

FORENSIC ANTHROPOLOGY CURRICULUM

Candidates for examinations at FAI and II are expected to have knowledge and practical experience of working in scene, mortuary and laboratory based investigations. They are expected to have an in-depth understanding of the following areas relating to practice within the field.

1. GENERAL SCENE/MORTUARY INVESTIGATIONS

The role and responsibilities of attendance at scenes and the mortuary.

2. CRIME SCENE/MORTUARY AWARENESS

2.1 HAVE AN AWARENESS OF THE ROLES OF:

- Coroner/Procurator Fiscal.
- Senior Investigating Officer/Senior Identification Manager.
- Crime Scene Manager.
- Exhibits/Productions Officer.
- Crime Scene Investigators/Scenes of Crime Officer.
- Police Search Advisor/Search Officer.
- Forensic Scientist.
- Pathologist.
- Other experts including but not restricted to Anatomical Pathology Technicians, Radiographers, Odontologists, DNA, Entomology and Isotope experts.

2.2 PREPARATION FOR A FORENSIC INVESTIGATION

- Assessing the environment to prepare for the requirements of analysis.
- Identifying appropriate sources of information and the means of recording information.
- Determining the types of examination techniques (or analyses) to use.

2.3 EXAMINATION PLANNING

- Examination priorities.
- The role of the forensic strategy meeting.
- The structure and sequence of examination types.
- Preservation requirements.
- Resource and equipment requirement
- Consent and authority.
- The use of personal protective equipment.
- Pre-cordon and pre-preservation examination

2.4 EXAMINATION/INVESTIGATION

Responsibilities and limitations of personnel.
Roles of scene boundaries, approach paths, cordons and cordon logs.
Communication of information and intelligence to other appropriate practitioners.
Understanding and awareness of other forensic evidence types
Awareness of DNA sampling techniques
Information requirements of other specialists.
Control of scenes and examinations without loss, damage, degradation or contamination of potential evidence.
Search and examination methods.
Recording of examination process and any findings. Equipment usage.
Auditable counter-contamination log for all non-consumable equipment.
Recovery of materials without loss, damage, degradation or contamination and advise --- where necessary on correct packaging and transportation of remains.
Requirements imposed by the Human Tissue Act (2004) and/or the Human Tissue (Scotland) Act (2006) in the handling, processing and storage of human tissue.
Rules and regulations associated with processing digital images. Health and safety.

3. CRIMINAL JUSTICE SYSTEM

Candidates are expected to know the workings of the criminal justice system as it relates to their role, examinations and analyses.

3.1 EVIDENCE/PRODUCTIONS

Legal requirements of evidence handling (integrity, continuity, disclosure, confidentiality).
Consent and authority.
Know and understand the regulations relating to the use of digital images.
Regulations and imaging processes (e.g. paediatric skeletal surveys, imaging of the living).
Interaction with police/legal teams pre-trial.
Storage and logging of specimens. Secure data storage and transfer. Chain of custody.

3.2 PREPARATION OF EXPERT WITNESS REPORT

Responsibilities which surround the role of the expert witness.
Roles and responsibilities of expert witnesses in relation to the court and disclosure of evidence.
Thorough understanding of the criminal justice systems of the UK (England/Wales, Scotland and N. Ireland) for both Crown and Defence.
Good maintenance of case records and notes.
Process involved in return of specimens post-examination.

3.3 ATTENDANCE AT COURT

Responsibilities involved in attending court as an expert witness.
Laws and etiquette governing courtroom presentation of evidence.
To know and understand the procedure rules for expert witnesses in the relevant jurisdiction.

4. ANTHROPOLOGICAL ASSESSMENTS

The candidate is expected to understand the development and growth of bone and its histology and the human skeleton in all its variation: age, sex, ancestry, robusticity, stature, pathological modifications, anatomical variants, cultural modifications. They will be able to recognise, identify, record and analyse accurately both juvenile and adult skeletal remains. They will be able to identify human versus non-human material. They will be able to work with the human in all forms of presentation – fleshed, decomposed, modified, skeletonised, burned and fragmented.

4.1 GENERAL BONE AND TEETH ANALYSIS

The development of the skeleton from fetus to full maturity.
Process of ossification.
Bone and tooth histology, growth and development.

4.2 MUSCULOSKELETAL ANATOMY

Thorough understanding of musculoskeletal anatomy and preferably other soft tissue systems.

4.3 SKELETAL AND DENTAL INVENTORY AND PROCESSING

Identification of human and non-human remains (osseous and dental).
Accurate identification of all stages of development of each bone.
Identification of fragmented and burned remains and the ability to reassemble them.
Recognise, sort and record commingled remains.
Understand the process of taphonomy and how this could impact on preservation of remains.
Establish whether remains are of forensic or archaeological origin-if possible and be aware of the techniques used to distinguish between archaeological and forensic remains.
Understand what constitutes 'normal' variation between individuals and population
Understand the processes of maceration and demonstrate knowledge of their strengths and weaknesses.
Requirements of other specialist disciplines who may wish to gain access to the remains.

4.4 RECORDING

Document juvenile and adult human remains.
Working knowledge of the different techniques of documentation available.
Role of photography as a recording technique.

5. BIOLOGICAL PROFILE

The candidate must be competent in assigning a biological profile to both juvenile and adult human remains and be able to justify this assignment. This includes knowledge of the theoretical concepts behind assessment techniques and be able to apply both morphological and metric techniques which are available for each assessment. Candidates should understand the influences of both population and individual variation of any technique that they use.

5.1 ASSESSMENT OF ANCESTRY, SEX AND STATURE

Knowledge and application of the most appropriate technique for the assessment of ancestry, sex, age and stature assessment in different circumstances and the ability to justify the technique chosen and the assignment.

Identification of appropriate source data for comparison purposes for ancestry, sex, age and stature.

Knowledge of alternative viable techniques that are available for use for the assignment of ancestry, sex, age and stature.

Communication of the potential error and limitations for any given technique.

Understand the implications of a person's lifestyle (e.g. substance abuse) and access to resources (e.g. adequate nutrition) on the accuracy of techniques for the assessment of a biological profile.

Knowledge and operational use of relevant and appropriate equipment and software.

6. IDENTIFICATION

6.1 PATHOLOGY

Identify most common types of bone pathology.

Differentiate between osseous pathological change and taphonomic changes.

Differentiate between pathological change in bone and non-metric traits.

Demonstrate an ability to describe gross bone pathology and differential diagnoses.

6.2 TRAUMA

Differentiate between ante, peri and post mortem trauma and damage.

Differentiate between trauma and taphonomic changes.

Describe and identify a possible mechanism in relation to trauma (Blunt Force Trauma/Sharp Force Trauma/Projectile, etc).

Justify the conclusions of a trauma analysis.

Reconstruct fragmented regions of the skeleton and understand the most appropriate method to achieve this.

6.3 THERMAL MODIFICATION

Understand and be able to interpret the response of osseous tissue to thermal modification.

Differentiate thermal fracturing from fracturing associated with other trauma types

Understand the potential preservation requirements of thermally modified bones and teeth.

6.4 TAPHONOMY

Understand the stages of human decomposition and their relationship to accrued temperature and insect access and other factors influencing the rate of decomposition.

Be aware of the calculation of the post-mortem interval by means of total body scoring and accumulated degree days (ADD) for surface deposition and water deposition.

Understand the role of other specialists (e.g. forensic pathologists, entomologists, etc.) in the determination of time since death.

Be aware of the different approaches that are used in time since death/PMI estimations.

Differentiate between post mortem damage and both peri- and post- mortem trauma to the skeleton.

Recognise and interpret taphonomic modification to soft tissue and human bone (e.g. animal scavenging, weathering, erosion, root etching, exposure to water, fire, etc.).

Understand the various techniques of calculating number of individuals present.
Understand the process of bone diagenesis.
Understand the role of taphonomy on body dispersal and how this could influence search strategies.

7. IMAGING

Knowledge and appropriate use of different imaging modalities (Photographs, Radiographs, Computed Tomography (CT), MRI, Fluoroscopy etc.) and limitations of these modalities.
Ability to interpret skeletal images from each imaging modality.
Knowledge of the limitations of any imaging technique.

8. CRANIOFACIAL IDENTIFICATION (SPECIALITY)

The candidate must be competent in craniofacial analysis for both juvenile and adult human remains. This includes the theoretical concepts behind assessment techniques and the ability to apply both morphological and metric techniques which are available for each assessment.

Candidates should understand the influences of both population and individual variation on any technique that they use.

9. CRANIOFACIAL RECONSTRUCTION/APPROXIMATION, SUPERIMPOSITION AND SKULL REASSEMBLY (SPECIALITY)

Knowledge and application of the most appropriate technique for the assessment of facial appearance (skeletal, soft tissue preservation or partial decomposition), craniofacial superimposition and identification and the reassembly of skull fragments.
Understand the potential techniques that are available for use. Communication of the potential error for any given technique.
Knowledge and operational use of relevant and appropriate equipment and software.