Teaching the MD-to-MD Consult
Including Using the ACR/AC

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Professor of Radiology
What is a Consult?

• Communication to solve a specific problem
• Requires different skill-set from primary provider
• Comes at unpredictable time

Elements of a Consult

- Observable Skills
- Non-observable Skills


Observable skills in consult

• Find reason for the consult
• Who requested consult
• How urgent is it
• Discover pertinent information
• Communicate properly
• Produce a report
Non-observable skills in consult

• Mutual respect and cooperation

• Clarify roles of the referring doc and the consultant in patient care

• Continuous medical education without condescension
Our Goals for students

• Learn Radiology Consultation skills & roles
  – As referring
  – As radiologist

• Learn to use ACR Appropriateness Criteria
How to teach consultation w ACR/AC?

1. Classroom Teaching

2. Reading Room Teaching
1. Classroom teaching ACR/AC

• Day 1 Orientation to General Radiology Elective
• Med-U CORE Case Flipped Classroom Workshops throughout elective
Radiology Every Doctor Should Know

• Ordering appropriate imaging studies
• ACR Appropriateness Criteria
• Professional communication
• Understand key concepts & modalities in diagnostic imaging
• Integrate imaging into clinical evaluations
• Learn about imaging safety
• Gain basic imaging interpretation skills
Radiology Every Doctor Should Know

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Getting buy-in
Skills Expected by >90% of Residency Program Directors

• Recognize common abnormal findings on CXR
• Systematic approach to viewing CXR
• Communicate relevant clinical history when ordering a radiologic study
• Choose most appropriate radiologic study for workup of common clinical situations
• Basic knowledge of limitations of radiologic studies
• Recognize common abnormal findings on AXR
• Systematic approach to viewing AXR

EPA 3: Recommend and interpret common diagnostic and screening tests (Lieberman/Lypson)

1. Description of the activity
   This EPA describes the essential ability of the Day 1 resident to select and interpret common diagnostic and screening tests using evidence-based and cost-effective principles as one approaches a patient in any setting.

   The essential functions of this activity include:
   - Recommend first-line, cost-effective diagnostic evaluation for a patient with an acute or chronic common disorder or as part of routine health maintenance.
   - Provide a rationale for the decision to order the test.
   - Incorporate cost awareness and principles of cost-effectiveness and pretest/posttest probability in developing diagnostic plans.
   - Interpret the results of basic diagnostic studies (both lab and imaging); know common lab values (e.g., electrolytes).
   - Understand the implications and urgency of an abnormal result and seek assistance for interpretation as needed.

2. Judicious Mapping to Domains of Competence
   - Patient Care
   - Knowledge for Practice
   - Practice-Based Learning and Improvement
   - Interpersonal & Communication Skills
   - Professionalism
   - Systems-Based Practice
   - Interprofessional Collaboration
   - Personal & Professional Development

3. Competencies within each domain critical to entrustment decisions
   - PC 4: Interpret laboratory data, imaging studies, and other tests required for the area of practice
   - SPB 3: Incorporate considerations of cost awareness and risk-benefit analysis

4. Basis for formal Entrustment Decision

5. Curriculum

<table>
<thead>
<tr>
<th>Pre-Entrustable Behaviors</th>
<th>Entrustable Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC 4: Interpret laboratory data, imaging studies, and other tests required for the area of practice</td>
<td>Inconsistently interprets basic diagnostic tests accurately. Does not understand the concepts of pre-test probability and test-performance characteristics. (IM, PSYCH)</td>
</tr>
<tr>
<td>SPB 3: Incorporate considerations of cost awareness and risk-benefit analysis</td>
<td>Unaware of cost issues including factors external to the system (e.g., socioeconomic, cultural, literacy, insurance status) and internal to the system (e.g., providers, suppliers, financiers)</td>
</tr>
</tbody>
</table>
Primum non nocere
(First, do no harm)
Examples of Fraud, Waste and Abuse - Provider

Provider

- Making false statements.
- Improper billing practices
  - Up-coding/misreporting of codes
  - Billing for non-covered services
  - Billing with inappropriate modifiers
  - Unbundling of charges
- Altering of medical or billing records inappropriately.
- Prescribing drugs inappropriately.
- Performing or ordering inappropriate or unnecessary procedures/tests.
What percentage of medical care is wasted?
What percentage of medical care is wasted?

~30%, according to the Institute of Medicine
Professional Communication

Or, how to get the most value for your patient from their imaging
The consult, or request for a study

- Contact Info
  - Your name, pager, phone #, etc
- Patient demographic info
- History ("R/O_____" is NOT acceptable professional communication. More on this...)
  - Symptoms and Signs (use qualifiers!)
  - Duration
  - Relevant PMH (NOTE: prior cancer or immune compromise ALWAYS is relevant, as are key surgeries)
- Exam type proposed (CT, x-ray, Nuc Med, etc)
- Body part to be imaged

For the Consult

**Use** Semantic Qualifiers

- They shape DDx
- They support decision making

- Acute – chronic
- Local - systemic
- Sudden – gradual
- Immediate - delayed
- Constant - intermittent
- Mild – severe
- Unilateral – bilateral
- Left-sided – right-sided
- Upper – lower
- Localized - diffuse
- At rest – with activity
- Painful – painless
- Sharp - dull
- Tender - non-tender
- Exudative – non-exudative
- Productive – non-productive
- Blanching – non-blanching
- Pruritic – non-pruritic

Why not “R/O_______” ???

• Logically unsound
• Adds to cost of care
  – Insurers may not reimburse “R/O_______”
  – Hospitals have slim margins, <5%
• Not as Professional as possible
WVU Healthcare has a slim operating margin

10% of total Gross Charges are from Radiology
Translate to reimbursable indication

<table>
<thead>
<tr>
<th>r/o stroke</th>
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<tr>
<td>r/o trauma</td>
<td>(You KNOW if there is trauma, Just say what happened) 18 year old man in mvc c/o abdominal pain</td>
</tr>
<tr>
<td>r/o PE</td>
<td></td>
</tr>
<tr>
<td>r/o indication</td>
<td>Description</td>
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<tr>
<td><strong>r/o PE</strong></td>
<td>25 year old woman postpartum new onset sob</td>
</tr>
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</table>
So, what about costs of imaging???

- Cost of care from different perspectives
  - Insurer
  - Health Care Enterprise
  - Patient

- Cost vs Charge vs Reimbursement

- Insured vs not Insured
  - non-transparent pricing
  - Patients cannot “Shop Around” for best price
  - Reimbursement from payers negotiated
  - Uninsured charged high rates
Charges

• Common procedure charges- **XRAY**

<table>
<thead>
<tr>
<th>PROCEDURE</th>
<th>GLOBAL</th>
<th>PROFESSIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>X ray Ankle- 3 views</td>
<td>$100</td>
<td>$25</td>
</tr>
<tr>
<td>X ray Knee- 1 or 2 views</td>
<td>$100</td>
<td>$30</td>
</tr>
<tr>
<td>X ray Chest- 2 views</td>
<td>$100</td>
<td>$40</td>
</tr>
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Charges

- Common procedure charges - *Ultrasound*

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<tr>
<td>Ultrasound- Thyroid</td>
<td>$430</td>
<td>$95</td>
</tr>
<tr>
<td>Ultrasound- Carotid</td>
<td>$750</td>
<td>$180</td>
</tr>
<tr>
<td>US- OB- &gt; 12 weeks</td>
<td>$530</td>
<td>$180</td>
</tr>
</tbody>
</table>
Charges

- Common procedure charges- **CT**

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</tr>
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<tbody>
<tr>
<td>CT- Abdomen w/ Contrast</td>
<td>$900</td>
<td>$180</td>
</tr>
<tr>
<td>CT- Abdomen w/o Contrast</td>
<td>$700</td>
<td>$180</td>
</tr>
<tr>
<td>CT- Cervical Spine w/o contrast</td>
<td>$700</td>
<td>$150</td>
</tr>
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ACR Appropriateness Criteria®

The ACR Appropriateness Criteria® are evidence-based guidelines to assist referring physicians and other providers in making the most appropriate imaging or treatment decision for a specific clinical condition. Employing these guidelines helps providers enhance quality of care and contribute to the most efficacious use of radiology.

**June 2012 update:** The ACR Appropriateness Criteria cover 160 topics with over 850 variants. Expert panels in diagnostic imaging, interventional radiology and radiation oncology develop the guidelines. Please see the sections below for additional details.

**About the ACR Appropriateness Criteria**

Learn about the key program elements and components, such as guiding principles, composition of the expert panels, and process for criteria development and review.
### Clinical Condition: Chronic Neck Pain

**Variant 1:** Patient without or with a history of previous trauma, first study.

<table>
<thead>
<tr>
<th>Radiologic Procedure</th>
<th>Rating</th>
<th>Comments</th>
<th>RRL*</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-ray cervical spine</td>
<td>9</td>
<td>AP, lateral, open mouth, both obliques.</td>
<td>⭕oblin</td>
</tr>
<tr>
<td>MRI cervical spine without contrast</td>
<td>2</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Facet injection/arthrography cervical spine selective nerve root block</td>
<td>2</td>
<td></td>
<td>⭕oblin</td>
</tr>
<tr>
<td>X-ray myelography cervical spine</td>
<td>2</td>
<td></td>
<td>⭕oblin</td>
</tr>
<tr>
<td>CT cervical spine without contrast</td>
<td>2</td>
<td></td>
<td>⭕oblin</td>
</tr>
<tr>
<td>Tc-99m bone scan neck</td>
<td>2</td>
<td></td>
<td>⭕oblin</td>
</tr>
<tr>
<td>Myelography and post myelography CT cervical spine</td>
<td>2</td>
<td></td>
<td>⭕oblin</td>
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<tr>
<td>MRI cervical spine without and with contrast</td>
<td>1</td>
<td></td>
<td>0</td>
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**Rating Scale:** 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate

**RRL*:** Relative Radiation Level

### Variant 2: Patient with history of previous malignancy, first study.

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**Rating Scale:** 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate

**RRL*:** Relative Radiation Level
2. Reading Room Teaching:
2. Reading Room Teaching: Factors we control

• Is the welcome mat out?
• Are we approachable?
• Do we engage the learners?
2. Reading Room Teaching: Microskills of Clinical Teaching

2. Reading Room Teaching: Microskills of Clinical Teaching

1. Get a Commitment

2. Reading Room Teaching: Microskills of Clinical Teaching

1. Get a Commitment

2. Probe for supporting evidence

2. Reading Room Teaching: Microskills of Clinical Teaching

1. Get a Commitment
2. Probe for supporting evidence
3. Teach general rules

CT BRAIN WO IV CONTRAST

Status: Future
Class: Ancillary
Priority: Routine

Questions:
1. Ordering Provider
2. What is the patient's weight in lbs?
   Answer: 106.142 kg (234 lb)

Comments (F6): Process Inst.
No prep required.

Reference Links:
- ACR Appropriateness Criteria-Diagnostic Imaging

(HIPAA compliant: screenshot from EMR training environment)
2. Reading Room Teaching: Microskills of Clinical Teaching

1. Get a Commitment
2. Probe for supporting evidence
3. Teach general rules
4. Reinforce what is right

2. Reading Room Teaching: Microskills of Clinical Teaching

1. Get a Commitment
2. Probe for supporting evidence
3. Teach general rules
4. Reinforce what is right
5. Correct mistakes

Incorporate what we do

• We read exams with students in attendance
• Engage students with readout session tasks
Readout activities for students

• Check if current case adheres to ACR/AC
Readout activities for students

• Check if current case adheres to ACR/AC
• Evaluate quality of clinical indication in EMR
Readout activities for students

• Check if current case adheres to ACR/ACR
• Evaluate quality of clinical indications in EMR
• What SHOULD have been written, based on EMR
Readout activities for students

• Check if current case adheres to ACR/ACR
• Evaluate quality of clinical indications in EMR
• What SHOULD have been written, based on EMR
• Gain sense of good vs bad consulting practices
Future Work: Make Assessment Tools

- Student skills in consulting
- Student skills in use of ACR/AC
Summary

• Foster better consulting
• Teach students ACR/AC
  – classrooms
  – reading rooms
• Future: assess skills in Consulting & ACR/AC
• Link to Handout is:

http://bit.ly/1nMoDuZ