Quality in Surgical Pathology: Adding Value

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Cities With the Highest Crime Rate In Canada

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Conflicts of Interest

- None to declare

Overview

1. Quality Programs in Surgical Pathology
2. Common Themes of Canadian Quality Programs
3. Where is the Value in Current Programs?
4. Where Can We Add Value?
   - To the Lab
   - To Clinicians
5. Questions -

What is Quality in Surgical Pathology?

- Accurate, timely and complete surgical pathology reports[11,12]
- Provides diagnostic, prognostic and predictive treatment information

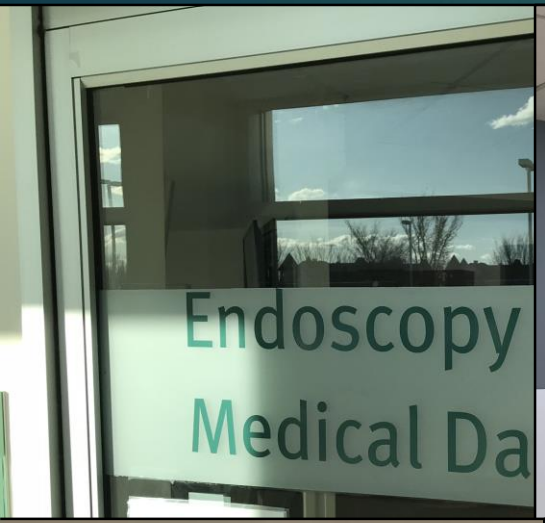
What is a Quality Plan?

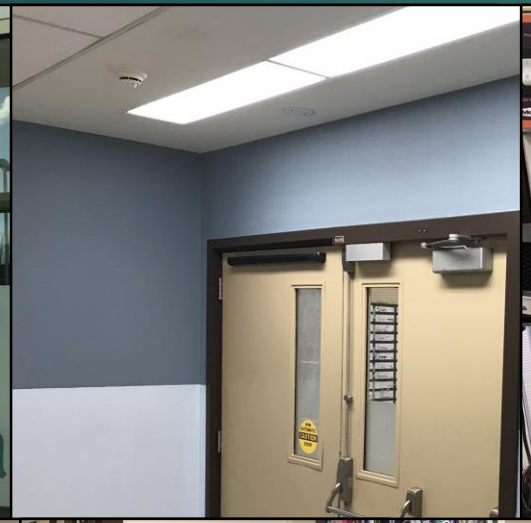
- A process to measure, assess and identify opportunities for improvement in Quality

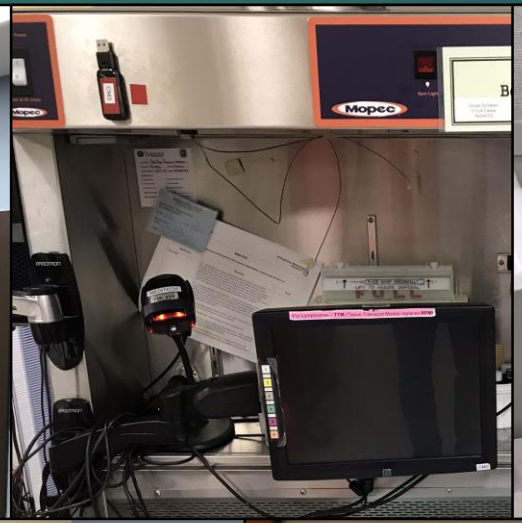
Canadian Quality Programs in Surgical Pathology: Published Programs

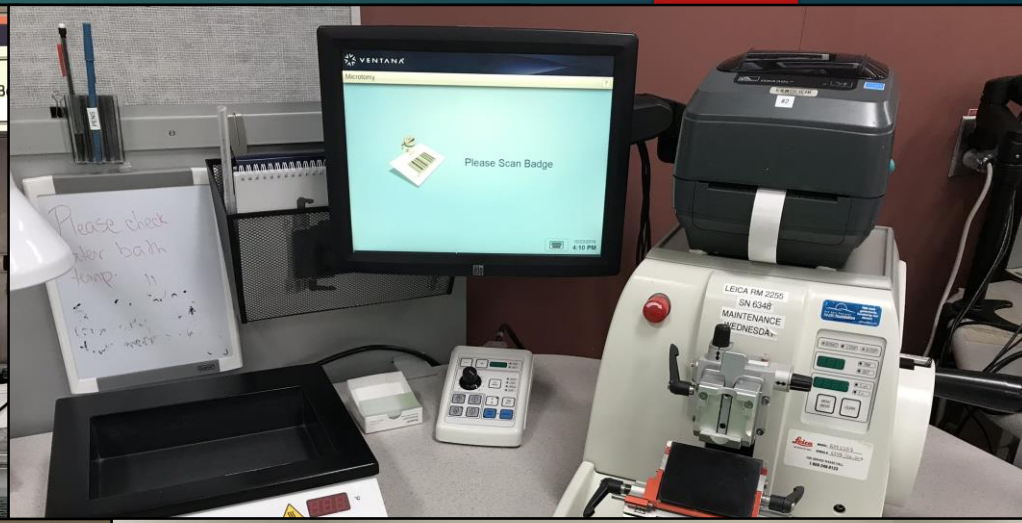
- Ontario Medical Association Section on Laboratory Medicine and Ontario Association of Pathologists: Guidelines for Quality Management in Pathology Professional Practices (2013, Ver. 2)[3]
- B.C.'s Agency for Pathology and Laboratory Medicine: Quality Assurance Assessment Program for Anatomical Pathologists (Sept. 2019, Ver. 2.0)[2]
- Alberta Health Services / Alberta Precision Laboratories: Laboratory Services Quality Assurance Plan for Anatomical Pathology (2018)[1]

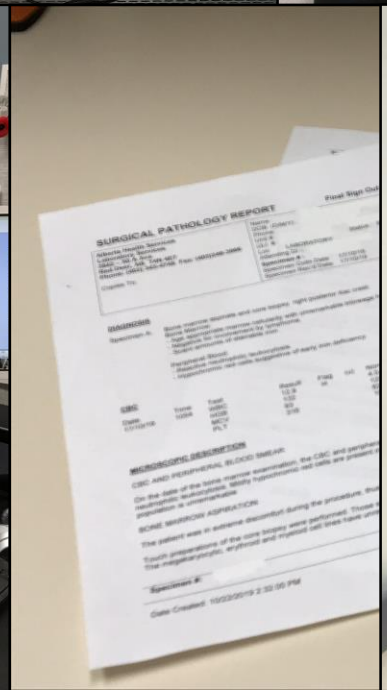
Surgical Pathology is Complex











Common Themes

- 5 Parts to a Quality Program[11]

1. Pre-Analytic Assessment
2. Analytical Assessment
3. Post-Analytical Assessment
4. Turnaround Time
5. Customer Satisfaction

Surgical Pathology Quality Programs in Canada: General Structure

1. Specimen collection
2. Transport to Lab
3. Specimen Receiving
4. Histopathology
5. Gross Dissection
6. Specimen Processing
7. Slide Cutting
8. Slide Staining
9. Pathologist Interpretation
10. Ancillary Testing
11. Report Generation
12. Report Transmission

1. PRE-ANALYTIC

2. ANALYTIC

3. POST-ANALYTIC

Surgical Pathology Quality Programs:

Monitors/Key Performance Indicators

Key Performance Indicators Pre-Analytic

- Proportion of Cases with proper identification
  - ID error for cases received (external lab error)
  - ID error rate within lab
- Targets
  - Cases received - 20% for improvement from baseline[1] (AB)
  - Q-probes – overall ID error rate in and out of the lab = 1.1/1000 cases[18]

Key Performance Indicators Analytic

- Intraoperative Consultation
  - Rate of Deferred Diagnosis
    - Per Group and/or Per Pathologist[3] (ON)
    - Target Rate 1.8 – 4.9%[2] (BC)
    - Target < 10%[1] (AB)
    - Q-probes, mean = 2.35 %[17]
  - Rate of Diagnostic Discordance +/- Severity of Discordance
    - Per Group and/or Per Pathologist[3] (ON)
    - < 2% major discrepancy[2] (BC)
    - < 3% disagreement – major[1] (AB)
    - Q-Probes, mean = 1.8%[17]
  - Turnaround Time
    - > 90% within 20 minutes[1,18] (AB)

Key Performance Indicators Analytic

- Pathologist Consultations
  - Overall Rate of reviewed reports (prospective/retrospective)
    - 10% rate overall[1] (AB)
  - Internal/Intradepartmental Consultation Rate
  - External/Tumor Board Consultation Rate
  - Discordance Rate for Each

- Target
  - For group, per pathologist[3] (ON)
  - All had targets of < 2% or < 3% for major diagnostic discrepancies[1,2] (AB, BC)
  - Q-Probes, mean = 2.5%[17]

Key Performance Indicators Post-Analytic

- Rate of Revised Reports – excludes follow-up to prelims
  - Amendments – changes to diagnostic information
  - Corrected Report – correction of non-diagnostic information
  - Addendum – additional information

- Target
  - Recorded for group and per pathologist[3] (ON)
  - Target - < 2 / 1000 cases[1] (AB)
  - Q-Probes, overall mean = 1.46 / 1000 cases[17]

Key Performance Indicators Turnaround Time (TAT)

- Level I - IV (routine biopsies)
  - 90% in 4 working days[1] (AB)
  - 85% in 3 - 4 working days[2] (BC)
  - 80% in 2 working days (ADASP – Association of Directors of Anatomic and Surgical Pathology)[16]
- Level V and VI (complex cases)
  - 90% in 6 working days[1] (AB)
  - 85% in 5 - 6 working days[2] (BC)
  - Q-Probes (CAP) mean = 2.72 days with range 1.22 – 6.33 days[16]
- Overall (ON)[3]
  - % cases signed out by day for group and per pathologist
  - Mean TAT of overall group and per pathologist

Key Performance Indicators Clinician Satisfaction Survey

- Q-probes standardized survey q2 years[15]
- Mechanism to identify concerns or issues that end-users have with pathology results, reports
  - Accuracy, Clarity, Organization, Timeliness, etc.
- Target
  - > 80% overall satisfaction[1] (AB) – survey based on scoring satisfaction with various areas of surgical pathology
  - Log all positive and negative comments. Identify any areas for improvement.[3] (ON)
  - Q-Probes mean overall satisfaction rate = 4.2/5[15]

Other Considerations: Resources

- Quality Assurance Committee(s) and Team
  - Have defined membership and duties
  - Ensure adequate human resources for duties
  - Have regularly scheduled meetings to review Monitors/Key Performance Indicators and other reported non-conforming events
  - Process for Improvement
- IT System to collect data
- External Proficiency
- Individual Competency
- Accreditation Requirements
  - Minimum requirements

Other Considerations: Legal Protection

- Adverse events in Health Care are litigious
- Be aware of which quality process and activities have protection from legal proceedings
  - This is likely provincially determined

- Section 9 of the Alberta Evidence Act
  - Protection of minutes and discussion for quality assurance committees evaluating provision of health care from a ***systemic*** perspective
  - Does NOT protect review of specific complaints respecting the conduct of a person practicing a profession or occupation
  - Does NOT include case reviews, educational rounds, individual e-mails, etc.
  - Does NOT include individual performance review

- Need a well-defined, separate process for individual reviews

Meeting the Needs

- Labs
- Clinicians
- Patients

Where are these QA Programs Successful?

- Identify systemic process weakness
- Quality improvement initiatives based on findings prevent errors from happening again

- Identifying baseline and compare to benchmarks
- CAP Q-probes (1989) and Q-Tracks (1999) provides many benchmarks
- Monitor effect of process change

Where are these QA Programs Successful?

- Identification Errors
  - One of the most basic tenants of Health Care is patient identification
  - CAP make patient ID a cardinal goal of patient safety[12]
  - Technological advances and Lean process can reduce specimen identification errors in and outside of the lab
  - QA monitoring is an excellent means to monitor effect of process change
  - Barcoding system and Lean processes can reduce overall specimen ID error in the lab by 62%[7]
  - Reduce specimen ID errors made with glass slides by 95%[7]

Where are these QA Programs Successful?

- Turnaround time
  - Establish baselines
  - Determine impact of process change
    - Studies where introduction of Lean process can improve TAT and productivity by up to 125% (7)
    - Can monitor turnaround from start to finish or at any single step in the process

Opportunities for Improvement:

- Non-Predictive (Routine) IHC Validation[17]
  - Wide variation in validation practices
  - Types of controls
  - Number of controls
  - Scoring systems
  - Interpretive reproducibility
- Accuracy of Electronic Report Transmission[17]
  - Into (order entry) and Out of the Lab

Opportunities for Improvement: Turnaround Time

- Overall TAT of > 80 % within 2 working days for routine cases[8,10]
- No clinical data to support these targets[9,16]
  - Monitoring TAT - NOT shown to improve clinician satisfaction on surveys[15]
  - Monitoring TAT – NOT shown to benefit patient outcome[16]

- Clinically appropriate turnaround – highly variable
  - Patient factors – patient's clinical condition, access to required care
  - Clinical factors – sub-specialty, ordering vs. treating physician, availability of specific treatments, clinical urgency of treatment
  - Lab factors – expertise/experience/sub-specialty training, consultation availability, ancillary testing availability, synoptic reporting, specimen complexity

Opportunities for Improvement: Turnaround Time

- Can monitoring TAT be harmful?
- Pressure to meet these guidelines in inappropriate clinical scenarios can lead to incomplete reporting
  - awaiting ancillary testing that may be diagnostic or treatment predictive
  - This may be appropriate in some circumstance
  - Must have a system that ensures the follow-up is complete
- Incorrect reporting – reports providing presumptive information that is proven incorrect when ancillary testing or additional work is complete
- These can increase risk for miscommunication with clinical colleagues

Opportunities for Improvement: Turnaround Time

- Be clear of goals for monitoring TAT
- Most QA programs are looking for systemic problems
- Releasing a low quality report to meet a turnaround target may simply be hiding and/or compounding a problem that is unrelated to individual performance

Opportunities for Improvement: Inter-departmental Communication

- Not all pathology cases are black and white
  - Communication in these cases can be challenging

- Surveys - attempt to improve communication between lab and ordering practitioners

Opportunities for Improvement: Inter-departmental Communication

- Cameron Inquiry[4] Recommendations:
  - QA Rounds for Pathology and Oncology
  - All Pathologists and Oncologists should be required to participate in multidisciplinary rounds
  - Time required to participate in rounds needs to be accounted for…. physicians do not have to choose between day to day tasks and participation in the QA process

Opportunities for Improvement: Inter-departmental Communication

- **Falling Through the Cracks: Greg's Story**
  - https://gregswings.ca

- A story about communication in the healthcare system

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Thank-you