“Best Practices” for Mammography Reports

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Community Breast Team Training
6/13/15
The Ideal Radiology Report: A Surgeon’s Perspective

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Outline

• Forces shaping reports
  – Quality
  – Productivity
  – IT
  – Research
• Stakeholders
• Attributes of a good report
• Special needs for surgeons

Weeks worth of breast imaging reports
Nearly a ream of paper
The Stakeholders: Who Wants What from the Report?

- Radiologist
- Clinician
- Patient
- Administrator
- IT
- Payer
- Research
Attributes of a Good Radiology Report:
Importance Varies by Stakeholder

- Clarity
- Correctness
- Confidence
- Concision
- Completeness
- Consistency
- Communication
- Consultation
- Timeliness
- Standardization

Attributes of a Good Radiology Report

• Clarity (Clinician)
  – The report must clearly state and answer the clinical question

• Consultation (Clinician)
  – As a clinical partner you must help direct the evaluation, include differential diagnosis and f/u recommendations
Attributes of a Good Radiology Report

• Concise, Completeness (Clinician)
  – Avoid ambiguity, findings of greatest significance are clearly stated and all issues addressed

• Confidence (All stakeholders)
  – The length of the radiology report is inversely proportional to the confidence and preparation of the radiologist (true for any type of medical report including operative reports)
Attributes of a Good Radiology Report

• Standardization, (IT, Payer, Research)
  – Structured reporting appears to be the key
  – Standardized and customized templates used which address the needs of the various stakeholders (don’t necessarily need to be electronic)
Current Reporting Problems

- Multiple hospital information systems and they don’t work together seamlessly
- Free text (prose) may not answer special needs of stakeholders—too variable, increased error rate
- Transcription is expensive
- Voice recognition slows productivity
- Free text makes outcomes research and practice analysis very time-consuming and expensive
- Difficult to develop national guidelines
Evidence-Based Medicine

- Process of systematically finding, appraising, and incorporating contemporary research findings into clinical decision-making.
- Principle goal is to provide a conscientious scientific basis for clinical decision making
- Structured reporting would be a key step
Structured Reporting: The Solution?

- Offers a number of theoretical advantages and creation of a standardized report database is one of most important
- Will only be realized if delivery technology provides real and tangible value to end users (stakeholders) accentuates workflow and can be seamlessly integrated into existing information systems

Reiner, J Digital Imaging, 23:363-373, 2010
Structured Reporting: The Solution?

• Clinicians prefer to read a (well-formatted) structured report
• Can create stakeholder profile which stores customized requirements for individual stakeholder
• Report templates would address all important concerns with:
  – Consistent format
  – Itemized reporting
  – Standardized lexicon
  – Distribute information tailored to stakeholder
Problem Statement
A significant percentage of our Lynn Sage Breast Center patients are diagnosed with a breast problem elsewhere and then seek a second opinion at Northwestern. In order to obtain a second opinion the patient needs to have their breast imaging studies and pathology slides forwarded to Northwestern for review prior to their consultation. This process is very complex and time consuming. This is frustrating for anxious breast problem patients, time consuming for staff and physicians.

Goal / Benefit
We hope to decrease errors made by outside facilities, decrease processing times between date appointment made and materials processed and reports generated and decrease staff time spent overseeing the entire process.

Scope
Initially improve the second opinion processes at the Lynn Sage Breast Center and once we've shown improvement use these best practices to improve the second-opinion programs throughout Northwestern Medicine.

Potential Drivers of Error:
- Instructions emailed to new patients lack detail and clarity
- Too many people involved in process
- Poor coordination within NMH once outside materials arrive

2014 | Mar | Apr | May | Total
--- | --- | --- | --- | ---
New Patients | 235 | 250 | 197 | 682
Outside Imaging | 45% | 32% | 41% | 39%

Goals
Goal # 1: Update Patient Education Materials
Detailed instructions and FAQ's emailed to patients in PDF format
Goal # 2: Create Second Opinion Welcome Video

Email video link to patients when they make an appointment

Draft Video

NM Media Relations has promised to provide professional video and editing services
Goal # 3: Decrease Staff Workload

Second Opinion 1 Week Call Log

<table>
<thead>
<tr>
<th>Types of Calls</th>
<th>Number of Calls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient</td>
<td>Before Interventions-Dec: 120 After Interventions-April: 60</td>
</tr>
<tr>
<td>Facility</td>
<td>Before Interventions-Dec: 40 After Interventions-April: 20</td>
</tr>
<tr>
<td>Interdepartmental</td>
<td>Before Interventions-Dec: 80 After Interventions-April: 40</td>
</tr>
</tbody>
</table>
Goal # 4: Create EPIC Second Opinion Tracking System
Create automated tracking system to assure efficient and timely process.

<table>
<thead>
<tr>
<th>Project Metrics</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>All NEWs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date scheduled to Date Outside Imaging Report Finalized – Average</td>
<td>10.1 days</td>
<td>12.1 days</td>
<td>11.8 days</td>
<td>11.3 days</td>
</tr>
<tr>
<td>Date scheduled to Date Imaging Received in Women's Cancer Center – Average</td>
<td>7.9 days</td>
<td>7 days</td>
<td>5.7 days</td>
<td>6.9 days</td>
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<tr>
<td>Date Req Assigned to Date Report Finalized - Average</td>
<td>3 days</td>
<td>3.9 days</td>
<td>3.8 days</td>
<td>3.57 days</td>
</tr>
</tbody>
</table>

[Image of a screenshot showing a portion of a document with medical information and a table with data, and another screenshot showing a medical record with various fields filled in, including patient name, medical history, and notes.]
The Radiology Report: What do all surgeons want?

- Anatomic detail
  - Proximity to vessels
  - Surrounding structure involvement
  - Change
- **Annotation**
- Recommendation for further imaging of clinical problem
- Recommendation for further imaging of incidental findings
- Preferably radiologist continues sequential evaluation until problem solved (personal preference)
The Breast Imaging Report: What do breast surgeons want?

- Provide short patient history
- Answer specific anatomical questions (lesion location, distance to nipple, multifocal or multicentric)
- Concise description of biopsy procedure
  - **Clips placed***
  - Pathology results
  - Candidate for wire localization/bracketing?
- Further recommendations based on review of images, biopsy procedure and pathology
Special Breast Surgery Considerations

1. Almost ALL breast lesions should initially be diagnosed with a needle biopsy
2. Leave a clip at time of image-guided biopsy
3. Annotate images
4. Better wire localization
5. Post lumpectomy mammogram
6. Distance of cancer from nipple
7. Management of the Axilla
8. Partial Breast Irradiation
40 year old female referred with needle biopsy performed but no clip placement, path="c/w ductal carcinoma", repeat imaging including MRI did not reveal lesion, surgical excision of suspicious areas benign, started on Tamoxifen, 1 year later DCIS in subareolar area

Recent survey showed that clips are placed at time of image-guided core biopsy only 60% of time
Better Localization - Annotate

- Better preoperative planning collaboration
  - Important to annotate PACS imaging when multiple biopsy clips
- Goal is wider margins but less total tissue removed (competing goals - better oncologic surgery vs. better cosmesis)
- The more detailed the annotation, the fewer calls you’ll get
There are nearly as many ways to perform a lumpectomy as there are surgeons.
Talk to your surgeon, determine preference
Better Localization: Bracketing

- Recurrent DCIS: initially refused radiation and Tamoxifen with subsequent recurrence. Re-resected, margins clear (2mm), post-lumpectomy mammogram clear.
Better Localization: Bracketing for multifocal lesions
Better Localization:
Bracketing for multifocal lesions
Post Lumpectomy Mammogram

- If calcifications noted on original pre-op imaging then obtain post lumpectomy mammogram (ACR Guidelines)
Nipple-sparing mastectomy: Distance between cancer and nipple

• Nipple-sparing mastectomy
  – Size A or B breasts
  – Prophylactic or cancer, less than 3 or 4 cm in size and >2 cm from base of nipple
  – No increased recurrence in nipple

• Need to know distance from cancer to nipple as seen on imaging
Oncoplastic Surgery

- Oncoplastic surgery
  - Goal is to maintain breast contour
  - Try to avoid seroma cavity
  - Keep it simple
  - No significant mammographic distortion

Anderson et al, Lancet 2005
Management of the Axilla

• Axillary imaging
  – Axillary ultrasound used to identify suspicious nodes followed by ultrasound-guided needle biopsy
  • Avoid sentinel node biopsy if needle biopsy positive (go straight to axillary dissection)
    • Less OR time (10-15 minutes)
    • Cost savings?
Management of the Axilla

- If axillary dissection does not provide a survival advantage compared to delayed dissection (clinically negative), is axillary dissection necessary for all patients with a positive sentinel node?

- 3 retrospective studies showed no increase in axillary recurrence in sentinel node positive patients who did not undergo an axillary dissection (patient refusal, comorbidities, etc)
Z-11 Changes Axilla Management

• **Eligibility**
  – Tumors <5 cm
  – 1-2 positive sentinel nodes
  – Randomize
    • ALND
    • No further axillary treatment
  – Both arms received whole breast radiation and systemic therapy

• **Results**
  – No increased axillary recurrence
  – No decrease in disease free survival
  – No decrease in overall survival
Z-11 Changes Axilla Management

• Implications of Z-11
  – Residual positive nodes remaining in axilla after sentinel node biopsy are adequately treated with axillary radiation and systemic therapy

• THEREFORE, preoperative axillary US-guided biopsy of suspicious nodes not helpful UNLESS:
  – Clinically (physical exam) positive nodes
  – Multiple suspicious nodes
  – Considering neoadjuvant chemotherapy
Partial Breast Irradiation: Catheter/Balloon Brachytherapy

- Radiation confined to lumpectomy site
- MRI of increased importance
- 2x/day for 5 days
- Studies indicate local recurrence rates equal to standard external beam in selected patients
  - >45 yo
  - Small, low-grade cancers

- Complications
  - Infection
  - Fat necrosis
  - Skin Telangiectasia
  - Compromised cosmesis

- Device placed by Radiology
Intrabeam Intraoperative Radiation (IORT)

- IORT is a form of partial breast radiation.
- MRI is more important because the entire breast is not irradiated.
Summary: What do I want from my Radiologist?

- Be an integral member of the multidisciplinary clinical team
- Conference input
- Be available to talk to patients
- Be available to talk (email) to me
- Help guide me