

**MALTA COLLEGE OF
PATHOLOGISTS**

TRAINING PROGRAMME

**FORENSIC MEDICINE
(MORBID ANATOMY AND
FORENSIC AUTOPSY)**

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1. TITLE

Outline of **Training Programme in Forensic Medicine (Morbid Anatomy and Forensic Autopsy)**

2. THE SPECIALITY

Forensic pathology refers to the use of medical and histopathological skills in the investigation of sudden, suspicious or unnatural death. It involves working principally with forensic medical examiners, police, scene of the crime officers and other experts, together with the presentation of expert testimony in the Malta Courts of Law in front of Magistrates, Judges and members of the Jury. The speciality also involves interpretation of findings at the scene of death, performing the autopsy and preparing specialised reports as documentation of evidence.

Forensic pathologists need to have a broad, sound knowledge of general medical and surgical practice and need to be able to correlate scene of death findings, the history leading up to death and knowledge of the patient's past medical history with the findings at autopsy in order to formulate the cause, manner and mode of death.

3. ENTRY REQUIREMENTS

- i. Medical Degree from the University of Malta (or equivalent)
- ii. Successful completion of the Malta Foundation Training Programme
- iii. Full registration with the Malta Medical Council
- iv. Completion Certificate of Basic Specialist Training (CCBST) in Histopathology
- v. Must be practicing as a Higher Specialist Trainee (HST), Resident Specialist or Consultant (or equivalent) in Histopathology at a recognised training institution

4. DURATION OF TRAINING

A minimum of 3 years is required to satisfactorily complete the Forensic Medicine (Morbid Anatomy and Forensic Pathology) curriculum to the required depth and breadth and to achieve a Certificate of Completion of Specialist Training (CCST) in the Field.

5. PURPOSE OF THE CURRICULUM

The purpose of the curriculum for Speciality Training in the field of Forensic Medicine (Morbid Anatomy and Forensic Pathology) is to set the standards required by The Malta College of Pathologists and the Specialist Accreditation Committee for attainment of the award of the CCST, and to ensure that trainees are fully prepared to provide a high-quality service at a specialist level. In addition, the curriculum also sets the standards against which applicants who apply to be included in the specialist register will be judged.

The training program aims to provide:

- experience of the diagnostic techniques required to become technically competent in practical work, and to master the underlying analytical and clinical principles
- training in the communication and teaching skills necessary for effective practice
- the opportunities to develop to the required standard the ability to provide specialist opinion and expert testimony in the field
- practical experience of clinical governance and audit (specialist and multidisciplinary) through evaluation of practice against the standards of evidence-based medicine.
- opportunities to acquire the management skills to lead a mortuary
- experience of research and development projects and critical assessment of published work so as to contribute to the development of the service
- the framework for continued professional development (CPD) including life-long habits of reading, literature searches, consultation with colleagues, attendance at scientific meetings and the presentation of scientific work

6. CRITERIA FOR CERTIFICATE OF COMPLETION OF SPECIALIST TRAINING (CCST)

A CCST shall be issued after successful and satisfactory completion of the training programme with the trainee having been able to demonstrate:

- Appropriate professional behaviour and ability to work as a specialist
- The core knowledge and skills required to carry out a medicolegal post-mortem examination and correlate the findings at autopsy with the findings at the scene of crime and the patient's medical history
- Good working relationship with colleagues and the appropriate communication skills required for the practice of Forensic Medicine
- The skills required to provide appropriate expert testimony in the Maltese Law Courts
- The knowledge, skills and behaviours necessary to provide appropriate teaching and to participate in research
- An understanding of the meaning of clinical governance
- A knowledge of the structure and organisation of the mortuary, forensic services available in Malta and the structure of the Maltese Law Courts
- Management skills required for the running of an effective mortuary service
- Familiarity with health and safety regulations, as applied to forensic autopsy work.

The CCST in Forensic Medicine shall be awarded by the SAC on the recommendation of the Malta College of Pathologists following:

- i. Evidence of satisfactory completion of the curriculum and of the minimum training period
- ii. Satisfactory outcomes in the requisite number of workplace-based assessments
- iii. Acquisition of one of the following (or equivalent if deemed acceptable by the Malta College of Pathologists and the Post Graduate Training Committee);
 - a. A Master of Sciences Degree in Forensic Pathology, Forensic Medical Examination, Forensic Sciences or a suitably relevant topic in Forensics (following discussion with the Educational Supervisor)
 - b. Diploma in Medical Jurisprudence (Pathology) (or equivalent)
 - c. FRCPath (Forensic Pathology) Part 2 Examination (or equivalent)
 - d. FRCPath (Histopathology) Part 2 Examination (or equivalent)
- iv. Successful Annual Review of Training Interviews

7. SCOPE OF TRAINING

The education programme aims to provide the experience required to become technically competent in dissection and to master the analytic principles of the forensic autopsy.

The aims of training include:

- To develop the ability to undertake complex forensic post-mortem investigations, including paediatric cases
- To demonstrate a level of knowledge and skill consistent with practise as a specialist undertaking autopsies as an expert witness for the Malta Courts of Justice
- To develop the skill set necessary to carry out and report post-mortem investigations independently, including judicious use of special post-mortem investigations
- To understand the need for investigation of the scene of death by a multidisciplinary team approach.
- To gain experience in the provision of expert testimony in both Criminal and Civil Proceedings in the Maltese Law Courts, including understanding the role of Magistrates and Judges in the investigation of suspicious deaths
- To develop experience in teaching Forensic Pathology and autopsy techniques to Histopathology trainees and technical staff
- To provide opportunities to acquire the management skills necessary to lead a department providing an effective Forensic Pathology service
- To develop the necessary skills required in clinical governance and audit through the evaluation of practice against standards of evidence-based medicine.

8. PURPOSE OF ASSESSMENT

The Malta College of Pathologists' mission is to promote excellence in the practice of pathology and is responsible for maintaining standards through training, assessments, examinations and professional development.

The purpose of assessment is to;

- Indicate suitability of choice at an early stage of the chosen career path and to help identify trainees who should change direction and leave the specialty.
- Indicate the capability and potential of a trainee through tests of applied skill
- Demonstrate readiness to progress from one stage of training to the next
- To provide feedback and constructive criticism to the trainee
- To promote and foster a mindset of continuous learning
- To enable the trainee to collect all necessary evidence for the award of the CCST
- To assure both the public and members of the judiciary that the trainee is ready for and capable of unsupervised professional practice as a specialist.

9. CLINICAL AND EDUCATIONAL SUPERVISION

The trainee will be attached to a specialist pathologist accredited in the field of Forensic Medicine and Histopathology who routinely performs forensic post-mortem examinations and who shall supervise and support the trainee throughout the duration of training. The specialist pathologist shall be appointed by the Malta College of Pathologists and shall serve as the trainee's **Clinical Supervisor** throughout the duration of training. The trainee shall also be assigned an **Education Supervisor**, appointed by the Malta College of Pathologists. The Educational Supervisor, who need not necessarily be a specialist in the field of Forensic Medicine, shall be responsible for the overall supervision and management of the trainee's educational progress throughout the training programme.

10. STAGES OF TRAINING AND LEARNING

The curriculum is divided into three stages; HST1, HST2 and HST3. Trainees are expected to take increasing levels of responsibility for their work as they progress towards independent practice. Throughout their training, trainees are expected to maintain a training portfolio.

A 1-year period is estimated to achieve the necessary criteria to progress between the stages of training. Progress from one stage to the other depends on the trainee having satisfactorily completed the preceding stage. If the criteria have not been met after 18 months of a particular stage, the educational supervisor, the clinical supervisor, a representative from the Post Graduate Training Committee and the trainee should meet to discuss the reasons and decide whether the trainee be allowed to progress with training.

HIGHER SPECIALIST TRAINEE 1 (HST1)

A one-year period is estimated to achieve the criteria required for completion of HST1 although additional time may be required, up to a maximum of 18 months.

The aim of this stage of training is to provide the necessary skillset to perform a basic forensic medicolegal autopsy.

Competencies required to progress to HST 2

- a) Be able to perform a basic external examination for a medicolegal autopsy case.
- b) Be able to describe and classify wounds arising from blunt and sharp force trauma
- c) Show ability to perform an independent evisceration in a standard autopsy, including removal of the chest and abdominal blocks and brain
- d) Be able to perform a detailed anatomical dissection of the heart, lungs, brain, gastrointestinal tract, genitourinary tract, hepatobiliary and pancreatic tract, haematopoietic system and brain.
- e) Understands the importance of adequate block taking for microscopic analysis
- f) Be able to interpret histological findings in common natural deaths
- g) Be able to write a straightforward medicolegal forensic autopsy report

Minimum Practical Experience

Autopsy	Completion of 150 autopsies under direct supervision.
Histology	Histopathological reporting of 150 autopsies discussed with the accredited specialist pathologist (trainer)
Scene of Crime Examination	Attendance of 5 cases with an accredited forensic medical examiner
Court Attendance	Attendance of 5 cases where the accredited forensic pathologist is providing testimony, ideally one of which is a jury testimony
Audit	Completion of one audit

Logbook Requirements

Workplace-based assessments	A total of 18 WBA's required (9 CBD, 9 DOPS), at least 2 of which should be mock trials
Multi-Source Feedback	One completed and satisfactory
Annual Review of Competence	Satisfactory outcome
Detailed Autopsy Analysis	A total of 5 DAA's required
Educational Supervisor's Report	3 reports with satisfactory outcomes
HST1 Assessment	Pass

HIGHER SPECIALIST TRAINEE 2 (HST2)

A one-year period is estimated to achieve the criteria required for completion of HST2 although additional time may be required, up to a maximum of 18 months.

The aim of this stage of training is to broaden the understanding of pathology and to undertake more complex medicolegal forensic autopsies

Competencies required to progress to HST 3

- a) To obtain all necessary history and scene of crime findings prior to undertaking an autopsy
- b) Be able to document in detail the external findings in a complex trauma autopsy (for example, a motor vehicle accident or a fall from a significant height)
- c) Be able to understand the limitations of wound interpretation
- d) To understand when special autopsy techniques are necessary and how these are performed, particularly in assessment for pneumothorax, air emboli and fat embolism together with special autopsy techniques including dissection of the neck, eye and orbit, spinal cord, urethra, vagina, anal canal and soft tissues of the limbs.
- e) To understand the need for special tests at autopsy and understanding their limitations, including assessment for post-mortem glucose levels and post-mortem microbiology.
- f) Be able to perform targeted autopsy examinations in biohazard cases (eg: COVID-19, viral hepatitis, HIV and tuberculosis)
- g) Be able to correlate the dynamics of an incident with the findings at autopsy in cases of trauma
- h) Be able to request and communicate with toxicologists and to interpret a basic toxicology report to formulate the cause of death. Knowledge on appropriate sample taking for toxicological analysis.
- i) Be able to write more complex medicolegal forensic autopsy reports including integration of photographic evidence.
- j) Be able to interpret histological findings in deaths and to understand their significance and relevance in establishing the cause of death.

Minimum Practical Experience

Autopsy	Completion of 150 autopsies under direct supervision.
Histology	Histopathological reporting of 150 autopsies discussed with the accredited specialist pathologist (trainer)
Scene of Crime Examination	Attendance of 5 cases with an accredited forensic medical examiner
Court Attendance	Attendance of 5 cases where the accredited forensic pathologist is providing testimony, ideally one of which is a jury testimony
Audit	Completion of one audit

Logbook Requirement

Workplace-based assessments	A total of 18 WBA's required (9 CBD, 9 DOPS), at least 2 of which should be mock trials
Annual Review of Competence	Satisfactory outcome
Detailed Autopsy Analysis	A total of 10 DAA's required
Educational Supervisor's Report	3 reports with satisfactory outcomes
HST2 Assessment	Pass

HIGHER SPECIALIST TRAINEE 3 (HST3)

A one-year period is estimated to achieve the criteria required for completion of HST3 although additional time may be required, up to a maximum of 18 months.

The aim of this stage of training is to ensure that the trainee is competent to perform medicolegal autopsies independently and is able to provide appropriate expert testimony.

Competencies required to complete HST 3

- a) To be able to accurately document and understand the significance all external and internal findings for any medicolegal autopsy case.
- b) Should be able to understand the limitations of the autopsy and should know when further scene investigations are necessary.
- c) Should be able to write a full medicolegal autopsy report documenting all findings and reach an appropriate conclusion regarding the mode, manner and cause of death in all cases. Should know when and how to express doubt in dubious or inconclusive cases.

Minimum Practical Experience

Autopsy	Completion of 150 autopsies under direct supervision.
Histology	Histopathological reporting of 150 autopsies discussed with the accredited specialist pathologist (trainer)
Scene of Crime Examination	Attendance of 5 cases with an accredited forensic medical examiner
Court Attendance	Attendance of 10 cases where the accredited forensic pathologist is providing testimony, ideally one of which is a jury testimony
Audit	Completion of one audit

Logbook Requirement

Workplace-based assessments	A total of 18 WBA's required (9 CBD, 9 DOPS), at least 2 of which should be mock trials
Annual Review of Competence	Satisfactory outcome
Detailed Autopsy Analysis	A total of 10 DAA's required
Educational Supervisor's Report	3 reports with satisfactory outcomes
HST3 Assessment	Pass

Examinations

Throughout the training period and for the purposes of issuance of a Certificate of Completion of Training, the trainee is required to be in possession of **one** of the following:

- i. A Master of Sciences Degree in Forensic Pathology, Forensic Medical Examination, Forensic Sciences or a suitably relevant topic in Forensics (following discussion with the Educational Supervisor)
- ii. Diploma in Medical Jurisprudence (Pathology)
- iii. FRCPath (Forensic Pathology) Part 2 Examination (or equivalent)
- iv. FRCPath (Histopathology) Part 2 Examination (or equivalent)

11. METHODS OF ASSESSMENT

Trainees shall be assessed in several different ways throughout their training, with satisfactory completion of all assessments and examinations monitored by the Malta College of Pathologists and the Pathology Post Graduate Training Committee.

Autopsies:

The trainee is expected to carry out a total of **450 autopsies, supervised by an accredited specialist pathologist (trainer)**. Cases must cover a wide spectrum and should ideally include:

- a) 20 suicide cases (including at least 10 suicides by hanging)
- b) 20 motor vehicle accidents
- c) 20 cases requiring toxicological studies
- d) 10 decomposed body cases
- e) 10 cases of drowning
- f) 10 cases of homicide, with as varied mechanisms as possible
- g) 5 cases of fire-related deaths
- h) 5 cases requiring post-mortem radiology

While it is appreciated that the cases performed are subject to chance and opportunity, it is imperative that the cases covered encompass a suitably varied number scenarios including;

- a) Investigation of cardiac, endocrine, hepatic, renal, respiratory and intra-abdominal disease of unknown case, together with the investigation of deaths arising in the setting of potentially infectious agents (eg: HIV, hepatitis B/C, tuberculosis, meningitis etc.).
- b) Cases of suicide, including hanging, drug overdoses, jumping from heights and self-inflicted gunshot wounds.
- c) Homicides, including gunshots, stabbings and asphyxial deaths
- d) Deaths after a period of hospitalisation, including dissection and testing of medical appliances such as cannulas, drains and pacemakers.
- e) Deaths occurring intra- or perioperatively
- f) The investigation of the corpse with unknown identity
- g) The investigation of the decomposed body

It is highly encouraged that the trainee involves him/herself in unusual or rare cases of medicolegal autopsies. It is however, appreciated that these may not be available locally throughout the training period. These include;

- a) Maternal deaths occurring during and immediately after pregnancy
- b) Infant deaths (accidental and non-accidental), including the determination of livebirth, age at death and time of death.
- c) Deaths following alleged medical negligence
- d) Deaths related to anaphylaxis
- e) Deaths associated with the use of potentially toxic therapeutic agents
- f) Deaths occurring during custody

This part of training requires the trainee to perform a **full forensic examination** of the corpse, supervised by the accredited specialist pathologist (trainer) including;

- a) *External Examination:* The emphasis of this part should focus primarily on the ability to describe and document unique identifying features (where appropriate) together with the ability to describe and look for external signs of natural and unnatural death. In the latter cases, emphasis on the description of different forms of injury is necessary, together with the ability to distinguish between post-mortem artefacts and genuine traumatic lesions.
- b) *Internal Examination:* The trainee should acquire knowledge in the pathological processes underpinning the disease process. Apart from the basic autopsy technique, the trainee is required to gain experience in specialised techniques including dissection of the eye, middle ear, face, vertebral arteries, spinal cord, joints and fractures.
- c) *Histopathology:* The trainee is required to report the histopathological slides pertaining to the autopsies s/he has performed. These slides shall be subsequently co-reported by the accredited specialist pathologist (trainer).
- d) *Documentation:* The trainee will be required to write full medicolegal autopsy reports for all cases dissected, including the integration of injuries documented through photographic methods.

Throughout training, the trainee should be educated about the **health and safety issues** of the post-mortem investigation and should be made aware of the relevant protocols and documentation.

All cases need to be adequately documented in an appropriate training logbook and need to be countersigned by the supervising accredited specialist pathologist (trainer) (Clinical Supervisor).

Forensic Scene Assessment

The trainee is expected to understand the respective roles of the police, the scene of the crime officers and the forensic medical examiner and should be able to practice at the scene of the crime within the boundaries of his/her expertise. Throughout the training programme, the trainee is expected to attend **at least 15 on-site examinations** supervised by an **accredited forensic medical specialist with expertise in scene of the crime examination**.

Throughout these visits, the trainee is expected to acquire an understanding of;

- a) The importance of detailed knowledge of the death scene in common scenarios
- b) The interpretation of findings on the body at the scene (including position, time of death estimation) and appropriate documentation
- c) The importance of attention to detail and corroboration with the history provided
- d) Techniques involved in the retrieval of trace evidence

All on-site examinations should be documented and countersigned by the accredited forensic medical specialist.

Logbook & Detailed Autopsy Analysis

The trainee is required to maintain an **up-to-date autopsy logbook**, clearly documenting the autopsy cases performed and the histology cases seen and discussed.

In addition, a total of **25 detailed autopsy analyses** are required during the training period, during which a brief synopsis of the case is provided, after which, the trainee is expected to discuss and expand on the case based on the body of research literature available. These should be around 750 – 1000 words in length each. Each of these analyses are to be assessed by the Clinical Supervisor.

Presentation of Evidence at Court

The trainee is expected to have detailed understanding of the Maltese medicolegal system, including the role of the Police, Magistrates, Judges, lawyers and jury, and should be aware of medicolegal systems abroad.

The role of the Forensic Pathologist lies in the ability to possess an impartial stand, with the opinion being based on a balanced interpretation of the findings at autopsy, the findings at the scene of the crime and the circumstances surrounding the event. The Forensic Pathologist is then required to give evidence impartially, clearly and simply during the court proceedings.

Throughout training, the trainee is required to attend **20 court hearings** where the Forensic Pathologist is required to provide evidence on a case. Attendance to jury hearings is highly advisable wherever possible. Additionally, regular attendance to mock trial sessions is mandatory.

Workplace-Based Assessments

Trainees will be expected to undertake workplace-based assessments throughout their training, which are designed to be formative in nature. These should be carried out regularly throughout training to assess and document a trainee's progress. Throughout each stage of training, a minimum number of satisfactory workplace-based assessments should be completed. These will include;

- *Case-Based Discussions (CBD):*
This will involve documentation of a discussion about a particular case, with examples including (but not restricted to) discussion of autopsy findings, discussion of histological findings, scene of crime analysis or a court hearing.
- *Directly-Observed Practical Skills (DOPS):* These typically will involve direct observation of a specific technique during autopsy.
- *Multisource Feedback (MSF)*
A minimum of two MSFs are required during training. These take the form of anonymized feedback obtained from colleagues and members of staff about the trainee, the results of which are subsequently fed back to the trainee by the educational supervisor.

Educational Supervisor Report

A minimum of three formal discussions with the educational supervisor are required per year, during which the training and progress of the trainee is discussed, highlighting any problems or areas of suggested improvement. These should be documented appropriately. A yearly **Educational Supervisor Report** shall be subsequently issued after each encounter, summarizing the discussed points.

Annual Review of Competence Progression (ARCP)

The Postgraduate Training Committee provides trainees with an annual opportunity to present evidence gathered by the trainee, relating to the trainee's progress in the training programme and to document the competences that are being gained. Evidence of competence will be judged based on a portfolio of documentation.

12. LEARNING EXPERIENCES

The following learning methods will be used throughout the teaching programme:

1. **Routine Work:** This shall remain the most important learning experience and shall take the form of direct supervision of autopsies by an accredited specialist pathologist (trainer). Appropriate feedback must be provided throughout training.
2. **Textbooks:** Trainees are expected to read about the routine cases encountered during day-to-day practice in standard forensic pathology textbooks.
3. **Private Study:** Through systematic reading of textbooks and forensic journals
4. **Case Discussions:** Following the autopsy, each case shall be discussed with the accredited specialist pathologist (trainer) considering the circumstances of death to arrive to the most plausible and cogent cause, manner and mode of death.
5. **Mock Trials:** These shall be held on a regular basis, at least once every six months, where the trainee shall act as a provider of expert testimony and the accredited specialist pathologist (trainer)(s) act as members of the defence and prosecution. The aims of these sessions are to prepare the trainee for Court and should include the range of questions expected during a compilation of evidence or Jury trial.
6. **Scientific Meetings:** The trainee is expected to attend appropriate research conferences.

13. SUPERVISION AND FEEDBACK

Specialist training must be appropriately supervised by both the designated Clinical and Educational Supervisors.

Trainees will work under specialist supervision in the forensic services, gradually widening their knowledge and experience such that they are able to work largely independently following acquisition of their CCST. The day-to-day supervised training will be supplemented by more formal teaching such as case scenarios and mock trials.

Any forensic autopsy report formulated by the trainee should imply that the accredited forensic specialist has examined that report with the trainee. It also implies that the specialist accepts both the macroscopic and microscopic findings as accurate. A trainee may ask for assistance at any time if a case with which they are dealing is unfamiliar or unusual. In the mortuary, a trainee competent in basic autopsy practice will be able to seek advice if an unusual or unexpected finding is encountered. Supervision also extends to working relationships and communication within and beyond the department.

The College expects all doctors reaching the end of their training to demonstrate competence in clinical supervision before the award of the CCT. The College also acknowledges that the process of gaining competence in supervision starts at an early stage in training with foundation doctors supervising medical students and senior trainees supervising more junior trainees.

The role of the Educational Supervisor is to:

- have overall educational and supervisory responsibility for the trainee
- ensure that the trainee is familiar with the curriculum
- ensure that the trainee has appropriate day-to-day supervision appropriate to their stage of training
- ensure that the trainee is making the necessary clinical and educational progress
- ensure that the trainee is aware of the assessment system
- act as a mentor to the trainee and help with both professional and personal development
- undertake regular formative/supportive appraisals with the trainee (minimum three per year, approximately every 4 months) and ensure that both parties agree to the outcome of these sessions and keep a written record
- regularly inspect the trainee's training record, inform trainees of their progress and encourage trainees to discuss any deficiencies in the training programme, ensuring that records of such discussions are kept
- keeps the Postgraduate Training Coordinator informed of any significant problems that may affect the individual's training.

14. EXPECTED CORE COMPETENCIES ON ENTRY

Given entry into the Forensic Medicine (Morbid Anatomy and Forensic Autopsy) at an HST (Histopathology) level, the following core competencies should have been acquired at Basic Specialist Trainee (BST) level;

System	Anatomical features and dissection technique trainees should be able to demonstrate	Clinicopathological knowledge base
General	<p>Methods for identification of the patient</p> <p>External examination</p> <p>Organ evisceration</p> <p>Organ weights</p>	<p>Procedures for obtaining consent for autopsy</p> <p>Familiarity with forensic autopsies</p> <p>Knowledge of normal organ weights</p> <p>Full details of current practice for retention of organs and tissue</p>
Cardiovascular	<p>Master one technique for heart dissection</p> <p>Anatomy of the coronary arteries, their ostia and branches</p> <p>Dissection of the aorta and major abdominal branches</p>	<p>Normal anatomy and age-related and pathologic abnormalities of heart valves</p> <p>Identification of acute and healed myocardial infarcts, macroscopically and microscopically</p> <p>Assessment of ventricular thickness and atrial and ventricular dilatation</p> <p>Pulmonary embolism</p>
Respiratory system	<p>Removal of lungs</p> <p>Dissection of pulmonary vessels and major bronchi</p> <p>Dissection of individual lobes</p>	<p>Identification of respiratory tract infection and pneumonia</p> <p>Assessment of chronic bronchitis, emphysema and lung fibrosis</p> <p>Appearance of primary and secondary lung tumours</p>
Upper gastrointestinal tract	<p>Removal and dissection of oesophagus, stomach and duodenum in continuity</p> <p>Identification of the ampulla of Vater</p>	<p>Range of appearances due to autolysis in the stomach</p> <p>Identification of oesophageal varices, gastric erosions and peptic ulcers</p> <p>Assessment of pyloric stenosis</p>

Lower gastrointestinal tract	<p>Identification and dissection of the superior mesenteric artery</p> <p>Examination of intestinal mucosal surface</p>	<p>Identification of colonic diverticulae</p> <p>Identification of bowel necrosis and its distinction from autolysis and post-mortem changes</p>
Hepatobiliary system	<p>Removal and dissection of the liver</p> <p>Identification of portal and hepatic veins</p> <p>Dissection of the gallbladder, common bile duct and pancreatic ducts</p>	<p>Assessment of hepatic congestion and dilatation of hepatic veins</p> <p>Appearance of intra- and extra-hepatic ducts</p> <p>Identification of secondary tumours</p> <p>Identification of hepatic cirrhosis</p>
Nervous system	<p>Removal of the brain</p> <p>Dissection of the circle of Willis and venous sinuses</p> <p>One method for sectioning of the cerebral and cerebellar hemispheres and brain stem</p>	<p>Sites of berry aneurysms</p> <p>Identification of old and recent cerebral infarcts</p> <p>Assessment of cerebral and cerebellar atrophy</p> <p>Taking key blocks for microscopic examination</p>
Endocrine system	<p>Removal of the pituitary gland</p> <p>Identification of the parathyroid glands and dissection of the thyroid</p> <p>Removal of the adrenal gland</p>	<p>Size and overall appearance of the thyroid gland and parathyroid glands</p> <p>Adrenal cortical hyperplasia and adrenal atrophy</p>
Lympho-reticular system	<p>Examine all lymph node groups for evidence of lymphadenopathy</p> <p>Examination of the spleen</p> <p>Exposure of vertebral bone marrow</p>	<p>Significance of lymphadenopathy in different anatomical sites</p> <p>Clinical explanation for splenic enlargement or atrophy</p> <p>Identification of secondary deposits in vertebral bone marrow</p>
Musculoskeletal system	<p>Identify fractures</p> <p>Explore sites of recent internal fracture fixation</p>	<p>Osteoporosis</p> <p>Pathological fracture</p>

Report	<p>Preparation of autopsy report according to consultant's protocol</p> <p>Issue a death certificate and a clear clinic-pathological summary</p>	<p>Detailed list of all macroscopic abnormalities</p> <p>Summary relating abnormalities to aspects of the clinical history wherever possible</p> <p>Choice of appropriate tissue blocks for histology with appropriate consent</p>
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15. EXPECTED CORE COMPETENCIES ON EXIT

After entering the Forensic Histopathology training programme, the trainee will be expected to attain the following knowledge, skills and competences, as the trainee will require to have undertaken a total of at least 450 post-mortem examinations by the end of the training programme, including a wide and proportionate range of cases.

Subject Matter	Knowledge	Skills and Knowledge Application	Attitudes and Behaviours
Pathological basis of disease	<p>Extensive knowledge on pathological basis of disease.</p> <p>Knowledge relating to controversial issues and difficulties in interpreting subjective changes.</p>	<p>High standard of practice in the technique used for identifying morphological abnormalities at autopsy.</p> <p>Integrating multiple co-morbidities to fully explain a death.</p>	<p>Desire to learn about common and less common disease processes.</p> <p>Acceptance of uncertainty in determining the cause of death in some settings.</p> <p>Willingness to discuss difficult cases.</p>
General	<p>Process a wide knowledge of anatomy, macroscopic features of major disease and common dissection techniques at autopsy.</p> <p>Have good understanding of training undertaken by anatomic pathology technologists and the role they can play.</p>	<p>Demonstrate sufficient manual dexterity to perform complex autopsies safely.</p> <p>To liaise with autopsy pathology technologists.</p>	<p>Address the issues raised by the death.</p> <p>Be responsible for identification of the deceased.</p> <p>Welcome clinicians and other appropriate visitors to the mortuary to share knowledge and to demonstrate the importance of the autopsy.</p>

<p>External Examination</p>	<p>Familiarity with the RCPATH's Guidelines on Autopsy Practice and Best Practice Scenarios, 2005.</p>	<p>Ability to describe correctly different forms of injury, look for external signs of natural and unnatural death and distinguish between genuine lesions and postmortem artefact Practice at evaluating the morphological effects of resuscitation</p>	<p>Not to authorise an evisceration by others without personally examining the body first</p>
<p>Advanced Autopsy Technique</p>	<p>Have knowledge of, and the ability to perform, autopsies in a variety of situations, such as the following:</p> <ul style="list-style-type: none"> • cardiac disease of uncertain cause <ul style="list-style-type: none"> • death after a period of intensive care • death associated with the use of potentially toxic therapeutic agents (e.g. anticoagulants, opiates, cytotoxics, etc.) • endocrine/metabolic death • hepatic disease of unknown cause • intra-abdominal disease of unknown cause <ul style="list-style-type: none"> • neurological disease of unknown cause • renal disease of unknown cause <ul style="list-style-type: none"> • respiratory disease of unknown cause <ul style="list-style-type: none"> • deaths related to anaphylaxis • the dissection of and testing of medical appliances, such as intravascular lines, drains and pacemakers 	<p>Carry out a normal full evisceration</p> <p>Dissect the internal organs Describe the appearances accurately and succinctly interpret the findings in the light of the clinical information available.</p> <p>Present the findings to e.g. police officers, clinicians and/or other investigators either immediately or later at a clinical or forensic meeting</p> <p>Ensure that special dissections are made in appropriate circumstances</p> <p>Have skills in techniques used in perioperative autopsies and autopsies following death in hospital, in a variety of situations such as:</p> <ul style="list-style-type: none"> • iatrogenic deaths • intraoperative deaths • neurosurgical deaths • post-abdominal surgery deaths • post-cardiac surgery deaths • sudden unexpected death in hospital and the exclusion of hospital homicide • vascular surgery deaths 	<p>Desire to keep up to date with medical advances and their consequences for autopsy practice.</p>

<p>Clinical Liaison</p>	<p>Good understanding of the use of clinical information and health record in autopsy examination.</p>	<p>Be able to interrogate clinical and laboratory records and understand the utility and limitations associated with various types of investigations including imaging, microbiology and biochemistry.</p>	<p>Be conversant with current clinical practice.</p> <p>Be able to liaise with clinical colleagues in order to obtain clinical information prior to autopsy.</p> <p>Know the main side effects and common treatments and the major complications of most surgical procedures.</p>
<p>Forensic Scene Examination</p>	<p>Knowledge of death scene investigation and familiarity with common scenarios.</p> <p>Understanding the roles of the magistrate, the police, the forensic medical examiner and the scene of the crime officer.</p> <p>Knowledge of what to record at a scene, features to be sought and the taking and interpretation of temperatures, samples and trace evidence. How to minimise DNA contamination and how to examine and remove a body safely</p> <p>Knowledge of the use of other experts such as archaeologists, entomologists, odontologists and other, specialised forensic scientists</p>	<p>Ability to practise at crime scenes within expertise and to recognise need for other expertise</p> <p>Ability to retrieve trace evidence and formulate strategies for appropriate investigation and prioritisation of activities</p>	<p>Understands need for investigation of scenes by multidisciplinary team using appropriate expertise</p> <p>Understands the need to practise safely, and aims to maintain the dignity of the deceased and the privacy of the bereaved</p> <p>Understands the need for attention to detail and correlation with history</p> <p>Understands need for demonstration of continuity and disclosure</p> <p>Understands the benefits of working in a team</p>

<p>Forensic Autopsy</p>	<p>Knowledge of forensic postmortem examination techniques.</p> <p>Knowledge of findings in homicides, suicides, accidents and examination of decomposed bodies. Ideally including maternal death, infant death, industrial deaths and transportation deaths (subject to local case availability)</p> <p>Knowledge of the aims of autopsy in fire-related deaths, asphyxial deaths, drowning and poisoning.</p> <p>Investigation of hospital deaths, deaths following alleged medical negligence and the complications of medical treatment.</p>	<p>Ability to detect abnormalities and correctly interpret them</p> <p>Adequate record taking</p> <p>Able to recognize and interpret microscopic tissue findings in lesions with forensic relevance.</p> <p>Ability to provide appropriate samples and information. Able to interpret results within clinical context.</p>	<p>Works methodically and with attention</p> <p>Develops and carries out defined strategies, with ability to modify approach as necessary.</p> <p>Recognizes own limitations and seeks advice or assistance.</p> <p>Understands need for confirmation and detailed documentation of positive and negative findings.</p> <p>Recognizes importance of histology in medico-legal investigations.</p> <p>Uses adjunctive tests appropriately.</p>
<p>Forensic Toxicology, Microbiology, Biochemistry and Genetics</p>	<p>Knowledge of basic toxicology and pharmacokinetics including tolerance and post-mortem redistribution. Awareness of drug interactions, side effects, toxic and fatal effects. Circumstances in which toxicological examination is needed.</p> <p>Knowledge of the use of biochemistry, immunology, haematology and medical genetics in post-mortem examinations</p> <p>Knowledge of appropriate investigation of families following deaths which may have a genetic basis (such as sudden cardiac death in the young)</p>	<p>Able to provide appropriate samples and information.</p> <p>Able to interpret results within their clinical context</p>	<p>Understands contextual nature of all test level interpretation and the need in selected cases for expert referral</p>

<p>Health and Safety</p>	<p>Knowledge of risks posed by bodies at scenes and in the post-mortem room.</p> <p>Be conversant with relevant protocols and documentation of departmental working practices, and be familiar with the practicalities of mortuary practice.</p> <p>Have a working knowledge of the regulatory aspects of health and safety issues, sufficient to be able to draw up a mortuary policy.</p> <p>Have some understanding of the design concepts of a modern mortuary.</p>	<p>Able to recognise hazards; perform risk assessments and identify safe systems of work in the individual case.</p> <p>Be able to work at the scene and in the mortuary in a safe way</p>	<p>Take an active interest in safe working practices for all staff and visitors to the mortuary and at the scene.</p> <p>Encourage by example the adoption of safe working practices by all staff.</p>
<p>Reports and Photography</p>	<p>Detailed understanding of report writing and production and provision of expert reports.</p> <p>Understands importance of photographic documentation of external and internal findings.</p>	<p>Produce reports that address the issues and questions raised by a death, with acknowledgement of limitations as appropriate in respect of available evidence and consideration of other possible explanations and/or causes of death for the pathological findings</p>	<p>Understands the need to demonstrate the basis of expertise and its continuing validity, to keep within expertise and to justify opinion</p> <p>Be aware of the value of photography in illustrating autopsy findings to the court and other experts.</p>
<p>Teaching</p>	<p>The value of the autopsy as a teaching aid including to undergraduate and postgraduate students</p>	<p>Develop appropriate teaching skills</p>	<p>Be prepared to teach whenever feasible.</p>

<p>Medico-Legal Issues</p>	<p>Knowledge of the Magisterial Inquiry system in Malta together with the systems of investigation of suspicious deaths in other countries.</p> <p>Detailed knowledge of the appropriate guidelines and Codes of Practice relating to medico-legal postmortem examinations.</p> <p>Knowledge of practices associated with identification of bodies and techniques available in confirming or establishing positive identification.</p> <p>Knowledge of police powers to seize and retain material.</p> <p>A detailed knowledge of the legislative background to the investigation of death and authoritative guidelines or current policy related to death, disposal, certification, post mortem examination, consent, confidentiality, tissue retention, use of the health record, transplantation and regulation of the medical profession.</p> <p>Knowledge of the role of the expert witness and the obligations placed on expert witnesses.</p> <p>Knowledge of the use of visual aids in the giving of testimony</p>	<p>Ability to practise informed by legal requirements and ethical principles</p> <p>Able to operate to relevant professional standards and within any codes of practice agreed or published by the College.</p> <p>Ability to give evidence honestly, impartially, clearly and simply</p>	<p>An impartial stance and a commitment to justification of any opinion from a balanced interpretation of medical literature.</p> <p>A commitment to best autopsy practice.</p> <p>Ability to incorporate changes in medico-legal practice and reform as they take place.</p> <p>Understands the role of the expert witness in the court and criminal judicial systems</p> <p>Understands the value of uniform standards and the importance of practicing within agreed parameters</p> <p>Understands the importance of integrity and continuity of evidence, security of records, notes and samples and disclosure</p>
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Communication	<p>Knowledge of the use of, and limitations of, conferences and briefings. Appropriate conduct and record keeping in such meetings</p> <p>Knowledge of the value of visual and other aids in the presentation of complex issues</p>	<p>Ability to communicate clearly and authoritatively in stressful situations and to develop clear and sensible demarcation of responsibility within the multidisciplinary team involved in suspicious death investigation</p>	<p>Recognises the needs of the service including the Magistrates, police, courts, doctors and bereaved; specifically in understanding pathological findings and the opinions derived from them</p>
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16. TRAINEE SUPPORT

It is imperative that trainees are guided throughout their training period and regular supervision is essential in order to identify problems in a trainee's progress at an early stage. The trainee is encouraged to discuss any issues regarding training with their Clinical Supervisor.

at first instance, with appropriate involvement of the Educational Supervisor.

17. CURRICULUM REVIEW AND UPDATING

The curriculum will be evaluated and monitored by The Malta College of Pathologists which will seek continuous feedback from the Paostgraduate Training Committee, trainers and trainees.

The curriculum will be formally reviewed in the first instance by the within 2 years of publication. Any significant changes to the curriculum will need the approval of The Malta College of Pathologists' Council and the SAC.