

An Introduction to Forensic Pathology

Miss Fatima Saeed, Dr Helen Denley

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The World Journal of Medical Education and Research (WJMER) is the online publication of the Doctors Academy Group of Educational Establishments. Published on a quarterly basis, it's aim is to promote academia and research amongst all members of the multi-disciplinary healthcare team including doctors, dentists, scientists, and students of these specialties from all parts of the world. The principal objective of this journal is to encourage the aforementioned from developing countries in particular to publish their work. The journal intends to promote the healthy transfer of knowledge, opinions and expertise between those who have the benefit of cutting edge technology and those who need to innovate within their resource constraints. It is our hope that this will help to develop medical knowledge and to provide optimal clinical care in different settings all over the world. We envisage an incessant stream of information will flow along the channels that WJMER will create and that a surfeit of ideas will be gleaned from this process. We look forward to sharing these experiences with our readers in our subsequent editions. We are honoured to welcome you to WJMER.



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Miss Fatima Saeed

3rd Year Medical Student,
University of Manchester

Dr Helen Denley, MB ChB, PGCAP, FRCPath

Consultant Histopathologist,
Manchester Royal Infirmary

Address for correspondence:

Miss Fatima Saeed: Fatima.saeed@student.manchester.ac.uk

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Introduction

Forensic pathology is the relevant application of medical and scientific knowledge to determine the cause and manner of death.¹ Clinical forensic pathologists may also examine live patients usually when criminal foul-play such as abuse or sexual assault is suspected. A forensic pathologist is often called upon to solve cases of medico-legal interest which may be a crime scene or a civil case.²

Forensic pathology is a sub-specialty of histopathology (study of cells and tissue samples) and requires a degree in medicine and initial post-graduate training (foundation training programme in the UK) despite the legal nature of the profession. Further training differs from country to country, but the UK forensic pathologist training will be explored in greater detail later in this article.

Your first exposure to this specialty may well have been through popular TV shows such as CSI. This chapter explores the everyday life of a forensic pathologist and will hopefully dispel some of the common myths depicted in the media.

Life as a Forensic Pathologist

Most of your work is actually laboratory based, but more experienced forensic pathologists will be regulars at the crime scene. Laboratory-based doesn't mean that you are constricted to the confines of toxicology or histology; it mostly involves the dissection of those who have passed away. Post-mortems will be the hallmark of your career. It is common to be called out in the middle of the night as you can't delay a crime scene investigation.

According to the British Association in Forensic Medicine (BAFM), most forensic pathologists in England work in relatively small clusters outside of the NHS. However some continue to work within the NHS, and others remain within University departments (such is the case for most of Wales, Scotland and Northern Ireland).³

Although working abroad is not common place, it is possible for those keen enough to pursue this aspect of

the career pathway. You must seek permission from your Deanery Trust, the Postgraduate Medical Education and Training Board (PMETB) and the College Advisory Training Team (CATT) before beginning your training in order for it to be counted towards your Out Of Programme Training (OOPT) or Research (OOPR). Undertaking research (in the UK) follows identical requirements and if accepted will contribute towards your OOPR.

There are also numerous conferences to increase your understanding of the current global perspective and standard of pathology. The Coroner's Autopsy is one such example which was held on the 1st of November 2011. It is aimed to directly address some of the common tripwires for pathologists when performing autopsies and provide a platform for voicing questions and having them answered. If your budget allows it, the British Association in Forensic Medicine (BAFM) hosts a delightful selection of high-profile conferences around the world including one in Saudi Arabia.

Training

After successful completion of the 2 year long foundation training, you can apply for entry into the Histopathology programme. According to the Royal College of Pathologists (RCPATH) this should take about 5 years to complete, with a minimum of 4 years to cover the necessary breadth and depth of study.² To receive your Certificate of Completion of Training (CCT) you are required to show 4 things:

- Satisfactory completion of the Histopathology Curriculum
- Satisfactory outcomes in assessment carried out at your workplace
- Completion of the RCPATH's Year 1 Assessment
- Completed (and passed!) the Fellowship Examination of RCPATH (FRCPath) exam; part 2 can be undertaken in relevant subspecialties (cytopathology, neuropathology, paediatric pathology and **forensic pathology**).

- Completion of the Annual Review of Competence Progression (ARCP) outcome 6. This is much like the portfolio accumulated throughout your medical career.

The histopathology Curriculum is split in 4 stages – A, B, C and D. Each must be completed satisfactorily and you cannot move on until the preceding stage had been completed.

Stage A – this is a 12 month long process where you will be introduced to the basic principles of histopathology. By the end, you need to be able to successfully complete a workplace-based assessment, Multi-Source Feedback (MSF), the ARCP and the RCPATH's Year 1 Assessment.

Stage B – is between 13 to 36 months of training, with a minimum of 24 months of training to satisfactorily pass this stage. You will be assessed through the FRCPATH part 1 and also progression in the ARCP.

Stage C – is between 24 to 48 months but a minimum of 42 months training is required to pass this stage. You will need to complete workplace-based assessment, show progression in the ARCP and pass the 2nd part of the FRCPATH exam in either histopathology or a relevant subspecialty.

Stage D – is between 43 to 60 months of training but a minimum of 60 months training is required to pass this stage. Completed the required workplace-based assessment outcomes, completed the entire histopathology curriculum and attained an ARCP outcome of 6 (all areas covered).

Atop this you will be required to sit a universal pathology assessment in ST3 and ST5 known as the Multi-Source Feedback (MSF) and ST3 MSF is normally done in Stages B/C and ST5 in Stage D.

You will then be awarded the CCT.

That was a general review of the training to be completed prior to subspecialisation. In regards to the subspecialty, forensics, you must complete a minimum of 3 years in a recognised training programme (usually after Stage B):

- You will need sound knowledge of the legal system of

the UK (you will be required to give impartial testimonials about evidence in court.)

- Be aware of the role boundaries of various professions (policemen, Coroner, yourself, senior investigator etc.)
- Knowledge of how to investigate common crime scenes and how to record this information
- You have to know the way other professions can help you in your investigation (odontologists, entomologists, archaeologists and even other forensic scientists)
- Be able to carry out post-mortem examinations and with that the common findings to situations such as homicide, suicide, OD, infant death and other deaths under suspicious circumstances. This includes techniques used to investigate e.g., imaging
- Have sound knowledge of the lab practices used to investigate evidence.
- Have a clear idea of what an expert is defined as and what is expected of them
- Know the risks posed by a crime scene/post-mortem examination (the bodies) and appropriate risk minimizing behaviour.
- Understand the facilitation that visual aids can provide in presenting complex issues (in court, conferences, meetings etc.)

Competition ratios for histopathology are virtually non-existent, however, you should be prepared to uproot dependant on where the training posts are.

The Future

Currently, there is increasing interest in using less invasive methods for performing autopsies – more specifically through the use of imaging.⁴

In addition, the Royal College of Surgeons hosts a national research conference to award 4 medals for outstanding research publications in the field of histopathology and related subspecialties. The gold medallist (Dr Daniel Hodson, 2011) published a paper on the role of specific proteins in the control of mRNA – a key component in the cell cycle (impaired in cancers). Dr Hodson plans to use this information to develop better treatments for lymphomas.

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