Challenges in Developing and Implementing Prostate Cancer Quality of Care Guidelines

(An Exercise in Knowledge Transfer)

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Chair, Division of Surgical Oncology
Western University
Prostate Cancer: A very prevalent Disease
C.C.O. Surgical Oncology Program

- Goals of the Surgical Oncology Program:
  - Increase access to cancer surgery
  - Improve quality of cancer surgery
    - Support knowledge transfer and evidenced-based practice
    - Support the development of communities of practice
    - Foster research and innovation
  - Support the recruitment and retention of cancer surgeons
C.C.O. Surgical Oncology Program

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Treatment Options for Prostate Cancer

- Watchful waiting
- Surgery: Radical prostatectomy
- External Beam Radiotherapy
- Brachytherapy
- Cryotherapy
- HIFU
- Hormonal therapy
- Chemotherapy
Is there need for a Radical Prostatectomy Guideline?

- **Challenge**: Capture and Understand the Landscape
- Prostate cancer is the most common cancer
- Approximately 3000 radical prostatectomies are performed annually in Ontario
- **58.8%** of prostate cancer patients underwent a radical prostatectomy in Ontario in 2003/04
- Incidence and prevalence rates of prostate cancer are expected to increase

Challenge: Deciding on Key Initiatives in Implementing the Rad. Prostatectomy Guideline

1) Optimize surgical technique
   - Ensure all patients receive excellent surgery

2) Optimize/standardize pathology reporting
   - Ensure the radical prostatectomy specimen is handled, assessed, and reported optimally

3) Optimize patient selection
   - Ensure that radical prostatectomy is offered as a treatment option to the appropriate patients
Who is doing Prostate Cancer Surgery in Ontario?

- Urologists with urologic oncology subspecialty: 32
- Urologist without urologic oncology subspecialty: 146

Urologic oncologists perform 33.5% of RPs, and other urologists perform 66.5% of RPs

<table>
<thead>
<tr>
<th>Physician Specialty</th>
<th>Definitive procedure n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Radical Prostatectomy</td>
</tr>
<tr>
<td>All</td>
<td>2438 (72.7)</td>
</tr>
<tr>
<td>Total n (%)</td>
<td>3352</td>
</tr>
</tbody>
</table>
Where is Prostate Cancer Surgery being performed in Ontario?

<table>
<thead>
<tr>
<th>Hospital Type</th>
<th>Hospitals performing prostate cancer surgery n (%)</th>
<th>Definitive procedure n (row%)</th>
<th>Total n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Radical prostatectomy</td>
<td>Non-curative prostate surgery</td>
</tr>
<tr>
<td>Academic</td>
<td>13 (16.3)</td>
<td>829 (82.9)</td>
<td>171 (17.1)</td>
</tr>
<tr>
<td>Community/Small</td>
<td>67 (83.7)</td>
<td>1705 (65.8)</td>
<td>889 (34.2)</td>
</tr>
<tr>
<td>All</td>
<td>80</td>
<td>2534 (70.5)</td>
<td>1060 (29.5)</td>
</tr>
</tbody>
</table>

- 32.7% of RPs in Ontario are performed in an academic centre; 67.3% are performed in community institutions

Cancer Surgery in Ontario - ICES Atlas
Margins Matter

PROGRSSION –FREE RATE

Challenge:
Decide on Metrics –

1. Should Surgical Margin Positivity be used as Surrogate Yardstick for Surgical Quality?
periprostatic tissue

“capsule”

prostate

Surgical Margins

Malignant Glands

Benign Glands

- pT3a M+
- pT3a M-
- pT2 M-
- pT2+ M+
- pT2+ M+
**Frequency of Positive Surgical Margin at Prostatectomy and Its Effect on Patient Outcome**

Kenneth A. Iczkowski and M. Scott Lucia

<table>
<thead>
<tr>
<th>First author, yr</th>
<th>n</th>
<th>% PSM, overall</th>
<th>PSM</th>
<th>NSM</th>
<th>% biochemical failure rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Williams 2011 [25]</td>
<td>158</td>
<td>13</td>
<td>No f/u</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ahyai 2010 [26]</td>
<td>932</td>
<td>12.9</td>
<td>21.7</td>
<td>6.9</td>
<td></td>
</tr>
<tr>
<td>Tsao 2009 [27]</td>
<td>100</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sæther 2008 [28]</td>
<td>219</td>
<td>32.4</td>
<td>40</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Pfitzenmaier 2008 [29]</td>
<td>406</td>
<td>17.2</td>
<td>64.3</td>
<td>20.5</td>
<td></td>
</tr>
<tr>
<td>Swanson 2007 [30]</td>
<td>719</td>
<td>15.3</td>
<td>63</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Ahyai 2010 [26]</td>
<td>936</td>
<td>37</td>
<td>19</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Kausik 2002 [31]</td>
<td>1202</td>
<td>42</td>
<td>35</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Menon 2010 [32]</td>
<td>1384</td>
<td>25.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P value, HR*

- Williams 2011 [25]: \(P = .001\)
- Ahyai 2010 [26]: \(P = .017\)
- Sæther 2008 [28]: \(P < .001, HR 3.21\)
- Pfitzenmaier 2008 [29]: \(P < .0001\)
- Swanson 2007 [30]: \(P < .01\)
- Kausik 2002 [31]: \(P = .0001\)
- Menon 2010 [32]: \(P < .0001, HR 2.43 (1.72-3.42)\)
Kaplan-Meier BR-Free Survival, by Stage and Margin Status

Biochemical Recurrence-Free Survival

Postoperative Years

OC M⁻, FEPE M⁻, EEPE M⁻, FEPE M⁺, EEPE M⁺

p<0.0001

Walsh et al JHH
Prostate Margin Rate Audit

Figure 1: % Positive surgical margin (PSM) rate for Radical Prostatectomies for pT2 patients, pT3 patients and Overall, by Ontario Challenge: Suboptimal / Inefficient Data Management

Source: FY2005 and 2006 CCO Pathology Audits
Prostate Margin Rate Audit

- Pathology report audit to assess radical prostatectomy positive margin rates in Ontario
- Data collected for: FY 2005/06, FY 2006/2007
- Ontario data:
  - Overall positive margin rates
  - pT2, pT3 positive margin rates
- Observations in Ontario:
  - High positive margin rates for pT2 disease (provincial average is 38%)
  - Likely a multifactorial phenomenon
  - No volume-outcome association
  - Appears that there is some multidisciplinary care, but hard to know if it is appropriate
Standardizing the format and content of the pathology and surgery OR reports

Narrative Report

Traditionally surgery and pathology reports have been narrative in format and may be missing critical information leading to:

- Mistakes
- Treatment delays or inaction
- Misinterpretation of the findings
- Eroded patient and provider confidence in diagnosis

Synoptic Report

Synoptic reporting which lists each diagnostic or prognostic parameter pair on a separate line improves:

- Quality of the data
- Decision-making for treatment
- Analysis of practice
- Communication between patients and providers
Guideline Development and Implementation

Guideline initiated (Joseph Chin, John Srigley)

Re-iterations of draft

Prostate Cancer Surgery and Pathology Conference

Consultations with Expert Panel

Guideline released (Posted on CCO website)

Champions contacted and invited to Workshop

Workshop planning and preparation

Urology Surgery and Pathology Champion Workshop


Expert Panel assembled (Urologists, Pathologists, Rad Onc, Med Onc)
Multidisciplinary Expert Panel

Dr. Joseph Chin, Chair
Surgeon
London Health Sciences

Dr. Robin McLeod
Surgical Lead, QI
Cancer Care Ontario

Dr. Neil Fleshner
Surgeon
UHN – Princess Margaret

Dr. Bish Bora
Surgeon
Sudbury Regional Hospital

Dr. John Srigley
Pathologist
Credit Valley Hospital

Dr. Andrew Evans
Pathologist
UHN – Toronto General

Amber Hunter
Program Manager – SOP
Cancer Care Ontario

Dr. Christopher Morash
Surgeon
Ottawa Hospital

Dr. Tom McGowan
 Radiation Oncologist
Credit Valley Hospital

Dr. Eric Winquist
 Medical Oncologist
UHN – Toronto General

Dr. Edward Matsumoto
Surgeon
St. Joseph’s Hospital

Dr. Angelo Iocca
Surgeon
Credit Valley Medical Arts Centre

Dr. John Tsilias
Surgeon
William Osler Health Centre

Dr. Thomas Short
Surgeon
Credit Valley Medical Arts Centre

Dr. Alexander Boag
Pathologist
Kingston General Hospital

Dr. Madeleine Moussa
Pathologist
London Health Sciences

Dr. Dimitrios Divaris
Pathologist
Grand River Hospital

Dr. John Kell
President
Society of Urological Surgery in Ontario

Dr. Arun Mathur
Surgeon
Oshawa Clinic
Guideline Development Methodology

• Guideline developed by performing a systematic review of the available evidence

• Literature Search Strategy:
  - Searched MEDLINE and EMBASE databases
  - Search results were limited to human studies in the English language published between 1996 and March 2007
  - Search terms: ‘prostatic neoplasms’, ‘prostate cancer’, and ‘prostate tumor’ were combined with the term ‘prostatectomy:’ (1100 documents reviewed by J. Chin)
  - Following review for relevancy: 95 studies were retained for inclusion

Acknowledgment & Thank You: PEBM Team at McMaster U. CCO Quality - SOP
Hierarchy of study designs for effectiveness of health care interventions

High

- Systematic review
- Experimental Study:
  - Randomized controlled trial
  - Non-randomized study
- Observational Study:
  - Prospective cohort study (with control group)
  - Case control study (with control group)
  - Cross-sectional study (no control)
  - Case series (no control)
- Expert opinion without critical appraisal

Low

higher level of evidence = less opportunity for bias
#17-3 Guideline
Study Selection

Studies eligible for inclusion:

1. Randomized trials comparing RP with other treatments
2. Prospective case series of RP
3. Retrospective review of RP patient reports
4. Studies with more than 100 subjects
5. Systematic reviews
6. Clinical practice guidelines
7. Studies concerning PLND regardless of primary treatment
8. Database reviews and techniques

Not eligible for inclusion:

1. Review papers that were not systematic reviews
2. Studies of prostatectomy as salvage treatment
3. Studies that reported on cadavers or human tissue samples only
4. Studies combining prostatectomy with other procedures (e.g., cystoprostatectomy)
5. Studies concerning robotic surgery and techniques
#17-3 Guidelines for optimization of surgical and pathological quality performance for radical prostatectomy in prostate cancer management

Results:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of MEDLINE hits</th>
<th>Number of EMBASE hits</th>
<th>Number ordered for full-publication review</th>
<th>Number of articles included in this report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radical prostatectomy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Margins</td>
<td>189</td>
<td>479</td>
<td>56</td>
<td>39</td>
</tr>
<tr>
<td>Complications</td>
<td>1997</td>
<td>2285</td>
<td>31</td>
<td>22</td>
</tr>
<tr>
<td>Guidelines/Systematic reviews</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cochrane Reviews</td>
<td>13</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PLND</td>
<td>327</td>
<td>34</td>
<td>101</td>
<td>23</td>
</tr>
</tbody>
</table>
#17-3 Results

**Challenge: Quality of Material**

**Quality of Included Studies**… **Poor**

- No randomized controlled trials (RCTs) - unlikely to become available in the future
- Evidence - Retrospective reviews, databases, case series, and non-randomized prospective studies
- Confounding factors (e.g. neoadjuvant or adjuvant therapy, patient baseline characteristics) were not always reported
- Surgical techniques used often varied from study to study
- The evidence provided context and some direction for the development of recommendations, based on the expert opinion of the panel and a broader consultation with clinicians in the field
1. What is the recommended *extent of resection*, and what are *acceptable positive margin rates* for pT2 and pT3 cancers.

2. What are the reported rates for surgical complications, specifically incontinence, erectile dysfunction, *rectal injury*, and *blood transfusion*, and does surgical technique (e.g., nerve sparing, bladder neck preservation) affect complication rates?

3. Which patients should receive pelvic lymph node dissection (PLND), and what is the recommended extent of PLND?
Challenge:  - Pathology Questions?
 - Pathology “Answers”?

1. What are the recommended procedures for handling the RP specimen in the operating room and for handling and processing the RP specimen in the pathology lab?

2. What diagnostic and prognostic elements should be included in the pathology report, what format should be used, and what reporting elements should be included?
Guideline Development Methodology

- Feedback from the conference held in October, 2007 was used to provide input into the development of the guideline.

- Expert Panel “reached consensus” on the guideline recommendations …...after heated discussions --- That was a Challenge!
Prostate Cancer Surgery Conference (October 2007)

- Expert Panel reached consensus on the guideline recommendations
  - **Margin Rate:** Consensus that positive margin rate for pT2 disease should be <25%; for pT3 it should be <35%
  - Transfusion rate should be <10%
  - Rectal injury rate should be <1%
  - Pathology Specimen: Processing, Examination and Reporting .... “CAP” Guidelines
Next Challenge:

Measuring Outcome or Impact of Guideline

- Resection Margin positivity rate??
- Patient Selectivity ??
- Cancer Cure Rate?
  - Biochemical Recurrence
  - Progression Free Survival
  - Overall Survival
- Quality of Life Issues :
  - Erectile Dysfunction
  - Urinary Continence
Next Obvious Challenge: How to Disseminate this Information?? i.e. Knowledge Transfers Mechanisms??

Prostate Cancer Surgery and Pathology Guideline

• “Guideline for Optimization of Surgical and Pathological Quality Performance in Radical Prostatectomy in Prostate Cancer Management”

Evidence-Based Series #17-3: Section 1

Guideline for Optimization of Surgical and Pathological Quality Performance for Radical Prostatectomy in Prostate Cancer Management: Surgical and Pathological Guidelines


A Quality Initiative of the Surgical Oncology Program, Cancer Care Ontario and the Program in Evidence-based Care, Cancer Care Ontario A Special Project of the Expert Panel on Prostate Cancer Surgery and Pathology

Report Date: September 11, 2008

QUESTIONS

Surgical Questions
What are the recommended surgical procedures and outcomes for radical prostatectomy (RP), specifically:
1. What is the recommended extent of resection, and what is an acceptable positive margin rate?
2. What are the reported rates for surgical complications, specifically incontinence, erectile dysfunction, rectal injury, and blood transfusion, and does surgical technique (e.g., nerve sparing; bladder neck preservation) affect complication rates?
3. Under what circumstances should nerve-sparing techniques be used?
4. Which patients should receive pelvic lymph node dissection (PLND), and what is the recommended extent of PLND?

Pathological Questions
1. What are the recommended procedures for handling the RP specimen in the operating room and for handling and processing the RP specimen (with or without lymph nodes) in the pathology lab?
2. What diagnostic and prognostic elements should be included in the pathology report, what format should be used, and what reporting elements should be included?
Guideline Development and Implementation

Guideline initiated (Joseph Chin, Neil Fleshner, John Srigley)

Guideline released (Posted on CCO website)

Prostate Cancer Surgery and Pathology Conference

Champion contacted and invited to Workshop

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Workshop planning and preparation

List Serv

Develop and Engage Communities of Practice
Prostate Cancer Regional Champions

- 44 Regional Champions
  - 16 Surgery Champions
  - 14 Pathology Champions
  - 14 Radiation Oncology Champions
- Champion Roles and Responsibilities:
  1. Participation in the development of provincial and/or regional priorities and goals for the CoP.
  2. Sharing of best practices and barriers to quality improvement with other CoP members.
  3. Developing and maintaining working relationships with relevant stakeholders.
  4. Promoting or leading the implementation of quality improvement initiatives.
  5. Participation in regional and/or provincial teleconferences/web conferences/in-person meetings.
# Regional Prostate Cancer Champion Workshops

<table>
<thead>
<tr>
<th>Participants</th>
<th>December 2008</th>
<th>October 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 33 participants</td>
<td>• 33 participants</td>
<td></td>
</tr>
<tr>
<td>• Surgery and Pathology Prostate Champions, Radiation Oncology representatives</td>
<td>• Surgery, Pathology and Radiation Oncology Prostate Cancer Champions</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Workshop Objectives</th>
<th>December 2008</th>
<th>October 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Review the guideline and proposed knowledge transfer and implementation strategies</td>
<td>• Further develop the community of practice (CoP)</td>
<td></td>
</tr>
<tr>
<td>• Determine the goals for the Prostate surgery and pathology initiative</td>
<td>• Facilitate continuous improvement in surgery and pathology for prostate cancer.</td>
<td></td>
</tr>
<tr>
<td>• Share best practices already in place in the regions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Discuss perceived barriers in each region and future plans for the Prostate Champion Group</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>December 2008</th>
<th>October 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Promote multidisciplinary discussion and partnerships</td>
<td>• Revitalizing the prostate cancer List Serv</td>
<td></td>
</tr>
<tr>
<td>• Explore ways to facilitate data gathering and distribution</td>
<td>• Share/inform final ISUP findings in Spring 2010.</td>
<td></td>
</tr>
<tr>
<td>• Promote knowledge translation strategies (i.e. development of List Serv, educational slide decks, sharing of best practices)</td>
<td>• Undertake the quality issues associated with prostate biopsy (e.g. provincial survey, guidelines).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Clarify Champion roles and responsibilities and further development of the position.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Share regional organization of prostate cancer services with all regions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Continue to build the provincial CoP and share practices across regions.</td>
<td></td>
</tr>
</tbody>
</table>
Prostate Cancer Quality Improvement Initiatives

- Prostate Cancer Surgery Conference
- Nomination of surgery & pathology Prostate Cancer Champions
- Prostate Cancer List Serv Online Discussion
- Nomination of radiation oncology Prostate Cancer Champions
- Regional Funding Initiative ($2000)
- Prostate Cancer List
- Prostate Cancer Champions Regional Funding Initiative ($4000)
- Prostate Biopsy Survey

- Guideline released (Posted on CCO website)
- Prostate Cancer Champion Workshop
- Regional Funding Initiative ($2000)
- Prostate Cancer Champion Workshop
- Prostate Biopsy Survey

Timeline:
- Fall 2007
- Fall 2008
- Winter 2009
- Spring 2009
- Fall 2009
- Winter 2010
- Spring 2010
- Fall 2010
Previous Experience with Colorectal ListServ
Led by Dr. R. McLeod

- 4 clinical scenarios posted at 3 week intervals
- March 2009 – June 2009
- Main Cert credits
- Platform for discussing various quality issues related to surgery and pathology of colorectal cancer in a multidisciplinary forum
- Almost 250 participants from all 14 LHINs across Ontario, including: surgeons, pathologists, med oncs, rad oncs and radiologists
Prostate Cancer List Serv

- March – June 2009
- Implementation strategy for the Prostate Cancer Surgery and Pathology guideline
- 4 clinical scenarios highlighting the key guideline recommendations
- Clinical scenarios presented in 3-week intervals for discussion
  - **Week 1**: Case presentation, initial investigations and discussion questions
  - **Week 2**: Pathology results, treatment decision and additional discussion questions
  - **Week 3**: Evidence from the guideline and other related resources, summary of discussion from Week 1 and Week 2, evaluation of clinical scenario
- 167 participants from all 14 LHINs and various specialties
Prostate Cancer List Serv - Results

- **74%** of participants reported incorporating the prostate surgery and pathology guideline recommendations into their practice
- **62.5%** of participants reported that the List Serv increased their knowledge of the surgery recommendations
- **56.3%** reported an increase in knowledge on the pathology recommendations

**Participant Satisfaction**

- **Overall List Serv initiative**
- **Scenario format**
- **List Serv format**
- **Scenario duration**
- **Quantity of emails**

<table>
<thead>
<tr>
<th>Response</th>
<th>Quantity of Emails</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>18</td>
</tr>
<tr>
<td>Somewhat satisfied</td>
<td>14</td>
</tr>
<tr>
<td>Neither satisfied or dissatisfied</td>
<td>12</td>
</tr>
<tr>
<td>Somewhat dissatisfied</td>
<td>6</td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>2</td>
</tr>
</tbody>
</table>

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Prostate Cancer Quality Improvement Initiatives

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- Nomination of surgery & pathology Prostate Cancer Champions
- Prostate Cancer List Serv Online Discussion
- Nomination of radiation oncology Prostate Cancer Champions

Regional Funding Initiative ($2000)

Guideline released (Posted on CCO website)
Prostate Cancer Champion Workshop
Regional Funding Initiative ($4000)
Prostate Cancer Champion Workshop
Prostate Biopsy Survey
Prostate Cancer Surgical Pathology Roadshow

- Surgical Oncology Program
- Surgical Margins: Provincial Data
- Synoptic Pathology Reporting
- Inter-observer Variability: Margin Positivity
Thoughts About Positive Surgical Margins

• “I am impressed by your serious attempts in Ontario to reduce positive surgical margins in men with organ confined disease”

PC Walsh, Johns Hopkins Hosp.
Spectrum of Cancer Pathology Reporting: The Ontario Transformation

<table>
<thead>
<tr>
<th>Reporting Level</th>
<th>Narrative Description</th>
<th>Discrete-Synoptic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level 1</td>
<td>Level 2</td>
</tr>
<tr>
<td></td>
<td>Narrative</td>
<td>Narrative</td>
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<td>No CAP content</td>
<td>CAP content</td>
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<td>Single text field data</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Ontario Hospitals 2004-05</td>
<td>5%</td>
<td>40%</td>
</tr>
<tr>
<td>% Ontario Hospitals Sept 2011</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

95% narrative reporting
83% (93%*) structured reporting
Almost 90% of **ALL** Ontario pathology reports for the most common cancer surgeries were created in synoptic format.

Provincial Synoptic rate by Common 5 Disease site, as of last month of reporting - January 2011

NB. Includes synoptic pathology reporting for January 2011
Report Date: March 10, 2011.
Data Source: CCO PIMS Database
Prepared by: Cancer Care Ontario, Cancer Informatics
Completeness of pathology reports against the pathologist endorsed CAP standard has increased from 75% (2005) to over 90% (2011)
Bonus: “Cross Fertilization”

Discrete data from synoptic pathology reports used to monitor quality of cancer surgery without the need for costly, time-consuming and labor-intensive manual audits.

Prostate Margin Rate
Proportion of prostatectomy pathology reports (pT2) where a positive margin was reported.

<table>
<thead>
<tr>
<th>Year surgery performed</th>
<th>% of radical prostatectomies with involved margins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual audit 2006</td>
<td>31.1%</td>
</tr>
<tr>
<td>Synoptic reports 2008/2009</td>
<td>33.9%</td>
</tr>
<tr>
<td>Synoptic reports 2009/2010</td>
<td>20.5%</td>
</tr>
<tr>
<td>Synoptic reports 2010/2011</td>
<td>21.0%</td>
</tr>
</tbody>
</table>

Report Date: March 10, 2011.
Data Source: CCO PIMS Database
Prepared by: Cancer Care Ontario, Cancer Informatics
Pathology Synoptic Reporting as a “Almost Real Time” Convenient Tool for Surgical Quality Monitoring” Quarterly Reporting

Percent of Synoptic Radical Prostatectomies with involved margins by pT stage in Ontario

<table>
<thead>
<tr>
<th>Fiscal Quarter</th>
<th>pT2 rate</th>
<th>pT3 rate</th>
<th>pT2 Volume</th>
<th>pT3 Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarter 1 2008/2009</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Quarter 2 2008/2009</td>
<td>54.2%</td>
<td>0.0%</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td>Quarter 3 2008/2009</td>
<td>33.3%</td>
<td>55.6%</td>
<td>33</td>
<td>18</td>
</tr>
<tr>
<td>Quarter 4 2008/2009</td>
<td>27.3%</td>
<td>43.2%</td>
<td>66</td>
<td>37</td>
</tr>
<tr>
<td>Quarter 1 2009/2010</td>
<td>24.8%</td>
<td>40.3%</td>
<td>137</td>
<td>67</td>
</tr>
<tr>
<td>Quarter 2 2009/2010</td>
<td>20.1%</td>
<td>41.9%</td>
<td>154</td>
<td>62</td>
</tr>
<tr>
<td>Quarter 3 2009/2010</td>
<td>20.8%</td>
<td>49.5%</td>
<td>207</td>
<td>97</td>
</tr>
<tr>
<td>Quarter 4 2009/2010</td>
<td>17.5%</td>
<td>51.6%</td>
<td>217</td>
<td>95</td>
</tr>
<tr>
<td>Quarter 1 2010/2011</td>
<td>21.9%</td>
<td>41.8%</td>
<td>397</td>
<td>170</td>
</tr>
<tr>
<td>Quarter 2 2010/2011</td>
<td>21.5%</td>
<td>41.3%</td>
<td>376</td>
<td>172</td>
</tr>
<tr>
<td>Quarter 3 2010/2011</td>
<td>19.6%</td>
<td>43.9%</td>
<td>485</td>
<td>237</td>
</tr>
<tr>
<td>Quarter 4 2010/2011</td>
<td>20.6%</td>
<td>49.3%</td>
<td>514</td>
<td>268</td>
</tr>
<tr>
<td>Quarter 1 2011/2012</td>
<td>21.0%</td>
<td>48.1%</td>
<td>500</td>
<td>212</td>
</tr>
</tbody>
</table>
Reporting by the LHIN

LHIN Surgical Oncology Lead / Regional VP Took Remedial Actions
Defining Positive Surgical Margins in Prostatectomy Specimens

Dr. J. Srigley
Resection Margins of Radical Prostatectomies: Lessons I've Learned from 3000 cases

J.L. Chin, M.D.
pT2 radical prostatectomies with positive margins – Comparison of 5 hospitals within LHIN “X”

Percent of Radical Prostatectomies with positive pT2 Margin

Fiscal Year 2010/2011

Total Vol = 24
Total Vol = 12
Total Vol = 36
Total Vol = 42
Total Vol = 145
### Reporting by the Hospital

**Percent of Synoptic pT2 Radical Prostatectomies with involved margins - LHIN 2**

<table>
<thead>
<tr>
<th>Fiscal Quarter</th>
<th>Hospital A</th>
<th>Hospital B</th>
<th>Hospital C</th>
<th>Hospital D</th>
<th>Hospital E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarter 4</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Quarter 1</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Quarter 2</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Quarter 3</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
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<td>Quarter 4</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Questions:**

- Should a review be conducted on Hosp. D?
- Should Hosp. D stop performing RPs?
Data on Case Selection: Appropriateness based on clinical information

Percent of 2010/2011 Synoptic pT2 Radical Prostatectomies by Total Gleason Score Grouping

- LHIN 1: 0/0/0/0/2/0/0/6/1/5/0/0/2/1/2/19
- LHIN 2: 4/0/1/3/3/3/10/6/5/0/3/2/2/1/43

Legend:
- Purple: >=9 Volume
- Green: 8 Volume
- Red: 7 Volume
- Blue: <=6 Volume

Local Health Integration Network
Results & Conclusions

- **pT2 MPR 33.3% in 2008-09 → 20.0%**
- Almost all regions showed a decrease in MPR

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>Ont.</th>
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<tbody>
<tr>
<td>N</td>
<td>68</td>
<td>156</td>
<td>68</td>
<td>259</td>
<td>103</td>
<td>75</td>
<td>398</td>
<td>162</td>
<td>227</td>
<td>46</td>
<td>82</td>
<td>45</td>
<td>31</td>
<td>52</td>
<td>1403</td>
</tr>
<tr>
<td>% + MPR</td>
<td>22</td>
<td>17</td>
<td>35</td>
<td>18</td>
<td>19</td>
<td>23</td>
<td>15</td>
<td>31</td>
<td>20</td>
<td>22</td>
<td>17</td>
<td>13</td>
<td>29</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

* Multi-faceted approach, significant improvement in overall pT2 margin positivity rates was achieved  
  "Hawthorne Effect"
* Clinical engagement included creation of Communities of Practice, regular monitoring and reporting of quality indicators
* Still working with regions to reduce both inter- and intra-region variations in performance

*A population-level quality improvement program was possible & was implemented in Radical Prostatectomy results.*
IMPROVING MARGIN STATUS IN RADICAL PROSTATECTOMIES THROUGH PERFORMANCE MEASUREMENT AND MULTIDISCIPLINARY KNOWLEDGE TRANSFER (KT) ACTIVITIES: A POPULATION LEVEL APPROACH TO QUALITY IMPROVEMENT

JL Chin, N Fleshner, T McGowan, L McKnight, J Irish, R McLeod, A Evans, J Srigley
London ON, Toronto, Mississauga, CANADA
Is resection margin status a valid marker of surgical quality?

What about quality of life measures? ..... urinary control function, erectile function.....
Prostate Cancer Quality Improvement Initiatives

- Prostate Cancer Surgery Conference
- Nomination of surgery & pathology
- Prostate Cancer Champions
- Prostate Cancer List Serv
- Online Discussion
- Nomination of radiation oncology
- Prostate Cancer Champions
- Regional Funding Initiative ($2000)
- Prostate Biopsy Survey

- Guideline released
  (Posted on CCO website)
- Prostate Cancer Champion Workshop
- Regional Funding Initiative ($2000)
- Prostate Cancer Champion Workshop
- Prostate Biopsy Survey
On-Going Quality Improvement Activities:  
**Prostate Biopsy Survey**

- Identified as a priority at both the December 2008 and October 2009 Prostate Cancer Champion Workshops

- **Survey Purpose:**
  - To learn about the methods and practices used by urologists and radiologists performing prostate biopsies in Ontario
  - Information will inform future quality improvement strategies (e.g. guideline development)

- **Audience:**
  - Urologists and Radiologists in Ontario who perform prostate biopsies
  - Response rate: **63.2%** (Based on urology responses only)

- **Status:**
  - Results undergoing analysis
  - Potential guideline development to start
Are there any egregious / dangerous practices?
Prostate Biopsy Practices in Ontario: Results of a Provincial Survey Assessing Self-reported Practices in Ontario

Chiu, Joseph1; Singal, Rajiv2; Strigley, John3; Evans, Andrew2; Toi, Ants4; Victor, Charles1; Hunter, Amber4; McKnight, Leigh4; McLeod, Robin4
1-University of Western Ontario, London, ON, Canada; 2-University of Toronto, Toronto, ON, Canada; 3-Credit Valley Hospital, Mississauga, ON, Canada; 4-Cancer Care Ontario, Toronto, ON, Canada

Abstract

Background: The objective of this survey was to ascertain current prostate biopsy (Bx) practices in Ontario.

Methods:

- A 18-question survey was sent to all urologists and radiologists in Ontario.
- The survey was anonymous and voluntary.
- The survey was sent to all urologists and radiologists in Ontario.

Results, General Practice

- The response rate was 81%.
- 90% of Bx were performed by URO or RAD.
- 10% by primary care MD.
- 20% of Bx were performed by URO.
- 80% of Bx were performed by RAD.
- 20% of Bx were performed by other providers.

Results, Biopsy Techniques

- 79% of Bx were performed in hospital radiology facility.
- 21% of Bx were performed in office setting.
- 90% of Bx were performed by URO.
- 10% of Bx were performed by RAD.

Results, Pathology Reporting

- 85% of Bx were reported by a pathologist.
- 15% of Bx were reported by a nurse.
- 100% of Bx were reported by a pathologist.

Conclusions

- Although most URO and RAD in the province conform to practice standards, some substandard practices were identified, possibly due to deficiency in training and/or access to resources, providing opportunities for remediation.
- The survey results are being used to develop a provincial prostate Bx Practice Guideline on parameters including bx indications, techniques, bx optimization, bx quality, provision of relevant information to Bx, and to pathology services.
- This model of knowledge transfer via communities of practice engagement and practice guideline development should result in overall improvement of prostate cancer care in the province.
RESULTS: **Biopsy Techniques**

- 76% Bx were performed in hospital radiology facility
- URO on average performed 14 Bx per month
- RAD on average performed 8 bx per month
- 92% of URO used TRUS guidance as main technique.
- *Direct digital guidance was used by 4 MD’s in >80% of their patients
- *All 4 have been in practice > 15 yrs.

RESULTS: Specimen Submission

• 56% submitted individual tissue cores separately
• 33% combined samples from each of the general sextant sites
• 5% in right and left lobes
• 2% \((N=10)\) routinely submitted all cores in a single container
Guideline Development and Implementation

- Guideline initiated
- Expert Panel assembled (Urologists, Pathologists, Rad Onc, Med Onc)
- Prostate Cancer Surgery and Radiology Conference
- Consultations with Expert Panel
- Champions contacted and invited to Workshop
- Urology Surgery and Pathology Champion Workshop
- Guideline released (Posted on CCO website)
- Workshop planning and preparation
- Re-iterations of draft
C.C.O. Surgical Oncology Program

- Improve quality of cancer surgery
  - Support knowledge transfer and evidenced-based practice
  - Support the development of communities of practice
  - Foster research and innovation