Surgical Pathology at East Ann Arbor (EAA)

EAA Executive Committee
April 29, 2008

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Surgical Pathology at EAA

1. Current state
2. Scope
3. Specific goals ("future state")
4. Proposal
Surgical Pathology at EAA
Current State

• no support for on-site diagnosis or specimen processing

• specimens delivered to UH by courier Monday – Friday
  11:40, 13:55, 21:15

• specimens processed at UH
Surgical Pathology at EAA
Current State

• **Advantages**
  – Low facilities and personnel costs
  – No EAA space requirement

• **Disadvantages**
  – No intraoperative consults/frozen sections
  – Processing delays
  – Specimen batching
  – Impaired problem resolution for specimen defects
  – Impaired consultation for special handling or medical information exchange
  – Decreased research procurement (time sensitive)
Surgical Pathology at EAA

1. Current state

2. Scope
Surgical Pathology at EAA
Scope – Projected Specimen Volume

11,046 cases annually
(920/month, 42/day)

<table>
<thead>
<tr>
<th>data source</th>
<th>surg oncol (SON)</th>
<th>EAA OR</th>
<th>EAA MPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>specimens/case</td>
<td>1.90</td>
<td>0.46</td>
<td>1.02</td>
</tr>
<tr>
<td>projected FY2009 case volume</td>
<td>885</td>
<td>4,255</td>
<td>7,410</td>
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Surgical Pathology at EAA

1. Current state
2. Scope
3. Specific goals ("future state")
Surgical Pathology at EAA
Specific Goals

1. Provide highest levels of support for intra-operative patient care
2. Minimize risks inherent in remote practice model
3. Appropriately process and preserve specimens for patient care and research
Surgical Pathology at EAA
Specific Goals

1. Provide highest levels of support for intra-operative patient care
## Surgical Oncology Specimens

March – December 2007

<table>
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<tr>
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<th>University Hospital</th>
<th>Cancer Center</th>
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<tr>
<td><strong>Total specimens</strong></td>
<td>1,475</td>
<td>1,368</td>
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<tr>
<td><strong>Frozen section specimens</strong></td>
<td></td>
<td></td>
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<tr>
<td># sections/case (n = 48)</td>
<td>96 (6.5%)</td>
<td>24 (1.8%)</td>
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<tr>
<td>(range)</td>
<td>$2 \pm 3.2$ (1 – 22*)</td>
<td>$1.5 \pm 0.6$ (1 – 3)</td>
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* simple mastectomy for breast sarcoma
Managing Margins in Breast Surgery
Experience in Surgical Oncology*

- 948 patients underwent lumpectomy for invasive breast ca or DCIS†
- 304 (32%) underwent second surgery
  - 173 (57%) – positive margins
  - 131 (43%) – close margins‡‡

† excludes patients who underwent diagnostic excisional biopsy
‡‡ 7 diagnosed by excisional biopsy

* from Sabel et al. (in preparation)
Surgical Pathology at EAA
Specific Goals

1. Provide highest levels of support for intra-operative patient care

- frozen section capability with faculty support for real-time intraoperative consultation
- capacity for evaluating margins on excisional breast biopsies, lumpectomies
Surgical Pathology at EAA
Specific Goals

1. Provide highest levels of support for intra-operative patient care

2. Minimize risks inherent in remote practice model

90% of specimen accession defects involve samples acquired at off-site locations

• batched specimen delivery
• multiple hand-offs
Surgical Pathology at EAA
Specific Goals

1. Provide highest levels of support for intra-operative patient care
2. Minimize risks inherent in remote practice model
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# Surgical Oncology Specimens

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<td>2 ± 3.2 (1 – 22*)</td>
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<td>Specimens requiring special processing</td>
<td>40 (2.7%)</td>
<td>88 (6.4%)</td>
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* simple mastectomy for breast sarcoma
Surgical Pathology at EAA

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Surgical Pathology at EAA Proposal

• fully equipped pathology laboratory with tissue processing capabilities to support all EAA practices (08:00 – 16:30, Monday – Friday)

• frozen section capability with capacity for intra-operative management of breast margins (08:00 – 13:00, Tuesday – Friday)
Surgical Pathology at EAA
Proposal

• Specimen receiving and accessioning
• Real time communication regarding case submission (e.g. lymphoma work ups, rush cases, special handling, specimen orientation)
• Initial (gross) diagnostic evaluation, dissection and processing (i.e. tissue submission)
• Intraoperative consultation, including rapid (frozen section) diagnosis
• Tissue procurement for research
Surgical Pathology at EAA
Proposal – Requirements

• space ($200-250,000)
• equipment ($200,818)
  cryostat, freezing microtomes (2),
  grossing station, cassette labeler,
  microscope, digital camera, computers
  (2), etc
• supplies ($20,000 annually)
• personnel ($146,000 – 165,000)

net present value (NPV) - 8 year  $294,583
Surgical Pathology at EAA
Alternatives?

**Telepathology**

- peer-to-peer versus remote diagnostics
- remote diagnostics expensive, unreliable, and untested in our practice
  - robotic manipulation of conventional microscope with real-time digital images
  - virtual microscopy
Surgical Pathology at EAA
Proposal

Challenges

– faculty staffing
– impact on training program
– learning curve for performing/interpreting new frozen section method
– cultural changes (path-surgery communication, scheduling concordance to minimize downtime)
Surgical Pathology at EAA Proposal

Opportunities

– Patient satisfaction/cost savings of preventing re-excisions for lumpectomy cases
– Competitive advantage in care of breast cancer patients
– Reduce specimen processing errors
– Revenue from high volume frozen sections (10-15/case)