct observation)
- How? (and…When, where, and for how long)
- Practice observation
- The good old feedback
- Practice Feedback
- Wrap up- take home points

Take home point #3:
Make feedback truly beneficial to the learner

GREAT JOB!

Is not enough….
Agenda

• Why? (bothering with direct observation)
• How? (and… When, where, and for how long)
• Practice (makes perfect)
• The good old feedback
• More practice
• Wrap up- take home points

Take home points

1) Direct Observation is essential to assess communication skills, professionalism and clinical competences

2) Support your feedback with specific examples, take notes!

3) Make feedback truly beneficial to the learner
Acknowledgements

Eric Barna, MD, MPH. Internal Medicine, MSSM.

Lawrence Dyche, MSW. PCSM, AECOM

Lisa Lapman, MD (student: Dana). Family Medicine, AECOM

Diane McKee, MD (preceptor: Dr. North). Family Medicine, AECOM


Maria Teresa Santos, MD (script /director).Family Medicine, AECOM

William Southern, MD, MS. Hospital Medicine, AECOM

References


Should We Standardize the Medicine Subinternship?
Shaghayegh Abdollahi, MD
Kendall Novoa-Takara, MD
Tina Younger, MD
Educational Objectives

- Discuss the benefits of standardization of the IM subinternship
- Become familiar with available tools to assist standardization in subinternship
- Collaborate with others and formulate tools to incorporate standardization into current curriculum

Third Year Internal Medicine Clerkship at Our School

- Lectures
- CEX
- Case log
- H and P reviewed by attending
- SIMPLE
- Shelf exam
SIMPLE: Simulated Internal Medicine Patient Learning Experience

Internal Medicine Clinical Training at Our Site

Third Year Clerkship
- Lectures
- CEX
- Case log
- H and P reviewed by attending
- SIMPLE
- Shelf exam

Fourth Year Subinternship
- OJT
“The Evolving Role of the Acting Internship in the Medical School Curriculum” American Journal of Medicine

- What level of internal medicine competence do we expect of a graduating medical student?
- Is it a higher level than we expect from a third year student finishing the core clerkship in medicine?
- How are we teaching and evaluating clinical competence in the fourth year?


The recommended educational goals were:

- Knowledge related goals for acting internships (AI) should specifically include therapy and clinical pharmacology
- Refine physical examination
- Develop communication skills (breaking bad news, uncertain prognosis, end of life discussion)
- Develop/refining communication with the patient and family
- Develop managerial skills (flow charts to follow pt, organizing work day, sign outs)

Recommendations

- AI program should have a dedicated coordinator
- AI learning objectives should be clearly defined and communicated
- Conference time set aside specifically for AI
- AI should assume intern duties and completely replace the role of intern for the patient
- AI should participate in cross coverage
- Methods for evaluating and grading AI should address their specific learning goals and objectives and should be equally as rigorous as the methods to evaluate 3rd year clerkship students


---

Are programs following recommendations?

<table>
<thead>
<tr>
<th></th>
<th>Sidlow 2001</th>
<th>Aiyer 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explicit curriculum</td>
<td>31%</td>
<td>37%</td>
</tr>
<tr>
<td>Specific conference for AI</td>
<td>36%</td>
<td></td>
</tr>
<tr>
<td>Intern replacement</td>
<td>44%</td>
<td></td>
</tr>
<tr>
<td>Site Director</td>
<td>75%</td>
<td></td>
</tr>
</tbody>
</table>

How are subinterns/AI evaluated

<table>
<thead>
<tr>
<th></th>
<th>Sidlow 2001</th>
<th>Aiyer 2008</th>
<th>CDIM 2011-2012 survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending physician</td>
<td>100%</td>
<td>Summative form 56%</td>
<td>Clinical rating 65%</td>
</tr>
<tr>
<td>Resident eval</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case write up</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observed exam/CEX</td>
<td>20%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Written exam</td>
<td>13%</td>
<td>6%</td>
<td>10%</td>
</tr>
<tr>
<td>Oral exam</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Educational Structure

- 31% students are provided with an explicit written curriculum
- 36% of programs provide students with dedicated didactic sessions
- Curriculum topics: Cross coverage/patient management, physical diagnosis, evidence based medicine, how to perform procedures, end of life decisions/medical ethics, communicating bad news, stress management.
2002 Curriculum Needs Assessment

Rating Scale 1=totally unnecessary to 5=absolutely essential

<table>
<thead>
<tr>
<th>Important skills (4 or above)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Presentation</td>
<td>4.9</td>
</tr>
<tr>
<td>Longitudinal tracking of patient data</td>
<td>4.7</td>
</tr>
<tr>
<td>Coordinating care with other health care workers</td>
<td>4.6</td>
</tr>
<tr>
<td>Prioritizing scut/sign out lists</td>
<td>4.6</td>
</tr>
<tr>
<td>Identifying adverse drug reactions/interactions</td>
<td>4.2</td>
</tr>
<tr>
<td>Ethics of informed consent</td>
<td>4.0</td>
</tr>
<tr>
<td>Using electronic databases</td>
<td>4.0</td>
</tr>
</tbody>
</table>


2002 Curriculum Needs Assessment: Clinical Management Scenarios score>4

- Respiratory distress
- Chest Pain
- Altered Mental Status
- Gastrointestinal Bleeding
- Fever in the hospitalized patient
- Acute pulmonary edema
- Hypo/hyperkalemia
- Abdominal Pain
- Severe hypertension
- Shock
- Inpatient glycemic control
- Acute renal failure
- Arrhythmias
- Anaphylaxis
- Alcohol withdrawal
- Seizure

What Competencies Do CDIM Members Think Are Most Important?

Highest priority (rating of 4 and 5)
Rating Scale 1=lowest priority to 5=highest priority

<table>
<thead>
<tr>
<th>Competencies</th>
<th>4 and 5 rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognize when to seek additional guidance</td>
<td>98%</td>
</tr>
<tr>
<td>Recognize medical situations that require urgent care</td>
<td>97%</td>
</tr>
<tr>
<td>Respond to feedback with change in behavior</td>
<td>96%</td>
</tr>
<tr>
<td>Demonstrate sufficient knowledge to treat inpatient conditions</td>
<td>93%</td>
</tr>
<tr>
<td>Develop a prioritized differential diagnosis</td>
<td>93%</td>
</tr>
</tbody>
</table>

CDIM 2011-2012 Annual Survey  Preliminary Report

What Training is Needed in the Fourth Year of Medical School? Views of Residency Program Directors 2009

Competencies students should learn as fourth year students
• Advanced clinical reasoning 60%
• Near Intern Level Independence 53%
• Self reflection and improvement 33%
• Effective use of evidence based medicine 30%
• Capacity to care for more patients 27%
• Responsibility and reliability 27%
• Ownership of patients 27%
• Communication with patients 27%

Areas where Interns Struggle

- Self reflection and improvement 40%
- Organization 33%
- Application of knowledge 33%
- Responsibility and reliability 30%


Introduction to CDIM Website
Connect. Learn. Collaborate.

CCIM Internal Medicine Subinternship Curriculum

CCIM Internal Medicine Subinternship Curriculum is connected to the excellence of the fourth year subinternship or clinical clerkship of students and subinternship directors. These courses are a component of the training at each institution. Please be sure to notify CCIM for any updates.

Curriculum

CCIM Internal Medicine Subinternship Curriculum

Training Problems

The training problems are based on the learning objectives for the CCIM Internal Medicine Subinternship and are the most important component, excluding the training of problems. The student’s version of the problems is designed to be used by the faculty’s version. The training problems may be accessed by the faculty’s version.

- Common Symptoms
- Teaching Problems
- Training Problems: Student’s Guide
- Training Problems: Faculty’s Guide
- Training Problems: Resident’s Guide

Performance Criteria for Fourth-Year Medical Students

Performance Criteria for Fourth-Year Medical Students

- Resident’s Guide
- Faculty’s Guide
- Student’s Guide
Student Training Problem Example

Directions:
Begin by reading the references. Use the information from the background article (and other sources as appropriate) to answer the questions following each case. The questions are "open-ended" and therefore there are no right or wrong answers.

Section 1
Case Scenario 1:
Scenario: You are asked by your senior resident to evaluate a patient in the emergency room. Patient is a 72-year-old male with history of hypertension, diabetes, and congestive heart failure who presents to the hospital with complaints of crampy diffuse abdominal pain and hematochezia. His medications include hydrochlorothiazide, digoxin, endapar, metoprolol and gliclazide. His past medical history is significant for benign prostatic hypertrophy, diabetic neuropathy and osteoarthritis.

A) What additional history would you like from the patient?

B) What symptoms of abdominal pain are suggestive of surgical or emergent conditions?

C) What are some of the causes of diffuse abdominal pain?

Example of Teacher Version

Section 1
Case Scenario 1:
Scenario: You are asked by your senior resident to evaluate a patient in the emergency room. Patient is a 72-year-old male with history of hypertension, diabetes, and congestive heart failure who presents to the hospital with complaints of crampy diffuse abdominal pain and hematochezia. His medications include hydrochlorothiazide, digoxin, endapar, metoprolol and gliclazide. His past medical history is significant for benign prostatic hypertrophy, diabetic neuropathy and osteoarthritis.

A) What additional history would you like from the patient?

Answer:
1) History that will contribute significantly to the ability to formulate a differential diagnosis
   a) Time of onset of pain and its intensity
   b) Location of pain and character of pain – for acute appendicitis, pain in the right lower quadrant has a high positive predictive value
   c) Radiation of the pain to other areas
   d) Presence of nausea, vomiting or anorexia
   e) Temporal progression of the location or nature of pain
   f) Changes in bowel habits – new onset of constipation has a high predictive value for the bowel obstruction
   g) Exacerbating and relieving factors
2) History that might uncover non-abdominal causes of acute abdominal pain
   a) Drug taken (legal and illicit drug)
   b) Toxic ingestions
   c) Other non-abdominal causes of abdominal pain such as myocardial ischemia and
Sample of Performance Criteria

<table>
<thead>
<tr>
<th>Criteria for Performance of Medical Students during Fourth Year Subinternship</th>
<th>Unacceptable</th>
<th>Marginal Pass</th>
<th>Average</th>
<th>Exceptional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Knowledge</td>
<td>Must not know on the core learning problems, possessing gaps in knowledge on common presentations or diseases (Knowledge at acceptable level for Med 3 student)</td>
<td>Only basic knowledge on the core learning problems, including at least one pathophysiology, a diagnostic study, and causal treatment gaps in knowledge on common presentations or theories. (Knowledge at acceptable level for Med 3 student, but below typical for Med 4)</td>
<td>More in-depth knowledge of core learning problems. Understands pathophysiology, spectrum of disease as a whole, differential of diagnosis, decision-making, major treatment options, and major complications of disease. Demonstrates understanding of the infectious, communicable, and mental illness.</td>
<td>Comprehensive knowledge of core learning problems. Understands pathophysiology, spectrum of disease as a whole, differential of diagnosis, decision-making, major treatment options, and major complications of disease.</td>
</tr>
<tr>
<td>Patient Care</td>
<td>May demonstrate skills in reliably gathering data and in identifying relevant problems, but relies on others to actually interpret data.</td>
<td>Able to reliably gather data, interpret data, and make decisions.</td>
<td>Able to reliably gather data, interpret data, and make decisions accurately and independently.</td>
<td>Able to reliably gather data, interpret data, and make decisions accurately and independently and have the ability to accurately interpret data.</td>
</tr>
</tbody>
</table>

What my site is doing for the subinternship

- Subintern specific orientation
- Subintern specific didactic curriculum
- Simulation sessions with other fourth year sites
- Evaluation passport—encouraging subinterns to get specific feedback
Simulation Exercise

Banner Simulation Scenario

<table>
<thead>
<tr>
<th>Scenario Title</th>
<th>Code</th>
<th>Entry</th>
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Submitter: Tina Younger  Phone: 602-342-4568
Email: Tina_Younger@email.com

Goal: Common tasks in the management of Acute GI Bleeding

Objectives:
1. Learner will describe the initial setup and management of a patient with Acute GI Bleeding
2. Learner will describe the differential diagnosis of a patient with Acute GI Bleeding
3. Learner will describe the treatment/management of a patient with acute GI bleeding

Overall Concept: Nightshift on a surgical ward. The nurse is doing rounds. The patient is a 65-year-old male with a history of chronic liver disease, alcohol abuse, and a recent episode of melena.

Background/History:
- A 65-year-old male with a history of chronic liver disease, alcohol abuse, and a recent episode of melena.
- Encephalopathy: stage 3
- Kidney function: normal
- Liver function: Child-Pugh C
- Hemoglobin: 10.5 g/dL
- Platelets: 120,000
- INR: 1.2

Medications: Loperamide 4 mg tid, Midazolam 5 mg/hr, Omeprazole 40 mg, Pantoprazole 40 mg, Prucalopride 0.25 mg, and Metoclopramide 10 mg

Allergies: Non-specific

Patient Information:

Objectives: Complete physical assessment, including mental status and treatment of hemodynamic status

Physical Exam:
- BP: 104/80
- HR: 80
- Respiration: 18
- Temperature: 98.6
- Muscle strength: normal
- Sensation: normal

Signs and Symptoms:
- Melena
- Hematemesis
-Jaundice
- Encephalopathy: stage 3

Expected Interventions:
- Oxygen and pulse ox
- 3 bags of IV
- 500 cc/hour
- Monitor vital signs
- Monitor for bleeding

Evaluation Passport
Instructions

Evaluation sessions should be scheduled only by three staff or three peers (e.g., in your next team meeting).

Attend staff meetings and participate in scheduled evaluations.

Every Friday is Feedback Friday: House staff and attending should evaluate a few minutes each Friday to complete evaluations in the passion.

High-charted evaluations will be evaluated by an attending and three peers. Chart an overall score with your evaluation session in the morning. Chart should be signed by your attending and the Manager. Sign up and return it to you with your evaluation session for next morning.

Local information and the patients you are treating: What are their diagnoses, and what do you want them to learn?

Read, read, read. There are great resources available online and in the library. If you have any additional questions or ideas to share, feel free to share them.

All evaluation charts that are not signed by the team members will not count towards your total. The team needs to reach 100% of evaluation charts signed by the end of the month.

All evaluations are completed evaluation reports to be completed by the attending, and the attending will complete the evaluation reports for the next day.

Check-off all the items completed as you are completing the evaluation.

GOALS FOR THE MONTH

My goals for the month are:
1.
2.
3.

What I will do to accomplish these goals:
1.
2.
3.

MIDMONTH FEEDBACK

Strengths

Suggestions for improvement

END OF THE MONTH FEEDBACK

Strengths

Suggestions for improvement

REFLECTIONS

What did I learn this month? Did I meet my goals?

What are my new goals and how am I going to accomplish them?
1.
2.
3.
Look around your site for existing tools you might use

Created by Cheryl O'Malley
What is CDIM Currently Doing about the Subinternship?

- Joint CDIM-APDIM Medical School to Residency Transition Committee
- Two working groups: Subinternship and the Fourth Year
- New recommendations for subinternship
- Examining the current state of the fourth year and recommendations for the fourth year

Breakout Session Questions

- What are you currently doing at your institution for the medicine subinternship? Do you have a curriculum? Have you tried to bring standardization into your rotation? What has worked and what hasn't?
- What topics should be introduced, updated or deleted from the sub I curriculum? Are there topics that should be taught during the fourth year?
- How can CDIM help us teach the curriculum? What tools would you like to see created by CDIM?
An Interdisciplinary Ambulatory Faculty Development Conference

Viju John, M.D.
Jah-Won Koo, M.D.
Lou Rohr, M.D.

Objectives

- Understand the value of an interdepartmental faculty development program.
- Explain the process to develop an interdepartmental faculty development program.
- Formulate a plan to develop an interdepartmental faculty development program.
Outline

- Background
- Developing Our Program
- Small Group Breakout Session
- Evaluation and Feedback
- Create Your Own Program

Background

Lou Rohr, M.D.
Faculty Development

- Any planned activity to improve an individual’s knowledge and skills in areas considered essential to the performance of a faculty member
  - Teaching Skills
  - Administrative Skills
  - Research Skills
  - Clinical Skills
  - Sheets and Schwenk, Teaching and Learning Medicine 1990

Interdisciplinary Faculty Development

- Reviews of FD suggest striving for collaboration across medical disciplines and professions
  - AMEE guide #36, Medical Teacher 2008

- Review of FD programs on teaching effectiveness found only 40% welcomed more than one clinical discipline
  - 10% designed for basic scientists and clinicians
  - BEME guide #8, Medical Teacher 2006
Faculty Development at an Institutional Level

- Ensuring proper orientation of all faculty
- Promoting advancement along educational continuum
  - Skilled Teacher
  - Scholarly Teacher
  - Educational Scholar
  - Educational leader
- Wilkerson and Irby; Academic Medicine 1998
- Promoting academic vitality and preventing burn-out
- Promoting needed changes to entire institution

Other Advantages of Interdisciplinary FD

- Medical curricula increasingly addressing issues larger than individual disciplines such as patient safety, ethics, community responsibility
- As undergraduate medical education becoming more competency-based, need more longitudinal approach to teaching and evaluation
- Pooling of resources and talent allowing for more sustainable programs and a body of local education leaders
- Focus on teaching teamwork and collaboration in medical education and practice
Ambulatory Faculty Development

- More medical practice and education being done in ambulatory setting
- Teachers are more often non-faculty volunteers
- Growth of preclinical and longitudinal experiences
- Unique challenges to teaching in ambulatory environment
  - Faster pace of encounters
  - More complex patients
  - Less direct observation of learner

Ambulatory Faculty Development

- Offsite faculty less likely to be involved in ongoing FD
- More logistical challenges in setting up FD
Developing our Program

Viju John, M.D.

Planning Committee

- Initially Internal Medicine, Pediatrics and Family Medicine
- Office of Medical Student Program (Associate Dean and administrative assistant), OB-gyne and Neurology representatives followed.
- Primary Care and Student Continuity Experience representatives joined last year.
- Psychiatry clerkship director joined the planning committee this year.
Planning Meetings

- Meet about once a month - more frequent meetings closer to the program
- Led by the CME director / Program Chair - rotates
- Decide on the date, topic, objectives, speakers, format, publicity and budget for the conference.
- CME Director fills out the CME application.

Logistics

- Date chosen at least 6 months in advance based on national conferences, school breaks, weather expectations, room availability, etc.
- Half day morning program - Wednesday or Friday mornings
Topics

2009: Immunizations, Evaluation and Feedback
2010: The Millennial Generation
2011: Evidence Based Practice
2012: The Hidden Curriculum
2013: Teaching in the Patient’s Presence
2014: Evaluation

Speakers

• Two to three speakers per year
• Multiple Rush speakers with two local speakers and one national speaker
Program Budget
2013

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>CME application fee</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>Food for event and prep sessions</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>Amazon gift certificates (6 @ $125/ea) for preceptors</td>
<td>$750.00</td>
</tr>
<tr>
<td>Plaques for preceptors (6 @ $75/ea)</td>
<td>$450.00</td>
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<tr>
<td>Mugs (120 mugs @ $2.75/ea)</td>
<td>$330.00</td>
</tr>
<tr>
<td>Parking Stickers (50 @ $8.25 ea.)</td>
<td>$412.50</td>
</tr>
<tr>
<td>Printing/Laminating Cost for &quot;Tool&quot; (new expense this year)</td>
<td>$500.00</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td><strong>$5,442.50</strong></td>
</tr>
</tbody>
</table>

Goals and Objectives:
The Hidden Curriculum

- **Goal:**
  - Preceptors teach by role modeling professional behavior, observing students and giving feedback. Participants will have the opportunity to understand the hidden curriculum and how to role model and promote professionalism.

- **Objectives:** After attending the program, I will
  1. Address the hidden curriculum in my interactions with medical students.
  2. Identify areas of medical students’ shortcomings in professional behavior.
  3. Identify my shortcomings in role modeling professional behavior, and make changes.
  4. Discuss how to model exceptional professional behavior in the ambulatory setting.
  5. Give feedback to students regarding professional and unprofessional behavior.
Program 2012

7:30 Introduction
Thomas A. Deutsch, MD - Provost, Rush University; Dean, Rush Medical College

7:40 The Hidden Curriculum
Larry Goodman, MD - CEO, Rush University Medical Center, President, Rush University
Keith Boyd, MD - Senior Associate Dean for Education, Rush Medical College

8:25 How to Role-model Ideal Behavior in a Not-so-ideal World
Paul Kent, MD - Associate Director Physicianship Program

9:10 Break

9:25 Small Groups

10:50 Lessons Learned
Paul Kent, MD and Keith Boyd, MD

11:35 Recognition of Outstanding Ambulatory Preceptors, 2011-2012

11:55 Concluding Remarks
Viju John, MD - Associate Clerkship Director, Internal Medicine

Noon Lunch / Networking Opportunities

Small Groups

- Attending Facilitators from multiple departments
- Student Cofacilitators - Gold Humanism students
Small group sessions
Viju John, M.D., Jah-Won Koo, M.D. and Lou Rohr, M.D.

Invitees/ Attendees
- Internists
- Family physicians
- Pediatricians
- Obstetrician-gynecologists
- Neurology
- Emergency medicine
- Surgeons
- Dermatologists
- Clerkship coordinators
- Education specialists
Program Evaluation

- Attendance: 70-118 (14-23 Internal Medicine)
- CME evaluations: Meeting objectives consistently rated above 4/5 and multiple positive comments
- Six month follow-up survey (EBM): The majority of respondents agreed or strongly agreed that they were more often formulating clinical questions (23/33), doing literature searches (24/33), analyzing the literature (19/33) and integrating evidence based medicine (25/33) while precepting students in the office.

Benefits of Program

- Faculty Development - LCME requirement and important for our faculty and students
- Networking
- Recruitment of New Preceptors
- Interdepartmental Collaboration/ Sharing Resources
- Scholarship/ Promotion
- Offshoots - RAT Curriculum
Challenges/ Shortcomings

- Time (Planners and participants)
- Funding/ Resources (Classroom availability)
- Keeping it “fresh”
- Attracting more community faculty
- Targeting those with needs
- Measuring impact on faculty skills

Creating an Interdisciplinary Faculty Development Conference

JAH-WON KOO, MD
Kern’s Six Step Model for Curriculum Development

Curriculum Development for Medical Education. DE Kern, PA Thomas, MT Hughes, Johns Hopkins University Press, 2009.

Problem Identification and General Needs Assessment

- Health Care Problem
- Who does it affect?
- Current Approach
- Ideal Approach
Problem Identification and General Needs Assessment

- Health Care Problem
  - Improving ambulatory teaching of medical students
- Who does it affect?
  - Medical educators, students, patients, society...
- Current Approach
  - Preceptors use experience to inform teaching style and content
- Ideal Approach
  - Effective faculty development of ambulatory preceptors

Targeted Needs Assessment

- Learners
- Learning Environment
  - List stakeholders
- Gather data
Targeted Needs Assessment

- Learners (our preceptors)
  - What is the difference between the ideal and actual practices?
- Learning Environment Considerations (of the preceptors)
  - Preceptor specific: prior training, existing knowledge, and perceived role
  - Consider the many stakeholders (students, preceptors, CDs/PDs, deans, institutions, accrediting bodies, etc.)
- Data gathering
  - Strategic planning sessions, informal polling, surveys, literature, student comments

Goals and Objectives

- Broad Goals
- Specific Measurable Objectives
Goals and Objectives

- Broad Goals: purpose
  - Improve ambulatory teaching related to... (TIPP, hidden curriculum, EBP, Millennials, Evaluation/Feedback)
  - Brainstorm, speaker first, national meetings, hot topic lists, informal/formal surveys
- Specific Measurable Objectives: can be for individuals, aggregate, or program
  - Who
  - Will do
  - How much (how well)
  - Of what
  - By when?

Goals and Objectives: Domains

- Cognitive
  - Basic knowledge to clinical decision making
- Affective
  - Attitudes and perceived role
- Psychomotor
  - Clinical skills (i.e. physical examination)
  - Communication
  - Professionalism
Educational Strategies

- Content
  - Aligned to your objectives
- Method
  - Small groups
  - Didactic (targeted to audience, theater in the round)
  - Skits/Role play
  - Audio/Visual
  - Panel (Gold Humanism Society)
Implementation

- Obtaining Political Support
- Securing Resources
- Addressing Barriers
- Introducing the Curriculum
- Administering the Curriculum

Implementation

- Obtaining Support and Securing Resources
  - Accrediting bodies, allies, internal/external support
  - Enthusiastic planning committee / CME director / Administrative FTE
  - Speakers
  - Logistics: rooms, food, CME application fee, handouts/gifts, parking, advertising
Implementation

- Addressing Barriers
  - Financial: dispersing cost amongst departments
  - Time: FTE
  - Attendance: Broad and early advertisement, surveying for ideal time, avoiding national conferences

- Rolling out the Curriculum
  - Piloted and now an expected yearly event

Evaluation and Feedback

- Close the loop
- Individual Learners
- Program
Evaluation and Feedback

- Individual Learners
  - Pre- and post-surveys (self-reporting)
  - Conceivably in student evaluations

- Program
  - Data collection
    - Pre- and post-surveys (aggregate)
    - Evaluation and feedback
    - Informal polling/observation
  - Curriculum Maintenance and Evolution

Now Let’s Try to Plan Your Own CME!

- Choose an institution and problem
- Go through the six step process
- Use the two sided worksheet
Acknowledgements

- Sharon Sholiton, M.D. Pediatrics Core Clerkship Director
- Maria Brown, D. O. Family Medicine, Primary Care Clerkship Associate Clerkship Director
- Keith Boyd, M.D. Senior Associate Dean Office of Medical Student Programs
- Madhu (Mona) Soni M.D. Neurology Core Clerkship Director
- Cynthia Waickus, M.D. Family Medicine, Student Continuity Experience Director
- Joseph Maurice, M.D. Obstetrics and Gynecology Associate Clerkship Director
- Ria Majeske, M.S. Administrative Assistant, Office of Medical Student Programs

Thank You for coming!

Questions?

Please e-mail Viju John at viju_t_john@rush.edu if you have any questions or comments. Please let us know if you do implement an interdepartmental faculty development program.