GOALS AND OBJECTIVES FOR FORENSIC PATHOLOGY

BACKGROUND

- By the end of their residency program, anatomical pathology residents will have completed:
- Three (3) autopsy blocks within their PGY2 year (2 hospital autopsy blocks at the Civic Campus followed by 1 forensic autopsy block with the Division of Forensic Pathology at The General Campus)
- Two (2) forensic autopsy blocks within their PGY3/4 year with the Division of Forensic Pathology at the General Campus
- A number of medicolegal post mortem examination during scheduled Saturday duties.

AIMS AND OBJECTIVES

GENERAL

During the whole of the autopsy component of the AP residency program, the AP resident is expected to:

1. Perform a minimum of 50 routine (*postmortem examinations including hospital and medicolegal coroner’s cases*) post mortem examinations on adults.

2. When permitted by the supervisor, take ownership of any post mortem examination performed in terms of the timely preparation of a draft report (with conclusions) and timely submission of the case file to the administrative secretary (Kim Mac Donald) for processing.

3. Review the histological findings of the case with the supervisor.

4. Review and interpret toxicology findings.

5. Maintain a log book of all medicolegal post mortem examinations which they performed under supervision and observed. For each case, this will be recorded by date performed, case number, cause of death/case type and supervisor.

6. Provide a summary of the cases performed under supervision and observed.
7. Maintain a log book of all special autopsy techniques employed by date performed, case number, nature of special technique and supervisor.

**PGY2 ROTATION**

The overall aims of the fourth autopsy block of the PGY2 rotation are to:

1. Introduce the AP resident to the performance of the medicolegal post mortem examination
2. Reinforce the basic knowledge and skills of the post mortem examination learnt in the previous three attachment blocks of hospital autopsy at the Civic Campus.
3. Provide an introduction to the performance and requisite skill sets needed to approach and undertake forensic post mortem examinations in criminally suspicious deaths through direct observation of staff forensic pathologists who conduct these examinations.
4. Provide opportunities to foster and develop interests in forensic pathology.
5. Provide support and career guidance for those AP residents who are interested in a career in forensic pathology.

**PGY3/4 ROTATION**

The PGY3/4 rotations will build further on the knowledge and skill sets of the medicolegal post mortem examination acquired in the PGY2 rotation with greater emphasis placed on the types of cases encountered in criminally suspicious deaths that will include the homicidal asphyxias, gunshot wounds, blunt force injury, sharp force injury and fatal child abuse.

The CanMEDs objectives will be as follows:

**MEDICAL EXPERT**

**GENERAL REQUIREMENTS**

- Be able to identify an awareness of any limitations of knowledge and skill sets which will preclude the undertaking of any particular post mortem examination.
- Demonstrate an awareness of biosafety considerations and risk minimization prior to the performance of postmortem examinations in infectious cases eg tuberculosis, HCV, HIV.
• Identify those cases in which radiological imaging of the body eg skeletal surveys is applicable prior to the post mortem examination eg gunshot wound cases, severely burnt bodies, sudden unexpected death in infancy,

• Appreciate an understanding of and need for the collection of various trace evidence exhibits in the criminally suspicious deaths at the start of the post mortem examination.

• Demonstrate the ability to gather and enquire into all relevant information (medical and circumstantial) before beginning a post mortem examination. Be able to interrogate the clinical and laboratory records and understand the utility and limitations associated with various types of investigation including imaging, microbiology and biochemistry.

• Exhibit an understanding of the use of clinical information and the health record in autopsy examination and be able to identify any clinical issues to be addressed and resolved by the autopsy examination.

• Demonstrate an awareness of the need to consider and review the findings of the scene of death/discovery of a body prior to starting a post mortem examination in community deaths.

• Demonstrate and apply knowledge of normal anatomy, physiology and biochemistry.

• Anticipate and discuss with the coroner the need for and appropriate retention of whole organs in case-specific scenarios eg retention of the heart in a sudden death in a young person with a negative autopsy.

• Seek appropriate case-specific consultations eg cardiac pathology, neuropathology.

• Describe and apply common methods of evisceration and organ dissection techniques relevant to routine autopsy practice.

• Be able to describe the special techniques utilized in forensic pathology eg vertebral artery exploration.

• Understand and apply the difference between cause and manner of death.

• Understand the basic principles of cell biology, immunology and pathogenesis and the changes that occur in disease states.

• Confidently and correctly identify the macroscopic features of the major disease processes encountered in routine autopsy practice.

• Demonstrate the knowledge of procedures required for the identification of an unknown decedent.

• Be familiar with the effects of time, heat, cold, drying and humidity on body tissues.

• Learn the technique for removing a brain after the skull has been opened.

• Learn how to take vitreous/ introduced to technique to remove eyes via posterior approach.
• Learn about special needs of certain religions.

SPECIFIC REQUIREMENTS

• Understand the Ontario medicolegal system of death investigation and compare and contrast with other medicolegal systems in Canada.

• Read and understand the Coroner’s Act.

• Be able to confirm identity of the body just prior to autopsy from identification of the coroner’s identification tag and record the manner of identification.

• Appreciate the need to consider and procure the various relevant trace evidence samples from the body in criminally suspicious deaths in an uncontaminated manner at the very start of the post mortem examination.

• Appreciate the need to establish and guarantee chains of custody of the specimens obtained.

• Demonstrate the ability to perform and document the significant positive and negative findings on external examination of a body at post mortem through the use of body diagrams, descriptions and photographs.

• Be able to appropriately classify, describe and document injuries on external examination (written descriptions, body diagrams and photographs).

• Ensure that satisfactory photographs of external and internal injuries/other significant findings at autopsy are taken during the post mortem examination, either by the resident, technical staff or the police personnel in attendance.

• Demonstrate an awareness of the varied methods of organ evisceration and an appreciation of their application in case-specific circumstances.

• Be able to perform a thorough and systematic dissection of the organs and record the findings (descriptions, diagrams and photographs).

• Be able to identify and correctly interpret the positive anatomical findings on organ dissection.

• Demonstrate a superior and detailed knowledge of the normal gross and light microscopic appearance of tissues.

• Be able to recognize the microscopic appearance of normal and diseased tissues appropriate to the experience of a general anatomical pathologist.

• Demonstrate the ability to consider, apply knowledge of and procure appropriate samples for the relevant ancillary post mortem investigations as indicated (histopathology, toxicology, biochemistry, microbiology, molecular studies, electron
microscopy and other studies).

- Identify post mortem changes and artifacts due to decomposition and animal predation.
- Demonstrate the ability to interpret postmortem findings in light of the clinical history and/or scene investigation and be able to arrive at a cause of death statement in accordance with the WHO format.

COMMUNICATOR

GENERAL REQUIREMENTS

- Establish effective relationships with coroners, physicians, morgue technical staff, police, next-of-kin where indicated, and forensic scientists as applicable.
- Be able to elicit additional information from the coroner, police and other medical practitioners.
- Verbally discuss and appropriately feedback the results of the post mortem examination with the requesting coroner at the end of the post mortem examination.
- Observe the staff pathologist verbally discuss and appropriately feedback the results of the post mortem examination with the attending police officers at the end of the post mortem examination.

SPECIFIC REQUIREMENTS

- Verbal appraisal of the coroner of the findings and the pathologically determined cause of death at the end of the post mortem examination.
- Completion of the “Summary of Findings” form of the Ontario Forensic Pathology Service as appropriate.
- Completion of the “Toxicology Submission Form” of the Centre for Forensic Sciences that accompanies the toxicology specimens as appropriate.
- Completion of the Biochemistry analysis submission form for vitreous humour as appropriate.
- Completion of ALL relevant ancillary investigation request forms as appropriate.
- Preparation of the draft and final medicolegal autopsy reports of a high standard for the coroner.
- Understand the role of an expert witness in the delivery of forensic pathology evidence in court.
COLLABORATOR

GENERAL REQUIREMENTS

- Consult effectively with other medical, pathology and forensic pathology professionals.
- Appreciate the value of teamwork involving experts in other forensic sciences such as anthropology, odontology, police specialists and firearms/ballistics in the investigation of suspicious deaths.

SPECIFIC REQUIREMENTS

- Utilize sufficient experience in clinical medicine to advise on the significance of pathological findings at autopsy.
- Following preliminary findings at autopsy, must be able to advise concerned parties on appropriate further investigations.

MANAGER

GENERAL REQUIREMENTS

- Utilize resources effectively for optimal cost-benefit ratios in forensic pathological practice, but without compromising quality of work.
- Work effectively and efficiently in a health care organization.
- Utilize information technology to optimize life-long learning and other activities.

SPECIFIC REQUIREMENTS

- Demonstrate knowledge of the principles of laboratory management.
- Demonstrate knowledge of the methods of quality control in the laboratory.
- Demonstrate knowledge of the methods of risk management and professional quality assurance as applied to forensic pathology.
HEALTH ADVOCATE

GENERAL REQUIREMENTS

- Understand the need for next-of-kin genetic counseling following the finding of congenital/genetic disorders at autopsy.
- Understand the contribution of autopsy results to overall community health and safety.

SPECIFIC REQUIREMENTS

- As members of an interdisciplinary team of forensic professionals, the pathologist will endeavor to ensure that standards of autopsy practice are regularly reviewed to meet community needs.
- In conjunction with the coroner, reinforce to the public, the value of the autopsy to general community health and well-being.

SCHOLAR

GENERAL REQUIREMENTS

- Develop, implement and monitor a personal continuing education strategy.
- Critically appraise sources of information, medical and otherwise.
- Facilitate learning of other professionals in the forensic field.
- Contribute to development of new knowledge.

SPECIFIC REQUIREMENTS

- Present cases/autopsy topics during the Monday residents’ academic day. The resident may be asked to carry out a small research proposal, initiated either by himself/herself or by a supervising staff member and should be able to critically appraise the results.
- The resident may be asked to present the results of conducted research at a local, national or international meeting of forensic professionals with the support of the supervisor.
PROFESSIONAL

GENERAL REQUIREMENTS

- Perform highest quality work with integrity and compassion.
- Exhibit appropriate personal and interpersonal professional behaviors.
- Practice ethical medicine.
- Demonstrate respect for all genders, cultures and ethnic groups in autopsy practice.

SPECIFIC REQUIREMENTS

- Act as an appropriate role model for others.
- Demonstrate a professional attitude to colleagues.
- Have an appreciation of the crucial role of the forensic pathologist in judicial matters and in general community health and safety. This will include knowledge of individual professional limitations and the necessity of seeking appropriate second opinions.

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