

MEDICAL CAREERS**Forensic Pathology: Unraveling the Mysteries of Death**

Praseedha Janakiram, Hon BSc

Asha Gupta, Hon BSc

Forensics, the science of solving crime, has recently gained an aura of excitement and mystery. Television shows, such as “CSI” and “Crossing Jordan,” demonstrate the intricacies of the field and an increasing interest in the area. Nevertheless, while forensic science may be gaining popularity, recognition of forensic medicine as a distinct specialty is still in its early stages.

Forensic medicine is a unique specialty that acts as a nexus between law and medicine. More specifically, forensic pathology is a branch of medicine that investigates structural changes in the human body caused by disease or injury due to unnatural or suspicious etiologies. Those who develop their careers in forensic pathology are generally experts in both the anatomical and clinical branches of pathology – that is, examining structural alterations of the human body as well as laboratory samples removed from the deceased.

Currently in Canada, approximately 32 forensic pathologists assess and perform autopsies for medico-legal cases across the country.¹ Most forensic pathologists are found in the more urban centres of the country, namely in regions of Ontario and British Columbia. As a result, there is relatively little information available to the general public, or even the medical community, regarding the profession and what it involves.

Part of the problem may result from the national fragmentation of the specialty. Contrary to popular assumption, forensic pathology is not primarily based in academic centres. In Alberta, Quebec, and certain locales in Ontario, forensic pathologists are considered to be employees of the provincial government. In British Columbia, these same specialists work independently or as hospital employees. In Manitoba, Newfoundland, and other locales in Ontario, forensic pathologists hold university/government or university/hospital appointments. Due to the variable availability of forensic pathologists, the majority of autopsies are performed by community or hospital pathologists. However, due to an ever-increasing demand for forensic specialists to address complicated post-mortems, forensic pathology training programs as well as employment opportunities are being re-assessed.¹

The educational path of a forensic pathologist involves

completion of medical school and a minimum of five years of additional training in laboratory medicine specialties such as anatomical and general pathology. Following the Royal College of Surgeons board examination, those seeking specific forensic experience may apply for a Canadian fellowship position. Interestingly, at this time there exists but one such fellowship position in Canada, offered through the Laboratory Medicine program at McMaster University.² The majority of forensic pathologists in Canada have thus, received their training in Canada, the United States, or the United Kingdom.³ At the present time, forensic pathology is not available as an individual residency specialty. For this reason, many pathologists working in the field of forensics must seek experience and training informally.

Dr. Chitra Rao, the first female forensic pathologist in Canada, received her general medical training in India and went on to pursue training in forensics in Canada. She describes forensic pathology as one component of a death investigation, which often involves interacting with a variety of professionals including police, lawyers, social workers, and health care workers.⁴ Dr. Rao maintains a reverence for her work: “It is an honour and a privilege to be present ‘at’ the death of an individual.” Dr. Rao’s motivation has always been premised on her desire to help those who cannot speak for themselves, “We speak for the dead, to protect the living.”

Many of the questions raised in a death investigation can be addressed by a forensic pathologist’s examination of a victim. Often, the evidence uncovered is useful in assisting police investigators in their quest to identify perpetrators and to protect society. Interestingly, although it is said “the dead do not speak,” it is the forensic pathologist who proves otherwise. Dr. Rao explains that expertise in her field includes an ability to establish the cause of death, estimate the time of death, infer the nature of the weapon used, and perhaps contribute useful information to help distinguish a homicide from a suicide. In addition, forensic pathologists often assist in establishing the identity of the deceased and determining the additive effects of trauma or pre-existing conditions. Training involves developing skills in numerous areas including visual perception,

Table 1. A job description for forensic pathologists**Roles**

- Establish the cause of death
- Estimate the time of death
- Infer the nature of the weapon used
- Distinguish a homicide from a suicide
- Determine identity of the deceased
- Determine the additive effects of trauma

Education

- 3-4 years medical school
- 5 year residency in laboratory medicine specialties (e.g. anatomical and general pathology)
- 1 year fellowship in forensics (currently there is only one position in Canada at McMaster University)

Skills

- Inquisitive
- Observant
- Possess initiative
- Good communication skills

Income

- Up to \$200,000 – salary may vary across provinces, set by individual hospitals

Further information

- 1) www.cap.medical.org (Canadian Association of Pathologists)
- 2) www.csfs.ca (Canadian Society of Forensic Sciences)
- 3) www.forensicassistance.org (Center for International Forensic Assistance)

microscopy, pathological description and reporting, as well as developing both verbal and written communication skills.

While the profession offers minimal direct patient interaction, there is a constant interaction with colleagues and other professionals from other fields including toxicologists, pathologists, biologists, DNA specialists, anthropologists, members of the legal community, and a diversity of other professionals. In addition, the variability of each clinical case offers a high degree of intellectual stimulation while generally ensuring a lack of repetition throughout one's career. In terms of schedule and hours worked, pathology is highly valued as it demands predominantly day hours with a relatively high degree of control over one's schedule. The most commonly cited disadvantages of forensic pathology include minimal patient contact and a relatively lessened salary scale.⁵

Dr. Rao has no regrets regarding her choice of profession. She finds her work challenging, rewarding, and truly meaningful. Due to her expertise in child-related tragedies, Dr. Rao has become involved with numerous organizations, such as the Child Advocacy and Assessment Program in Ontario, which focuses on child abuse issues. In addition, Dr. Rao directs the residency program for forensic pathology at McMaster University and is a dedicated and diligent teacher at the academic centre. Her work is a reflection of the diversity of career choices open to those who choose the field of forensic pathology. In each case, forensic pathology is a testament to the fact

that the human body is a constant, unraveling mystery long after the heart ceases to beat. †

ACKNOWLEDGEMENTS

The authors would like to thank Dr. Chitra Rao, Dr. Danielle Shaw and Julia Bella for their time and effort in answering their questions. They would also like to thank Basilia Iatomasi and all their editors for their advice and input.

AUTHOR BIOGRAPHIES

Praseedha Janakiram is a medical student in her second year at McMaster University. Asha Gupta is a medical student in her final year at McMaster University.

REFERENCES

1. King, D.E.L. (1998). "Forensic Pathology in Canada at the Turn of the Century," Report to the Canadian Association of Pathologists.
2. Interview with Danielle Shaw, Chief Resident, Department of Laboratory Medicine and Pathology, Faculty of Medicine, McMaster University.
3. <http://www.pathologytraining.org/index.asp>.
4. Interview with Dr. Chitra Rao, Forensic Pathologist, Director of General Pathology Residency Program, Faculty of Medicine, McMaster University
5. Interview with Julia Bella, Coordinator, Postgraduate Training Programme, Department of Laboratory Medicine and Pathology, Faculty of Medicine, University of Toronto.
6. Dwyer, Augusta (Apr 6 2003). "Solving Death's Mysteries." *The Globe and Mail*, Sect. C3.