Peer Learning in IR

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Diagnostic Radiology peer learning

- Medical and radiological knowledge
- Detection of abnormalities
- Interpretation of the findings
Peer learning for IR ≠ peer learning for DR

- IR focuses on procedure technique and periprocedural patient’s management
- Surgical quality review requires peer interaction and clinical input

Therefore interventionalist performance is difficult to fully assess by representative images and a written report of a procedure
What IR was doing for peer review / learning?

- Review vascular studies (ultrasounds, CTAs)
- Procedures (low %): evaluate report only
- Morbidity and mortality (M&M) reviews
Three models for peer review and learning in IR

- **U of Maryland**
  paper-based, individual raters, requires board rounds, peer review > peer learning

- **UMass**
  electronic, individual raters, does not require in person discussion

- **BIDMC**
  electronic, group or individual raters, group discussion, focus on learning opportunities
U Maryland IR peer review
Interventional Radiology Peer, a Newly Developed Peer-Review Scoring System Designed for Interventional Radiology Practice

Bertrand Janne d’Othée, MD, MPH, and Ziv J Haskal, MD

- Paper-based questionnaire
- Individually completed by each IR attending
- At the end of morning case review

U of MD questionnaire

Do you agree with:

1. imaging findings?
2. indication(s) for the procedure(s) performed?
3. technique of the procedure performed?
4. post-procedure treatment plan?
5. follow-up plan / schedule?
IR daily morning rounds required

- case review consisted of a presentation of a given procedure/intervention by the operator(s) involved in the case
- indication, baseline clinical and imaging findings, procedural technique and findings, early outcomes, and complications
IR daily morning rounds

- NOT RANDOM — selected among the cases from the previous day based on whether the operator(s) deemed them interesting for discussion or teaching purposes
- followed by questions and discussion, filling questionnaire
U of MD: results

- 18 months
- 423 questionnaires
- 163 procedures
- 9.1 cases per month
- 2.6 reviewers per case (13 attendings on service)
- 112/371 weekdays
### UMD IR peer review and M&M conference

<table>
<thead>
<tr>
<th>Observed</th>
<th>Found in M&amp;M</th>
<th>Not Listed in M&amp;M</th>
<th>Total (Incidence Listed)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All adverse events</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IR Peer</td>
<td>17</td>
<td>146</td>
<td>163 (10)</td>
</tr>
<tr>
<td>Not listed in IR Peer</td>
<td>142</td>
<td>8,421</td>
<td>8,563 (1.7)</td>
</tr>
<tr>
<td><strong>Grade ≥ 2 events</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IR Peer</td>
<td>8</td>
<td>155</td>
<td>163 (4.9)</td>
</tr>
<tr>
<td>Not listed in IR Peer</td>
<td>55</td>
<td>8,412</td>
<td>8,467 (0.6)</td>
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</table>
U of MD IR peer review: limitations

- Paper based
  - Difficult to collect the data
  - Difficult to analyze
- Requires daily review by a large group of physicians
- Should not be used as a measure of physician performance!
  - Quality culture
  - It’s about learning and less about assessment
UMass IR peer review system
How to Effectively Implement a Peer Review Process for Interventional Radiology Procedures

Michael Caruso, DO, Cole DiRoberto, BA, John Howe Jr, AAS, RT (R) (CT) (MR) (CIIP), Steven J. Baccei, MD

- independent software PeerVue (McKesson)
- 3 random IR cases are assigned to each IR radiologist per week, excluding the radiologist’s own cases
- 3 questions are asked per case, with five possible answers, and a free text box
UMass questionnaire

Do you agree with:
- imaging findings?
- procedural technique?
- way the case was reported?

This is peer review mostly, limited learning component
UMass IR peer review

Majority of the procedures are of lower degree of complexity

- Paracentesis
- PICC
- Port removal
- Tunneled line placement
- IVC filter placement
Cases with disagreement

- 34/126 (27%) cases with disagreement
- Each case with disagreement was reviewed at Departmental M&M
- All due to reporting or documentation

<table>
<thead>
<tr>
<th>Reason for Disagreement</th>
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</thead>
<tbody>
<tr>
<td>lack of label or improper labeling of images</td>
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<tr>
<td>failure to take a scout radiograph</td>
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<tr>
<td>dictation of the wrong device type or brand</td>
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<tr>
<td>failure to document the size of the catheter</td>
</tr>
<tr>
<td>use of fluorostore instead of radiograph to document final port location</td>
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<tr>
<td>failure to document fluoroscopy time</td>
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</tbody>
</table>
UMass IR peer review

- Pre and post procedural clinical management not reviewed directly
- Difficult to do without in person discussion
- Potentially suitable for small groups and cases without high complexity
- High complexity cases require in person discussion
- Some learning value
BIDMC IR peer learning
BIDMC IR peer review

- Group or individual
- Electronic submission
- In person discussion

1. Clinical management
2. Technique

### Clinical Decision Making and Patient care:

- I agree with chosen patient management
- I would have managed the patient differently, but what was done is an acceptable alternative
- Inappropriate clinical decision or patient care

### Procedural technique appropriateness

- I would have used the same technique
- I would have used a different technique, but what was used is acceptable
- Inappropriate technique was used

Also noted: complications; learning opportunities; near misses
BIDMC IR peer learning system: results

- **Technique**
  - agreed in 729/773 (94.3%) cases
  - acceptable alternative in 40/773 (5.2%) cases
  - inappropriate in 4/773 (0.5%) cases

- **Clinical decision making**
  - agreed in 765/773 (99%) cases
  - acceptable alternative in 8/773 (1%)

- **Learning opportunities:**
  - 74 out of 773 cases (9.6%)
BIDMC IR peer review: results

- 17.3±9.7 cases reviewed per attending per month
- Each case reviewed by average of 3.4±0.5 attendings
Before:

“Radpeer”

- 0.9% (63/7152) cases reviewed
- Vascular US and CTAs
- Complete agreement

Now:

IR peer learning

- 9.5% (773/8152) cases reviewed
- IR cases
- Identified numerous opportunities for improvement
BIDMC IR peer review: limitations

- Data entry relies on a full and open discussion in a non-punitive environment
- Requires daily discussions at board rounds
- Time constraints of data entry
  - Stand alone computer
  - Mobile app
Work in progress

- Our peer learning efforts are not perceived by staff as “peer learning”, but as “great morning case review”
- Need to translate learning opportunities to measurable improvement efforts
- Need to transfer the practice to other procedural services in the department
Conclusion: Ideal IR peer learning system

- Electronic but user friendly
- Evaluates technique and clinical management
  Optional report quality
- Space for comments
- **Notes learning opportunities**
- Allows for group and individual review
- Not used for physician assessment, as it is learning tool
Thank you!

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