Anatomical Pathology Residency Program
RESIDENT ELECTIVES

ELECTIVE POLICY

Elective experiences provide the resident with the opportunity to explore an area in greater depth than is required for general competence in Anatomical Pathology. Electives, therefore, may be used to explore areas of particular interest and to investigate possible future career options. Some residents may use electives to gain additional skills that may be required for their intended practice setting. An elective may also help the resident obtain a fellowship training position.

At Western University, the Anatomical Pathology Residency Program allows for a maximum of eleven blocks of elective time, six blocks in PGY4 and five blocks in PGY5.

Residents will be permitted to take the maximum period of electives if their progress in the program to date has been satisfactory. If not, the resident may be required to take mandatory rotations for part of this period, as specified by the Program Director in consultation with the Residency Program Committee. All electives are subject to the approval of the Program Director. Electives that are currently offered in the Department of Pathology and Laboratory Medicine at Western University are described in this section. A resident may organize an elective not currently listed by approaching a faculty member and designing an elective program. Residents may arrange up to six months of electives in an unaccredited setting if the Royal College guidelines are followed, with the approval of the Program Director. The Royal College Specific Standards of Accreditation for Residency Programs in Anatomical Pathology states that “when community/elective experiences are offered they must provide a learning environment with appropriate facilities, supervision, case material, and opportunities for evaluation based on rotation specific objectives.” All electives must have a designated elective supervisor, written educational objectives and an evaluation at the end of the rotation.

To arrange an elective, the resident should contact the elective supervisor. After discussion with the supervisor, the resident must then contact the Program Director.

RCPSC REGULATIONS FOR ELECTIVES IN UNACCREDITED SETTINGS:

An elective is defined as a discretionary non-mandatory component of training. If an elective period is taken in an unaccredited setting, it may be acceptable in meeting the training requirements in the specialty or sub-specialty if the following conditions are met:

- The total duration of unaccredited elective rotations must not exceed six blocks of the total training for the specialty or subspecialty.
- The resident must be enrolled in a recognized program at the time the elective is taken.
- The elective period is planned by the program director and the resident which is then accepted by the program director as meeting the specialty training requirements.
- There is a clearly designated elective supervisor.
- There are clearly defined and understood educational objectives.
- There is a well-defined in-training evaluation system to include evaluation of the resident during the elective period that is based on the educational objectives of the elective and that is clearly
understood beforehand by the resident, the elective supervisor, and the program director. Ref: RCPSC Policies and Procedures for Certification and Fellowship

The following electives are offered:
1. Cytopathology
2. Gynecological Pathology
3. Head and Neck Pathology
4. Oral Pathology
5. Gastrointestinal and Liver Biopsy Pathology
6. Breast Pathology
7. Skin Pathology
8. Lung Pathology
9. Forensic Pathology
10. Community Hospital Pathology
11. Cytogenetics
12. Molecular Diagnostics
13. Hematopathology

CYTOPATHOLOGY
Supervisors: Drs. Joseph, Weir, McLachlin and Chan
Duration: Minimum of 1 block

Objectives
1. Expand resident’s exposure to cytopathology with an emphasis on interpreting and reporting of a variety of gynecological and non-gynecological samples, particularly FNAs.
2. Demonstrate a solid understanding of problems and pitfalls in diagnostic cytology.
3. Develop a comprehensive understanding of quality assurance issues and initiatives pertinent to cytopathology.
4. Review cases from pathologists’ teaching slide collections.
5. Review cytology consult cases.
6. Present cases at Wednesday noon rounds, monthly cytology rounds and EUS-FNA rounds.
7. Carry out a research project in the division that might lead to publication (optional).

Description
This elective is designed for Pathology residents who have completed the basic training in cytology (PGY4) and are interested in receiving additional exposure to gynecologic and non-gynecologic cytopathology, particularly specialized cytology such as thyroid, lung, lymph node and EUS/EBUS FNABs. Residents will sign out cases with all consultants at LHSC as well as review available consultation material. In addition to everyday work, the residents will have the opportunity to study a large collection of teaching slides.
GYNECOLOGICAL PATHOLOGY

Supervisors: Drs. Armstrong, Ettler, McLachlin, Weir, Haig, Chan, Walsh, Goebel
Duration: Minimum of 1 block

Objectives
1. Study the gross and microscopic features of gynecologic disorders by working up current surgical pathology specimens.
2. Organize, attend and participate in the weekly Gynecologic Tumour Board Conference.
3. Frequently present material at Pathology Slide Rounds.
4. Review colposcopy cases, both biopsies and cytology, on a weekly basis
5. Review the gross and microscopic pathology of placentas.
6. Opportunity for a clinicopathological project for presentation or publication.

HEAD AND NECK PATHOLOGY

Supervisors: Drs. Wehrli, Kwan, Gomez, Shepherd
Duration: Negotiable, but a minimum of 1 block
Availability: If no ENT resident in department at the same time.

Objectives:
1. To improve diagnostic skills in surgical diseases of the head and neck.
2. To correlate FNAB's of salivary gland and thyroid lesions with surgical pathology.
3. To gain experience of tumours and inflammatory lesions of upper respiratory tract and ear.
4. To gain experience of oral pathology.
5. To complete a small research project for presentation at a scientific meeting (optional).

Description
The head and neck area presents the pathologist with a diverse range of diseases and pathologic processes. A surgical pathologist practicing in this area must acquire particular skills in gross pathology and understand the specialized diagnostic considerations in microscopic pathology of the various head and neck organs. There is a wide range of specimens with which to learn these skills and acquire this expertise.

Responsibilities
Gross dissection of all resection specimens and preparation of diagnostic reports on all accessioned material from the head and neck region. Attendance at Otolaryngology Rounds when appropriate, as well as Head and Neck Consultants’ Rounds.

ORAL PATHOLOGY

Supervisors: Drs. Darling and McCord
Duration: 2 - 4 weeks (up to 1 block).

Daily responsibilities:
1. Mornings spent reviewing tissue sections and cases from archived study material
2. Early afternoon sign-out with the Oral Pathologist on duty. Teaching of dental terminology and dental/oral surgical procedures.
3. Late afternoon: Review of difficult cases from the morning session and additional teaching cases selected by the instructor.
4. Additional teaching on specific topics requested by the resident. Topics include:
   - Odontogenic tumors and cysts
   - Non-odontogenic cysts of the jaws
   - Salivary gland disease: neoplastic and non-neoplastic
   - Soft tissue tumors affecting the head and jaws
   - Bone lesions including fibro-osseous lesions and tumors
   - Lesions specific to oral soft tissues – gingival lesions, tongue lesions.
   - Sequellae of advanced dental caries
   - Pigmented lesions
   - Mucocutaneous diseases.
   - Others as requested.

GASTROINTESTINAL & LIVER BIOPSY PATHOLOGY

Supervisors: Drs. Chakrabarti, Driman, McLean, Parfitt, and Walsh
Duration: Minimum 1 block

Objectives
1. Learn an approach to the histologic differential diagnosis of gastrointestinal and liver disorders
2. Review rapid liver transplant biopsies and acquire knowledge of liver transplant pathology
3. Review consult cases from pathologists outside of LHSC
4. Present cases at GI/Liver Pathology rounds with gastroenterologists (at least once per month)
5. Present cases at Wednesday noon rounds
6. Review cases from pathologists’ teaching slide collections
7. Perform and complete a research project (optional and depends on time allotted to rotation)

Description
This rotation is for the senior resident who wishes to improve skills in the biopsy interpretation of GI and liver disorders. It provides exposure to a high-volume GI/liver biopsy service and to liver transplantation pathology. Residents will have the opportunity to review cases referred in. Opportunities for research projects exist.

BREAST PATHOLOGY

Supervisors: Breast Specialty Team (Drs. Tuck, Armstrong, Ettler, Joseph, Kwan, Tweedie, Wehrli, Parfitt and Goebel)
Duration: 1-6 blocks

Objectives
1. To expand the resident’s exposure to breast pathology, with an emphasis on interpreting and reporting of core biopsy and needle localization specimens.
2. To gain experience with interpretation of breast consult material, including cases “for review” and for specialized testing (i.e. IHC for ER/PR, IHC and FISH for Her2/neu).
3. To gain experience with the interdisciplinary team approach to breast assessment and treatment, by presenting at/participating in mammography rounds, and breast multidisciplinary team rounds at the LRCC.
4. Opportunity for research project for presentation/publication.

**Description**
The resident will gain experience in breast pathology, by sign-out of in-house cases with individual breast team members on a daily basis (emphasis on needle core biopsy and needle localization specimens). Management of in-house cases will include grossing of needle localization specimens, to provide extra experience in proper processing, and in interpretation of specimen faxitrons. Selected consult material will provide exposure to referred-in cases from the community as well. Resident involvement in preparing and presenting monthly mammography rounds will provide experience with the multidisciplinary team approach to breast assessment. Also along these lines, the resident will be encouraged to attend Friday morning “breast rounds” at the LRCC (0800-0900h), where it may be seen how information provided by the pathologist can impact directly on management of patients with breast cancer. Depending on time available, a research project can be tailored to meet the needs of the individual resident.

**SKIN PATHOLOGY**
**Supervisors:** Drs. Joseph, Kwan, Parfitt, Gabril, Wehrli, Haig
**Duration:** 1 block

**Objectives**
1. Develop confidence and precision in the histological diagnosis of inflammatory skin disorders.
2. Enhance skills in the histological diagnosis of skin neoplasms particularly melanocytic neoplasms, adnexal tumours and cutaneous fibrohistiocytic tumours.

**Description**
1. Study approximately 100 cases of inflammatory dermatosis to include dermatitis, papulosquamous lesions, bullous eruptions and vasculitis using the pattern recognition approach of Dr. B. Ackerman.
2. Study approximately 100 cases of melanocytic, adnexal and fibrohistiocytic skin tumours.
3. Review current literature related to the subjects under study.
4. Engage in one to one learning with the supervisors around a teaching microscope on everyday cases and referred in material.

**LUNG PATHOLOGY**
**Supervisors:** Drs. Joseph, Howlett, Kwan, Shepherd
**Duration:** 1-2 blocks

**Objectives**
1. Develop greater confidence and precision in the histologic diagnosis of common and uncommon neoplastic lung diseases.
2. Enhance skills in the histologic diagnosis of non-neoplastic lung diseases including infections, air space diseases, interstitial lung diseases, vascular disorders and transplantation pathology.
3. Develop increased skills in interpreting transbronchial and open biopsies and pulmonary cytology.
4. Opportunity for a research project.

Description
1. Engage in one to one learning with the supervisors around a teaching microscope on everyday cases and referred in material.
2. Study a good collection of teaching slides from the supervisors.
3. Review current literature related to the subjects under study
4. Participate in clinical/lung pathology rounds at University campus
5. Interact with clinicians including radiologists; there will be opportunity to observe invasive procedures such as thoracoscopic biopsy and transbronchial biopsy.

FORENSIC PATHOLOGY
Supervisors: Drs. Shkrum, Tweedie, Tugaleva, Jacques
Duration: Minimum 1 block

Objectives
1. To appreciate the principles of medico legal death investigation (e.g. Coroner’s Act).
2. To develop the skills necessary for the practice of forensic pathology particularly in a community hospital-based setting.
3. To understand continuity of evidence.
4. To appreciate the steps necessary for the completion of a medicolegal autopsy report, including experience in case report writing.
5. To develop the ability to summarize and communicate pertinent historical and autopsy findings (e.g. for coroners, rounds), particularly as to how they correlate with a cause of death.
6. To appreciate the preparation required in a legal proceeding.

Description
This elective is offered to PGY5 pathology residents. Its intent is to solidify forensic pathology knowledge learned from prior training and to enhance practice skills by assuming responsibility for selected medico legal cases. Under supervision, the resident will guide each step of the case to its completion.

COMMUNITY HOSPITAL PATHOLOGY
A variety of electives is available in community hospitals within driving distance of London, and further afield. These include electives at hospitals in Windsor, Sarnia, Stratford and Owen Sound. Such electives can be taken for variable periods of time.

Objective
1. To develop a better understanding of community hospital practice.
**CYTOGENETICS**

**Supervisor:** Dr. P. Yang; Ms. S. Nan, Technical Specialist  
**Location:** LHSC-VC  
**Duration:** 2 blocks (but flexible)

**Objectives**
1. Develop a basic understanding of cytogenetic diagnostics in the areas of congenital and inherited diseases, fetal maternal medicine and cancer genetics.
2. Gain firsthand experience in specimen handling, cell culture and chromosome preparation.

**Description**
In addition to the above objectives, residents will have opportunities to learn chromosome analysis using the image system. Molecular cytogenetic technologies such as interphase FISH, spectral karyotyping for various clinical applications will be demonstrated.

**MOLECULAR DIAGNOSTICS**

**Supervisor:** Drs. P.J. Ainsworth and Howlett  
**Location:** Room C304 or A4 Westminster Tower  
**Duration:** 1 - 6 blocks (or more, e.g. if research project undertaken)

**Objectives**
1. Basic training in commonly used Molecular Diagnostic Techniques (e.g. DNA/RNA isolation, PCR, RT-PCR)
2. Screening for DNA mutations by PTT, MLPA, DHPLC, or Automated DNA Sequencing etc. (Syllabus available).
3. Observe molecular test methods for common disorders tested in the Molecular Genetics Laboratory (e.g. Cystic Fibrosis, Hereditary Breast/Ovarian (HBOC), and Colon/Endometrial (Lynch Syndrome: LS) cancers, Multiple Endocrine Neoplasias (MEN1 and/or RET), Familial Amyloidosis (TTR), Li Fraumeni Syndrome (Tp53), Myelofibrosis (JAK2), CML (BCR-ABL), the Thrombophilies (FVL and PTH), and identity testing).
4. Use knowledge gained from above for data interpretation in practice cases.
5. Research project (depending on length of elective e.g. 3 blocks or more).

The objectives will be achieved by the following activities:
- Literature readings
- Observation and practice of laboratory testing protocols
- Data interpretation and reporting of practice cases
- Discussion with senior laboratory staff

**HEMATOPATHOLOGY**

**Supervisors:** Drs. Rizkalla, Shepherd, Howlett, Sangle  
**Duration:** 1-3 blocks

**Objectives**
1. Learn lymph node and bone marrow basic morphology in normal and abnormal biopsies.
2. Exposure to flow cytometry and immunopathology, as important diagnostic tools of lymphoproliferative disorders and leukemias.
3. Exposure to problematic cases and learn an approach on how to solve them.
4. Correlation between pathology findings and morphology of aspirate as well as clinical correlation.
5. Research projects may be offered depending on resident's interest and period of the elective.

Description
1. Review topics with the resident on a daily basis. For example, if the rotation is one month - it will be divided as follows: Classification of lymphoma and Hodgkin's Disease (week 1); B-cell lymphomas (week 2); T-cell lymphomas (week 3); and MDS/leukemias (week 4).
2. Teaching slides of classical and difficult non-classical cases will be looked at.
3. All bone marrow biopsies, lymph node biopsies and referred hematopathological cases will be looked at, as well as all leukemic/lymphoproliferative disorder flow cytometric cases.
4. The resident will review aspirates of some cases with the Hematologist.
5. The resident will also have the option of spending one week (or mornings of one week) in the blood-bank (Hematology Department).
6. More than 300 cases of different hematopathology specimens, collected over the years from in-house and international centres will always be available for residents for review.
7. Research opportunities are also available, for interested residents.