

# Dr. Mary Kinloch

## Pathology

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### Overview

1. **Profile:**
  - a. **Positions:** Division Head for Anatomic Pathology (Saskatoon); Clinical Assistant Professor (Saskatchewan); Co-Chair of Anatomic Pathology (Saskatchewan); VP Regional Medical Association (Saskatoon); Chair of the Women Leading Philanthropy Campaign (Canada); Executive of Special IG for Gynecologic Pathology (Canada); Canadian Association of Pathologists (Canada); Education Committee of the International Association of Pathology (International)
  - b. **Training:** Gynecologic Pathology Fellowship (UBC); Pathology Residency (Saskatchewan); MD (Dublin)
2. **Projects:** Molecular classification of endometrial carcinoma; Quality improvement and standardization in Anatomic Pathology
3. **Pitch:** Ability to make decisions and be the ultimate problem-solver, dictating nearly every decision that other physicians make in their diagnosis and treatment.
4. **Path:** Knew early on in medical school that she wanted to work in a lab setting. The opportunities to specialize and find work are tremendous.
5. **Philosophy:** Take a chance on pathology! Even if you are completely disinterested, you will come away from any experience in pathology with a greater understanding of any field of medicine you could practice!

### Elevator Pitch

(2:26)

- Pathologists must be interested in puzzle-solving and getting to the bottom of complex medical problems.
  - The **best part** about pathology is the incredible sense of accomplishment and contribution to the patient's journey through the healthcare system.
  - You need to be able to make decisions. You get to incorporate all the aspects of medical school that may be considered boring in class, but once they are applied in actual medicine become fascinating.
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**Residency and Specialization (24:01):** Anatomic pathology is the typical pathologists working in the hospital, usually sub-specialized; General is mostly for core lab physicians who want to work more rurally; hematological pathology is the most exact diagnostic methods available, dependent on molecular pathology, cytogenetics, PCR, fusion - labs to create exact molecular diagnostics.

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## Personality

(5:01)

- Decision-making is key.
- Dr. Kinloch is an ENTJ and the J comes heavily into play (Myers-Briggs Personality: Extraverted, Intuitive, Thinking, and Judging).
- The E part is not as important, but it has helped her with communication between clinician and pathologist, as well as getting out of the office to promote the work of pathologists.
- “Patients” don’t call, don’t speak with you, don’t mind if you take a break or go to the bathroom, they wait for you on the slide!

## Stereotypes

(6:28)

- UBC study on the medical student perception on pathology, felt that it was a field for introverts, non-medical akin to a technician role
  - Response: Mostly studious people, but need lots of types of pathologists to make a “flower” of a department.
    - There are many physicians who are more **introverted** and focus on slide work and write **reports** - they are the workhorses.
    - There are also people who want to do **process improvement and research**, doing the translational end, promoting another dimension.
    - There are also people like Dr. Kinloch who want to speak and travel and **communicate about advocacy and pathology**.
  - Technician - people don’t realize that **the pathologist almost always makes the diagnosis**. They also histotype and check spread, which absolutely **guides surgical resection and therapy**. The surgeon has to trust the pathologist almost blindly.
  - Gynecologic Pathology has it even better because they directly speak to the one person who acts as the surgeon, the oncologist and the palliative doctor.
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**Referenced Material:** Hung et al. Residency choices by graduating medical students: why not pathology?. *Human Pathology*. 2011;42:802-807.

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## Path

(13:34)

### Medical School

- Dr. Kinloch completed an undergraduate degree in Microbiology and Immunology, but wasn't outright thinking medicine. Since she hadn't "played the game," had a harder time getting in and after travelling in Europe, decided to go to school in Ireland.
- During that time, she found that she hated the hospital environment and missed the lab setting. At tumor board rounds during a colorectal surgery rotation, she was amazed at the one person who sat in the corner, wearing a suit and looking well-rested. Spent all her free time in the lab, which helped her match to the 1 open spot for IMGs in Saskatoon.
- All alternate career interests remained lab-based, e.g. medical genetics and microbiology, and this was further narrowed down by her wanting to return to Saskatchewan to be with family.

### Residency and Fellowship

- General pathology is anatomic and clinical pathology. Most Canadian pathologists can specialize and don't stay very general, although there are rural pathologists who do everything.
- UBC for gyne pathology - a great mentor attracted her to the program, as well as the shifting science surrounding ovarian cancer and fallopian tube cancer.

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**Exposure (21:08):** Skills that medical students learn (teamwork, history, physical) don't really apply in pathology so there is a high learning curve. You'll end up understanding diagnosis and treatment plan better. Instant gratification can be seen when frozen sections are sent from the OR, wherein the pathologist must actively diagnose a sample and return it rapidly to an ongoing operating room.

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**Money Matters (42:06):** Most pathologists must work with a hospital, but as employees are entitled to benefits including pension - all on top of the salary. Most pathologists work on a provincial grid system, which scales uniformly with physician qualification.

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Post-residency, salary begins at 316,000. After four years of practice, or a fellowship, this moves up to 363,000, and then 15,000 for CME and 1,700 per week for call. There are also private labs for additional money. This is quite uniform nationally, which is important to know when considering cost of living.

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## Day-to-Day Life

(26:43)

- Arrive at 8-8:30 AM
  - Slides come into the lab in the morning
  - Critical diagnoses are usually prioritized to the morning, when Dr. Kinloch is most focused.
    - Biopsies, tissue resections and cancers.
    - The process involves a lot of debating with herself and differential thinking.
  - Opportunity for Social Justice - everyone in Saskatchewan gets the same access to molecular diagnostics, treatment plan, screening.
  - Monday Afternoon - “Big Project Day” - currently organizing a Tumour Bio Bank, regulatory aspects, proposals, admin.
  - Tuesday Afternoon - Rounds preparation - every gynecologic cancer diagnosis in northern Saskatchewan is reviewed, along with each patient’s entire chart, to be presented the next day.
  - Wednesday Morning - Rounds with Gynecologic Surgeons, Oncologists, Radiation Oncologists, Genetic Counsellors, Nurse Navigators and Radiologists - diverse fields allow for a big picture discussion for every single patient.
  - Wednesday Afternoon - Standing provincial meeting to discuss things going on provincially, which has been mostly COVID-centred as of late
    - Dyad meeting with all the technologists to perfect operations to improve quality - discussed in detail at 31:45
    - Quality improvement is extremely important, and discussed in a lot of detail at 32:25
  - Thursday Morning - Lab operations meeting to run through strategic projects and quality and safety with entire lab personnel.
  - Thursday Afternoon - “Huddle” with lab to go through interesting cases and troubleshoot any active problems.
  - Fridays - Focused on research, both students’ and own research.
  - Downtime is usually spent reading extra slides, which must be turned around within 4 days.
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**Call:** 1 week every 2 months. Heavier for clinical pathology. Hematopathology is called in for first-occurrence blasts, malarial smears, critical results. Clinical Chemistry and Microbiology is manageable over the phone and usually is talking techs through techniques and antibiotic choices. Possible to get called in for frozen sections if there are busy ORs, but rare outside of major academic centres.

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**Right Place:** Saskatchewan is very unique because the patient population is non-mobile and they always attend their appointments and do their tissue sampling, meaning there is a great database of longitudinal tissue samples that greatly aid in the ability to recognize and diagnose disease pathologies.

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## Final Comments

(45:39)

1. Dr. Kinloch remains passionate and excited for every day - in particular, the ability to collaborate with other health care workers, looking at the big picture to personally create national guidelines for diagnosis and treatment. Also finds immediate gratification in the ability to look at a patient's slide and figure out exactly what is wrong with them and exactly how to help them.
2. Difficult to get exposure if you aren't actively searching for pathology - has met a lot of family doctors who wish they had gone into it - "Formalin curtain"
3. Most pathologists would be thrilled to have a student come follow them, and regardless of your career trajectory, every specialty uses pathology extensively so you should get to know the people behind the scope and see how the sausage gets made.