Beth Israel Deaconess Medical Center

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

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

d'Othée BJ, Haskal ZJ. Interventional radiology peer, a newly developed peer-review scoring system designed for interventional radiology practice. J Vasc Interv Radiol. 2013 Oct;24(10):1481-6.e1.

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?

Yes, completely
Yes, partially
No
Cannot say, not enough information available
Not applicable/other

IR daily morning rounds required

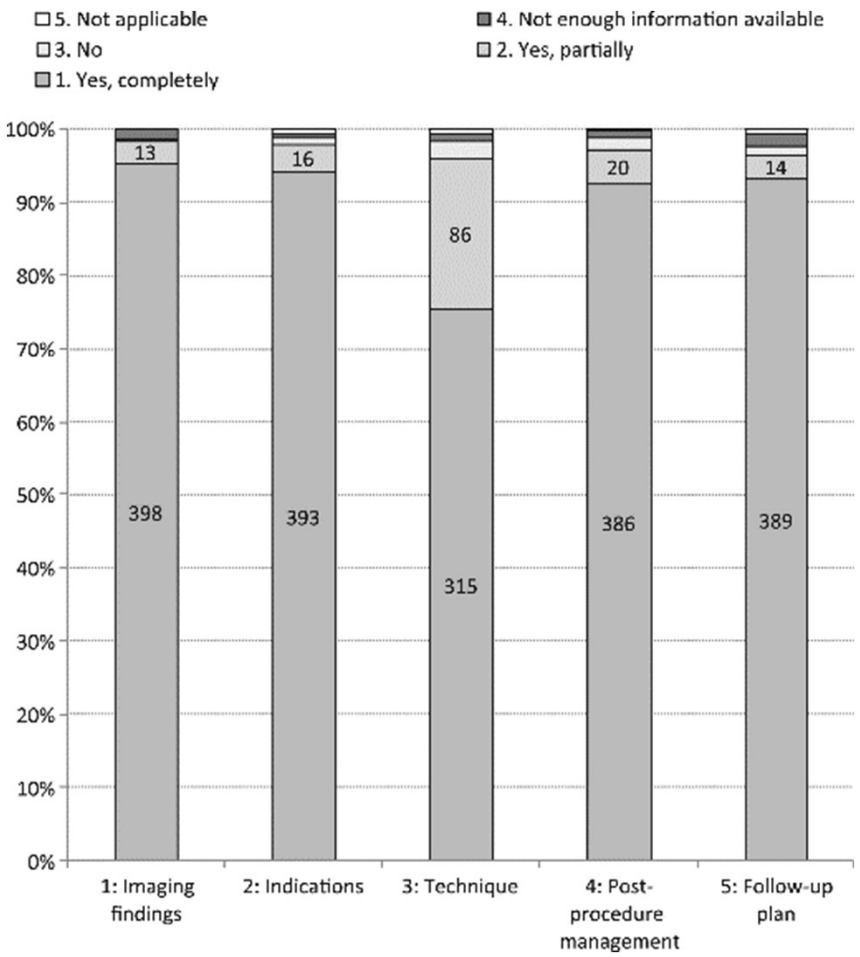
- case review consisted of a presentation of a given procedure/intervention by the operator(s) involved in the case
- indication, baseline clinical and imaging findings, procedural technique and findings, early outcomes, and complications

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

Observed	Found in M&M	Not Listed in M&M	Total (Incidence Listed)
All adverse events			
IR Peer	17	146	163 (10)
Not listed in IR Peer	142	8,421	8,563 (1.7)
Grade ≥ 2 events			
IR Peer	8	155	163 (4.9)
Not listed in IR Peer	55	8,412	8,467 (0.6)

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

Caruso M, DiRoberto C, Howe J Jr, Baccei SJ. How to Effectively Implement a Peer Review Process for Interventional Radiology Procedures. J Am Coll Radiol. 2016 Sep;13(9):1106-8.

UMass questionnaire

Do you agree with:

- imaging findings?
- procedural technique?
- way the case was reported?

Yes, completely
Yes, partially
No
Unsure, not enough information
Not applicable

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

lack of label or improper labeling of images
failure to take a scout radiograph
dictation of the wrong device type or brand
failure to document the size of the catheter
use of fluorostore instead of radiograph to document final port location
failure to document fluoroscopy time

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

Luo M, Berkowitz S, Nguyen Q… Brook OR. Electronic IR Group Peer Review and Learning Performed during Daily Clinical Rounds. *J Vasc Interv Radiol.* 2019;30:594–600.

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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