Should We Standardize the Medicine Subinternship?

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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>
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</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>
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</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></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
Primer to the Internal Medicine Subinternship

Developed by the CDIM Subinternship Task Force, the Primer aims to help students prepare for the internal medicine subinternship and provide helpful information to prepare students for their internship year. The Primer addresses subjects such as:

- Consultations
- Tips for managing cross-cover
- Tips for managing on call
- Delivering bad news
- Delivering triumphant news
- Writing transfer notes
- Dealing with patients, counseling, and autonomy
- Tips for work-life balance
- Documenting procedures

CDIM encourages wide distribution and reproduction of the Primer. An Adobe Acrobat version and a Microsoft Word version are available for sharing to individual subinternships.

Download Primer (PDF)
Download Primer (Word)

CDIM Subinternship Curriculum and Training Problems

The CDIM Subinternship Task Force created curriculum resources for teaching during the internal medicine subinternship/residency internship.

The training problems are based on the learning objectives for the CDIM Subinternship Curriculum and common inpatient scenarios, including cross-coverage situations. The student’s version contains the cases and questions while the teacher’s version contains answers to the questions based on each case. Only CDIM members can access the teacher’s version.

View Curriculum and Training Problems
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 I

Case Scenario I:

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, metoprolol, and gliotecir. 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 I

Case Scenario I:

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, metoprolol, and gliotecir. 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 acuteness
   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 drugs)
   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>
</tr>
</thead>
<tbody>
<tr>
<td>Unattainable</td>
</tr>
<tr>
<td>Medical Knowledge</td>
</tr>
<tr>
<td>Parent/Case</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

- **Scenario Title**: GI
- **Submitter**: Tina Younger
- **Phone**: 462-144-4565
- **Email Address**: Tina.Younger@bryce.org

**Goal**: Common transfusion and management of Acute GI Bleeding

**Objectives**:
1. **Objective 1**: Describe the initial workup and management of a patient with Acute GI Bleeding
2. **Objective 2**: Describe the differential diagnosis of a patient with Acute GI Bleeding
3. **Objective 3**: Describe the transfusion requirements and management of a patient with a complicating shock

**General Concerns**
- **Protocol level**: Advanced level for abdomen
- **Setting**: Hispanic

**Equipment**
- Lab supplies included, also stocked with vitamin and physiological supplies

**IV**
- **Normal saline (NS)**, **PhD, 1000 ml bag**, set flush at 100 ml/hr

**Background/History**
- A 34-year-old male who was brought in by police due to history of psychiatric disorders and was found unconscious on the floor of his apartment.
- **Past Medical History**: 
  - **Hypertension**: 140/90 mmHg, elevated blood test, CAG (up stent)
  - **Diabetes**: Controlled with insulin and monitors
  - **Liver**: Transaminase levels 350 mg/dL, Maintained at 25 mg/L, HCV (up stent)

**Allergies**: None

**Family Information**

**Objective**: Complete physical assessment, including mental status and measurement of vital signs

**Phys 1**
- **Patient Information**: Age: 34 years
  - **BP**: 140/90 mmHg
  - **Pulse**: 120 beats/minute
  - **Respiration**: 20 breaths/minute
  - **Temperature**: 37.2°C
  - **Medical History**: Transaminase levels 350 mg/dL, Maintained at 25 mg/L
  - **Past Medical History**: Hypertension, controlled with insulin and monitors

**Significant Events**: 
- **Patient coughing**: 150 cc of dark red blood

**Expected Interventions**:
- **Emergency and resuscitation**: 
  1. **Oxygen and pulse oximeter**
  2. **1 large bore IV**
  3. **500 ml Intravenous fluid bolus**
  4. **Prepare for a code if needed**

**Evaluation Passport**
H&P & QI Evaluation Form

Resident: [Name]
Attending: [Name]
Date: [Date]

**Readability (scale 1-5)**

- **History and Present Illness (HPI)**
  - Difficulty in following the logic and flow of information:
  - Immediately awkward in its organization:
  - Inability to follow the logic and flow of information:
  - Includes large amounts of unnecessary information:
  - Includes moderate amount of unnecessary information:
  - Includes some amount of unnecessary information:
  - Includes minimal amount of unnecessary information:
  - Is difficult to follow the logic and flow of information:
  - Is immediately awkward in its organization:
  - Is awkward to follow the logic and flow of information:
  - Includes large amounts of unnecessary information:
  - Includes moderate amount of unnecessary information:
  - Includes some amount of unnecessary information:
  - Includes minimal amount of unnecessary information:

**Assessment and Plan (AP)**

- Mark 1 in each section if no information is included:
- Includes large amounts of unnecessary information:
- Includes moderate amount of unnecessary information:
- Includes small amount of unnecessary information:
- Includes minimal amount of unnecessary information:
- Provides critical information:
- Provides few important details:
- Provides almost all the required information:
- Provides all the required information:
- Provides almost all the required information:
- Provides all the required information:
- Provides no suggestions for improvement:
- Provides suggestions for improvement:

**Overall Readability**

- Very difficult to follow:
- Difficult to follow:
- Fairly difficult to follow:
- Moderately difficult to follow:
- Reasonably well-organized:
- Very well-organized:
- Provides minimal amount of unnecessary information:
- Provides some amount of unnecessary information:
- Provides all the required information:
- Provides almost all the required information:
- Provides all the required information:

**Strengths**

- [List strengths]

**Suggestions for Improvement**

- [List suggestions for improvement]

**Total Number COMPLETE**

Instructions: For most variables, "COMPLETE" is defined as >75% compliance with the listed requirement. For any of the areas, if they are unable to obtain at the time, mark "COMPLETE" as a plan of how it will be obtained.

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Direct Observation Card

**Date of Encounters:** [Date]

**History**

- [List patient demographics]
- [List history of present illness]
- [List previous illnesses]

**Physical Exam**

- [List physical exam findings]
- [List abnormalities found]

**Strengths**

- [List strengths]

**Suggestions for Improvement**

- [List suggestions for improvement]
Look around your site for existing tools you might use
ADULT HYPOGLYCEMIA MANAGEMENT

- Test patient glucose level per finger stick as per physician order or if symptomatic of hypoglycemia.
- Discontinue intravenous insulin in the presence of hypoglycemia.

TREATMENT PROTOCOLS FOR CONSCIOUS PATIENT ABLE TO SWALLOW

1. Initiate treatment according to glucose level:
   - **Glucose level of 20-70 mg/dL**
     - Give 15 grams of carbohydrates e.g., glucose tablets, jelly beans, or 1 oz of lean meat/cheese.
     - Notify physician to assess patient every 15 minutes.
   - **Glucose level of 10-20 mg/dL**
     - Give 2 oz of 40% dextrose gel.
     - Notify physician to assess patient every 15 minutes.
   - **Glucose level below 10 mg/dL**
     - Give 4 oz of 40% dextrose gel.
     - Notify physician to assess patient every 15 minutes.

2. If patient is unable to take oral fluids:
   - Administer 0.5 mg of glucagon subcutaneously or intramuscularly.
   - Notify physician to assess patient every 15 minutes.

TREATMENT PROTOCOLS FOR UNCONSCIOUS/CONSCIOUS PATIENTS ON IV

1. **Glucose level of 20-70 mg/dL**
   - Increase insulin by 1 unit per hour.
   - Notify physician to assess patient every 15 minutes.
2. **Glucose level of 10-20 mg/dL**
   - Increase insulin by 1 unit per hour.
   - Notify physician to assess patient every 15 minutes.
3. **Glucose level below 10 mg/dL**
   - Increase insulin by 1 unit per hour.
   - Notify physician to assess patient every 15 minutes.

Additional Instructions:

- Monitor blood pressure, heart rate, and respiratory rate every 15 minutes.
- Reassess patient every 15 minutes.
- Notify physician if patient remains unconscious or if condition does not improve.
- Administer 0.5 mg of glucagon subcutaneously or intramuscularly if patient is unable to take oral fluids.
- Notify physician to assess patient every 15 minutes.

*Note: This protocol is a general guideline and may vary based on individual patient needs.*
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?