



The Society of Apothecaries of London

Guide to The Diploma in Forensic Medical Sciences (DipFMS) Incorporating the Regulations and Syllabus

June
2019/v29

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Notice of future amendments to the Guide (incorporating the Regulations and Syllabus) and revisions following publication of this version.

The DipFMS Examination will continue to change to reflect developments in medicine. While every attempt has been made to ensure that this version of the DipFMS Examination Regulations and Syllabus is accurate, further changes to the DipFMS examination, the Regulations and closing dates may be implemented during this time. Candidates should refer to the Society of Apothecaries website (www.apothecaries.org) for the most up-to-date information, where any such changes will be detailed. In order that candidates are fully briefed about the status of any proposed changes, they are advised to check the Society website regularly.

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INTRODUCTION

The Diploma in Forensic Medical Sciences was instituted by the Society of Apothecaries of London in 1998. It is intended to demonstrate knowledge of forensic medical sciences for those who are involved with or interested in medico-legal work. It is open to all who have completed a course in forensic medical sciences run by the Academy of Forensic Medical Sciences [*formerly at Barts and the London, QMU*].

Note: the exam currently remains open also to students of the associated course [previously](#) run by Glasgow University, subject to entry or re-entry within 3 years of completing the course).

COURSE CONTACT DETAILS

For details of the course please contact:

London: Professor Peter Vanezis
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DATE AND PLACE OF THE EXAMINATION

The Diploma examination is held annually, normally in June, on completion of the course.

Normally, candidates will be examined at Apothecaries' Hall.

EXAMINATION TIMETABLE AND FEES

Please refer to the **Administrative Guidance for Candidates** (available online at www.apothecaries.org).

REGULATIONS FOR ADMISSION TO THE EXAMINATION

1. Candidates must have satisfactorily completed the part-time course of lectures in forensic medical sciences which is offered by Cameron Forensic Medical Sciences at Barts and the London, QMUL, and must have been issued with a Certificate of Attendance (please also see the “Note” in the Introduction above).
2. Form A (for those applying for the first time) or Form R (for re-entrants) and the fee must have been received by the closing date published in the **Administrative Guidance for Candidates**. Evidence of satisfactory completion of the course, formally recorded as a Certificate of Attendance, will be provided to the Society by the Course organisers. For further information please refer to www.apothecaries.org.
3. If applicable, Form Q (Application for Special Examination Arrangements) must have been received by no later than 4 weeks before the application deadline for the examination, published in the **Administrative Guidance for Candidates**.

THE EXAMINATION

4. The examination will be conducted in English throughout, and will consist of:
 - a. A dissertation on a given topic, completed and submitted prior to the written paper. Candidates must write on that topic and no other. Candidates must include a written declaration that the dissertation is their own work (plagiarism is never acceptable), and allocate joint copyright of the work to the Society:
 - b. One 3-hour written paper consisting of compulsory questions covering the syllabus. These answers are handwritten and so the writing must be legible if candidates are to be properly credited for their work.
5. Both parts of the examination must be taken at first entry. Entry and re-entry to the examination must be made within 3 years of completing the course, i.e. being awarded a Certificate of Attendance.
6. Candidates who are successful at the examination are entitled to use the abbreviation DipFMS after their names.
7. Candidates must pass both the written paper and the dissertation in order to pass the examination. If only one component is passed then it is permissible to carry that result forward to the next chosen sitting, provided that this is within the time limits set out in paragraph 5 above.
8. The examination fee will be determined from time to time by the Society. Candidates who withdraw from the examination after the closing date will forfeit a proportion of the fee. For further details refer to the **Administrative Guidance for Candidates** (www.apothecaries.org).
9. Candidates will be issued with an admission document once a place on the candidate examination list has been confirmed. This must be produced on the day of examination, along with some form of photographic identification.
10. On the day of the written examination, candidates are forbidden to bring books, papers, mobile telephones, calculators or any other electronic aid into the examination rooms. It is strictly forbidden for candidates to talk to, or to attempt in any other way to communicate with, each other whilst a written examination is in progress.
11. Candidates' completed examination scripts become the property of, and will be retained by, the Society. Under no circumstances will they be available for study.
12. Candidates who present themselves for **the** written examination after the start time stated in the admission document will be admitted if they arrive within 30 minutes of this time, but may not be admitted if they arrive thereafter. In any case, candidates will forfeit the time lost. In exceptional circumstances, where all candidates are affected by delays, the examination timings may be amended.
13. The Court of Assistants reserves the right to refuse to admit to the examination, or to proceed with the examination of, any candidate who infringes a regulation or who refuses to comply with the reasonable request of an officer of the Society.

REVIEW AND APPEAL PROCEDURES

14. The processes outlined below will be dealt with according to the Examination Review and Appeal Procedure, which is available on the website. In no circumstances should a candidate make representations directly to an examiner.
15. The stages of the review and appeal procedures (which are on the examination area of the website) are as follows:
 - a. Feedback – first, compulsory stage;
 - b. Review – second, optional stage;
 - c. Appeal – third, optional stage.
16. **Feedback (compulsory).** The feedback process operates through the Registrar. Feedback on examination performance may be available to unsuccessful candidates at their request. Requests must be made in writing and be received by the Registrar within 28 days of the date of the result letter.
17. The Registrar has authority to pass to the candidate a breakdown of the results of each section of the examination where this is not provided with the result letter. This information should be read in conjunction with the explanation of the marking scheme and the standard that is required to achieve a pass in the examination contained in this Guide.
18. The Registrar can also relay a transcript of additional general advice directly to the candidate, if such advice is available. This is advice generated by the Examination Panel, which had been agreed at the time of the examination. The Registrar's role is to distribute the prepared information but not to interpret it.
19. There is no charge to the candidate for this service.
20. **Review (optional).** A request by a candidate for a review of a paper must be received in writing within 28 days of the date of the notification informing the candidate of the feedback. A request for a review cannot be made without first going through the feedback stage. There is a fee of £175 for a review.
21. **Appeal (optional).** An appeal to the Society's Examinations Board is open to a candidate who is not satisfied with the decision of the Examination Panel, feedback or the Review Panel. In accordance with the Society's Examination Review and Appeal Procedures, available to download, the detailed grounds on which the appeal is made must be stated. The appeal must be received in writing within 28 days of the date of the notification informing the candidate of the examination result or the review. It is not necessary to seek a review before appealing. There is a fee of £250 for an appeal.
22. If the appellant is dissatisfied with the report of the Examinations Board Appeal Tribunal and wishes to make an appeal to the Court of Assistants, this should be communicated to the Registrar within 28 days of the date of the notification informing the candidate of the decision of the Appeal Tribunal.

THE DISSERTATION

23. The dissertation topic for the ensuing year is published in the autumn in the **Administrative Guidance for Candidates** (www.apothecaries.org). Candidates are encouraged to carry out literature searches, to reference the work and to include original comment, diagrams and photographs. The dissertation must not be plagiarised nor be a paraphrase from standard textbooks (and see paragraphs below). The Society may routinely utilise anti-plagiarism software as one of its tools to ensure academic integrity; if used, candidates will be so advised.
24. Plagiarism is the presentation of another person's thoughts or words as if they were the writer's own. If another person's work is quoted, it must be acknowledged fully by means of a reference in the text (source to be given in the reference list) and putting the quotation in quotation marks, i.e. "...".
25. This also applies to verbatim short sections from a source. Paraphrasing statements/text of factual knowledge or ideas from published works, lectures or web sources is not plagiarism if the original source is referenced and the paraphrasing is not extensive.

26. Any diagrams, tables, graphs etc which have been taken directly from a source or modified from a source must include appropriate details of the author and source, as well as being acknowledged e.g. from Bloggs et al 1998 or adapted from Bloggs et al 1998. Simple reproduction of complete articles in appendices is not permitted. **Any candidate who is found to have plagiarised material in the dissertation will be referred to the Examinations Board.**

NB. The work of any candidate who is found to have plagiarised material in the dissertation will be rejected.

27. The text of the dissertation must be typed and capable of electronic transfer. Dissertations should be between 8,000 and 10,000 words in length excluding references; dissertations which are significantly above or below those limits may have that fact reflected in the marking. Dissertations should be page numbered.
28. Dissertations should demonstrate evidence of review of the relevant literature with a demonstration of understanding and appropriate critical interpretation in the discussion. There should be use of theory to support arguments, and evidence of the development of the student's own thoughts, based on critical evaluation of the information gathered.
29. Dissertations benefit from having a clearly identifiable structure, which assists readers and examiners alike. The following sections are suggested.

Title page:	indicating title of dissertation, author, course title and date (Month and Year).
Declaration of originality form:	see required layout below
Acknowledgements:	if relevant
Table of contents:	indicating section and sub-section titles and page numbers
Abstract:	approximately ½-1 page, summarising the content of the dissertation and stating word count (excluding references).
List of figures:	if relevant
List of tables:	if relevant
List of abbreviations:	if relevant
Introduction:	indicating scope of the dissertation and aims & objectives if relevant
Main text:	subdivided into sections dealing with separate topics
Conclusions	
References:	see below for required format
Appendices:	if relevant

Each section should be identified by an appropriate heading, using a numbering system if desired. This could also apply to sub-sections, for example:

1. Introduction
- 1.1 Topic 1
- 1.2 Topic 2

The following check list may assist final proof reading. Consider:

- Clarity of objectives
- Relevant literature review undertaken
- Evaluation of evidence with development of original thoughts
- Conclusions relevant and sound with a summary of any recommendations
- Acceptable standard of grammar and spelling
- Report is coherent and arguments are sequenced logically
- References are included where needed and distinction between author's opinion and published evidence/opinion is clear
- The dissertation is in the correct format including the numbered endnote referencing style, and with page numbers.

30. The dissertation must include a title page with the following:

<p style="text-align: center;">Diploma in Forensic Medical Sciences</p> <p style="text-align: center;">Dissertation title</p> <p style="text-align: center;">Candidate name</p> <p style="text-align: center;">Date (e.g. 2 May 2019)</p> <p style="text-align: center;">Word count excluding references (e.g. 9,796)</p>
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DECLARATION OF ORIGINALITY

31. Candidates must make and sign a declaration such as the one given below. It must be incorporated into the dissertation.

<p>Declaration of Originality</p> <p>Name:</p> <p>I certify that this dissertation is entirely my own work and free from plagiarism. I allocate joint copyright to the Society of Apothecaries.</p> <p>Signed Date</p>
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REFERENCES

- 32. The text of the dissertation must be supported by references taken from the relevant published literature. Usually these will be from books or refereed journals.
- 33. References to Internet sources must include all the information required for a full and complete reference plus full details of the website (the URL of the site) and the date on which it was accessed, as the content of sites may change with time.
- 34. References to newspaper articles containing details of fact, such as case reports, may exceptionally be made, but candidates should recognise that these are not considered authoritative and are not subject to peer review before publication.
- 35. Additional footnotes must **not** be used unless they are absolutely essential.
- 36. Medical and scientific references must be numbered consecutively in the order that they are first mentioned in the text and placed in superscript each time the author is cited. The full list of references must be arranged at the end of the dissertation in numerical order.
- 37. Format of references must follow the Vancouver style, i.e.:

For Journals:

Authors' Names & Initials, The Title of the Article, *The full Title of the Journal*, the Year, the Volume, and the first and last Page Numbers referred to.

e.g. Jude E, Boulton A J M. End stage complications of diabetic neuropathy. *Diabetes Rev* 1999;7:395-410.

For Books:

Authors' Names & Initials, The Title of the Book, The place of Publication, the Publisher, the Year.

e.g. Corbetta, P. Social research: theory, methods and techniques. London. Sage. 2003.

[if there are more than six authors list the first three followed by *et al*]

38. **Legal references** must be cited in the form used in reports issued by the Incorporated Council of Law Reporting:

e.g. DPP v Smith [1990] 2 AC 783

Guidance on legal references can be found in Raistrick, D. Index to Legal Citations and abbreviations. London. Sweet & Maxwell. 2008.

39. Full details of the styles of referencing, which must be followed meticulously, can be found at:

<http://bma.org.uk> - search for "Vancouver" to display the BMA's Reference Styles factsheet.

PRODUCTION OF DISSERTATIONS

40. Dissertations must be produced in accordance with the guidelines set out in this Guide and it is important that they are strictly adhered to. Dissertations not in this format may be rejected.

41. **Two hard copies and one electronic copy** of the dissertation must be submitted to the Registrar of the Society of Apothecaries by the specified closing date.

Requirements for the Printed Version

42. **Printing** - Dissertations must be printed in 12 point black type, double-spaced on single sides of A4 paper. The left hand margin should be wide enough to accommodate the binding without obscuring text.

43. **Binding** - Dissertations must be bound in an efficient, but not necessarily formal, manner. Inexpensive binding techniques include comb binding, perfect binding, velobinding and wire-O binding. Two copies must be supplied.

44. **Headers and footers** – Your name and the dissertation title must appear in the document header from page 2 onwards. The page and total number of pages, given as "Page x of y", must appear in the footer.

Requirements for the Electronic Version

45. A machine-readable, electronic version of your dissertation must be submitted via e-mail to examoffice@apothecaries.org, no later than the deadline published in the **Administrative Guidance for Candidates**
File name – Each dissertation must be presented as a single file. Files names must be created as: Your name DFMS Dissertation title Date (YYMMDD). For example: **Bob Smith DFMS Terrorism Investigation 190526.doc**

MARKING SCHEME

46. **The Dissertation.** The dissertation will be assessed by 2 examiners, marks being awarded for relevance of content and style, use of English and grammar, use of appropriate references and adherence to production requirements.

47. **The Written Paper.** Scripts must be legible. If two examiners cannot decipher the handwriting, marks cannot be allocated.

48. The written paper is marked against prepared bullet points to guide the marking process for each question. The Panel assesses the level of knowledge expected of candidates using as standard procedure such as the modified Angoff method. All judgements by the standard setters are then analysed and a criterion-referenced pass mark is established. As a result of the standard setting, the pass mark and pass rate can vary from one examination to the next, although the standard required remains the same.

49. Each script is double marked. The marks are averaged unless the discrepancy is greater than 30%, in which case the figures are examined in detail by the Panel and a mark agreed.

SYLLABUS

Candidates will be expected to have a theoretical knowledge of the basic facts and principles of all forms of medico-legal enquiry and the reasons for the form of that enquiry. Topics to be covered include:

Section A

Medical basics and the medico-legal autopsy

1. Human anatomy and physiology

Knowledge of the workings of the human body sufficient to understand medical evidence

- Medical terminology and its use in medico-legal reports
- Body structure, systems and functions relevant to forensic practice

2. Medical aspects of death and post mortem examinations

Understanding the nature and definition of death

- Definition and medical diagnosis of death, brain death, persistent vegetative state

Appreciating the physical changes occurring in the body after death and their forensic application

- General principles of post mortem changes and their relevance in determining time of death
- Changes regarding cooling, lividity, rigor mortis, decomposition and variants; factors affecting

Understanding the purpose and conduct of post mortem examinations (autopsies)

- Consent ('hospital') v medico-legal examinations; pathology expertise and specialties
- Post mortem examinations – for cause of death, contributing factors, identification, evidence
- Process of external examination, internal dissection, taking of samples; post mortem reports
- Additional investigations – imaging, histology, toxicology, genetics etc.; tissue retention legislation

Section B

Medical and legal procedures relating to deaths and their investigation

3. Responsibilities of the doctor in dealing with a death

Knowledge of the necessary legal procedures after someone's death

- Legal responsibilities of the medical practitioner in confirming death and in certification; role of other healthcare workers; referring deaths to the Coroner or Procurator Fiscal
- Death certification and procedure; variations within the UK; cremation procedure
- Roles of Medical Examiner in England & Wales and Medical Reviewer in Scotland

4. HM Coroner and sudden deaths

Role of the Coroner in the investigation of deaths in England, Wales and Northern Ireland

- Position and role of the Coroner; qualifications; Chief Coroner; comparison with Scotland
- Categories of deaths reportable to the Coroner and how reported
- Process of the investigation, involvement of police and other agencies, post mortem examinations
- Decisions and disposal, inquests (*see below*), referral for criminal proceedings

Inquests

- Purpose and nature of Inquests; types of cases dealt with; use of juries
- Conduct of proceedings, witnesses, outcomes (Conclusions)

5. Procurator Fiscal and sudden deaths

Role of the Procurator Fiscal (PF) in the investigation of deaths in Scotland

- Position of the Procurator Fiscal; role in the investigation of deaths; comparison with rest of UK
- Categories of deaths reportable to the Procurator Fiscal and how reported
- Process of the investigation, involvement of police and other agencies, post mortem examinations
- Decisions and disposal, Fatal Accident Inquiries (*see below*), criminal proceedings

Fatal Accident Inquiries (FAIs)

- Purpose and nature of FAIs; mandatory and discretionary types
- Conduct of proceedings, personnel involved, witnesses, determinations

Section C

The law of the UK as it relates to forensic practice

6. Legal systems in the United Kingdom

Understanding the structure, process and personnel of the legal system in the UK

- UK law – variations within the UK, comparison with other countries, adversarial v inquisitorial
- Criminal court structure, legal personnel involved and general procedures

7. Prosecution of crime in England, Wales and Northern Ireland

How crime is investigated and prosecuted in the UK (other than in Scotland)

- Crown Prosecution Service (CPS); role of the police; Police and Criminal Evidence Act; courts
- Initial process, case preparation, case meetings with witnesses
- Conduct of a trial – procedure, role of judge and jury, witness evidence, outcome

8. Prosecution of crime in Scotland

How crime is investigated and prosecuted in Scotland

- Crown Office and Procurator Fiscal Service; Law Officers; role of the police; courts
- Initial process; case preparation, precognition of witnesses, decisions on trial
- Conduct of a trial – procedure, role of judge and jury, witness evidence, outcome

9. Role of the defence in criminal prosecutions

The role of an accused person's defence team in a criminal prosecution

- Rights of the accused; access to legal assistance; commissioning of own enquiries
- Role of defence to test the prosecution case and the evidence submitted; disclosure issues
- Defences of diminished responsibility, provocation, alibi, self-defence, incrimination, insanity

10. Expert witnesses and the presentation of scientific evidence

The role and responsibilities of the expert witness

- Distinction from other witnesses; opinion evidence; comparison with other countries
- Requirements and responsibilities – qualifications, expertise, impartiality, limitations

Section D

Injury interpretation and specific types of trauma

11. Injury classification and general causes

The nature of injuries, how they are caused, and how they should be described and interpreted

- External and internal injuries in clinical and post mortem practice; common causes; injury patterns (accident, suicide, homicide); concept of blunt and sharp force trauma
- Blunt force – abrasions, bruises, lacerations; causes and interpretation
- Sharp force – incised wounds, stab wounds; causes and interpretation
- Internal injuries; issues of survivability

12. Head injuries

Understanding the mechanisms of head injuries, the clinical effects and the pathological findings

- Circumstances and mechanisms of head injuries (road traffic accidents, falls, assaults)
- Clinical presentation, coma scales, treatment and outcome
- Medical findings – external injuries, skull fractures, intra-cranial bleeding, brain injury

13. Firearms and firearm injuries

Knowledge of the common types of firearms, how they work, and the injuries they produce

- Classification of weapons and ammunition; circumstances of use; legal controls
- Air weapons; shotguns; rifled weapons; military small arms
- Firearm injuries – post mortem findings, evidence retrieval, assessment of firing distance
- Scientific investigations – scene examination, gunshot residue, test firing etc.

14. Fires and burning

Understanding the causes of fires and how they are investigated

- Fire basics and types of conflagration; common circumstances; contributing factors
- Scientific investigation – establishing cause and source, evidence recovery, identifying accelerants

Injuries and deaths from fires and burning

- Cause of death in fires – smoke inhalation, burning, trauma
- Aim of the post mortem examination in establishing cause of death, contributory factors, identification of the individual, detection of concealed homicide; toxicology investigations
- Burns – classification and assessment, principles of clinical treatment

15. Other major trauma

Road traffic collisions

- Circumstances; injury mechanisms and patterns – occupants, pedestrians, cyclists; safety devices

Accidents at work

- Structural collapse, falls, machinery, agricultural; legal investigation

Explosions and explosive devices

- Mechanical, gas, chemical; explosive devices; injuries from blast, fragments, crushing, fire

Injuries and major trauma in the clinical setting – forensic aspects

- Injury assessment and scoring systems; imaging; general treatment methods

Section E

Other causes of injury and death and those in particular circumstances

16. Asphyxia

Nature of asphyxia and its causes

- Definition of asphyxia, physiological mechanisms involved, timescales, general features
- Specific causes and medical findings – environmental, crush, suffocation, choking, aspiration, hanging, neck compression (strangulation)

17. Drowning

Circumstances of drowning and findings at post mortem

- Circumstances of drowning deaths; mechanisms of death; issues of 'bodies in water'
- Interpretation of post mortem findings; decomposed bodies and identification

18. Hypothermia and other physical causes

Hypothermia

- Physiological mechanisms; circumstances – acute exposure, incapacitation (alcohol, injury, illness)
- Post mortem findings, diagnostic difficulties, suspicious presentations

Others

- Hyperthermia – physiological effects, circumstances (environmental, drug related)
- Carbon monoxide poisoning – sources, toxic effects, PM findings
- Electrocutation – physics, circumstances, mode of death, PM findings

19. Child deaths and abuse

Causes of sudden death in children – natural and otherwise

- Overview of sudden unexpected death in infancy (SUDI); paediatric post mortem examinations
- Deaths from natural causes, SIDS, asphyxia, trauma (accidental and homicidal); infanticide

Child abuse and its recognition

- Physical, sexual, neglect, emotional; parental characteristics; safeguarding measures
- Medical findings – external and internal injuries, inflicted head trauma, physical neglect

20. Deaths in custody

Deaths occurring in police and prison custody and how they are investigated

- Definition of custody (England and Wales / Scotland); categories and numbers of deaths
- Police custody – suicide, intoxication, injury, natural, restraint, road traffic pursuit, shooting
- Prison – natural, suicide, intoxication, homicide

- Legal investigation; role of IOPC (England and Wales) and PIRC (Scotland)

21. Deaths from alcohol and drug abuse

Alcohol related deaths in forensic practice

- Scale of alcohol abuse and frequency in forensic cases
- Deaths from acute intoxication, trauma (falls, fires, RTAs), chronic effects (liver, lung, brain)

Deaths from opiates, stimulants and other abused substances

- Drugs abused; mechanisms of death; other causes of death in drug abusers
- Post mortem findings – external, internal; histology and toxicology investigations

22. Natural disease

Natural disease relevant to forensic practice – causes of sudden death

- Cardiovascular – ischaemic heart disease, hypertension, inherited cardiac disease, pulmonary embolism and deep vein thrombosis; contribution in suspicious deaths
- Respiratory – pneumonia, asthma, asbestos related
- Cerebrovascular – cerebral and subarachnoid haemorrhage, epilepsy, meningitis
- Other - gastro-intestinal; septicaemia; maternal deaths

23. Deaths related to medical care

Investigating deaths potentially related to medical care

- Recognition of medical risks; investigation by Coroner / Procurator Fiscal; NCEPOD reports
- Deaths related to surgery, medical procedures, medication, errors in diagnosis, hospital infection

Section F

Clinical forensic medicine

24. Confidentiality of medical information, consent and negligence; regulation of medical practice

Appreciation of the legal and ethical aspects of medical practice

- Confidentiality of medical information – principles, circumstances of disclosure
- Consent to medical treatment – nature of consent, when required, competency
- Medical negligence – definition, duty of care, legal processes
- Role of medical defence organisations

How the practice of medicine is regulated in the UK

- General Medical Council – structure and representation
- Role as regards registration, revalidation, education, issuing advice
- Disciplinary role – investigation (GMC), hearings (Medical Practitioners Tribunal Service)
- Regulation of other healthcare workers

25. Examination of detained persons

General roles of the forensic physician in medico-legal practice

- Training; employment; duties re custody medicine, sexual offences and sudden deaths

Examining and caring for those in police custody

- Assessing fitness for custody, fitness for interview; medical care and prescribing
- Examination procedure; issues of consent; intimate searches, evidential samples, reports

26. Investigation of sexual offences

Nature of sexual offences and their medical investigation

- Legal definitions; circumstances and characteristics of sexual assaults, including drug facilitated
- Role of the forensic physician or specialist team; obtaining a history; consent
- Examination procedure – general, specific injuries, samples, medical aftercare
- Interpretation of findings and preparation of reports; presenting evidence in court

27. Forensic psychiatry

Forensic aspects of mental illness and the role of the forensic psychiatrist

- Mental disorder and crime; fitness to plead, lack of responsibility, diminished responsibility

- Relevant disorders – schizophrenia, mania, depression, personality disorder, learning disability
- Disposal by the courts and treatment options; risk assessment and management

Section G

Forensic science and toxicology

28. Forensic science in crime investigation

The contribution of forensic science in the investigation of crime

- Overview of the specialty and areas of expertise – biology, chemistry, physical evidence
- Role of the scientist at the crime scene – evidence recovery, blood patterns analysis
- Role in the laboratory – clothing, marks, fibres, documents, drugs, other
- Specialist areas to be covered elsewhere – DNA profiling, fire investigation, firearms
- Forensic Science Regulator and quality control

29. DNA profiling

Understanding DNA technology and its contribution to the investigation of crime

- Introduction to the molecular biology of DNA; history and development of DNA profiling
- Terminology (PCR, STR, mitochondrial etc.), sampling, methodology, databases
- Interpretation of results and presentation of DNA evidence in court

30. Alcohol and alcohol related offences

Nature and physiological effects of alcohol

- Alcohol in the body – absorption, distribution, metabolism, excretion; factors affecting
- Blood alcohol concentrations and physiological effects; characteristics of alcoholic drinks

Road traffic offences etc.

- Road traffic legislation (Road Traffic Acts, Sections 4 and 5); legislation in other areas of transport
- Clinical assessment, roadside testing, laboratory measurements and prescribed limits

31. Drugs of abuse

Prevalence of drug abuse and legislation to control it

- Definitions; prevalence; UK legislation; drugs and driving; international controls; drugs in sport

Main categories of abused drugs and their effects

- Sedatives – opiates (heroin, methadone), benzodiazepines
- Stimulants – cocaine, amphetamine type substances
- Novel psychoactive substances
- Hallucinogens; volatile substances

Investigating drug abuse

- Role of the forensic chemist; seized drugs, trends in use
- Role of the forensic toxicologist; samples analysed, methodology, interpretation of results

Section H

Other forensic specialties

32. Forensic odontology

Role of dentistry in identification

- Use with individuals or mass fatalities; systems of charting; dental records; limitations
- Use in age estimation and for DNA analysis

Bite mark analysis

- Bite marks in forensic practice; documentation, photography, comparisons
- Interpretation of marks and presentation of evidence in court

33. Forensic anthropology, archaeology and other specialties involved in crime investigations

Forensic anthropology

- Study of the skeleton; identifying human remains – individual or mass fatalities
- Determination of sex, age, stature etc.; sampling for DNA analysis; trauma analysis

Forensic archaeology

- Use in locating graves and buried bodies; techniques; exhumation process; soil analysis

Forensic entomology

- Use of flies, maggots etc. to estimate time of death

Forensic botany

- Examination of vegetation, pollen, stomach contents

34. Forensic expertise in an international setting

Contribution of forensic specialists in major disasters

- Primarily for victim identification – use of pathologists, anthropologists, dentists, scientists (DNA)
- Difficulties faced and practicalities of working

Contribution in the investigation of war crimes and miscarriages of justice

- Primarily to secure evidence of a crime – use of archaeologists, anthropologists, pathologists
- War crimes, international law and international courts
- Miscarriages of justice – providing independent expertise

MRS J M E MACLEAN
Registrar