

Diploma of Expert Practice (DEP) in Ultrastructural Pathology

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Aims of Talk

Provide background to the new DEP in
Ultrastructural qualification

Outline the eligibility criteria and structure

Explain the DEP portfolio requirement and
examination arrangements (*including handy hints
and tips*)

Highlight why this qualification is important

Background



The IBMS use to offer a CEP in Electron Microscopy and DEP in Ultrastructural Pathology, but qualifications had low take-up and content need to be updated

Reviewed during 2021/2022 leading to creation of new DEP in Ultrastructural Pathology

Why is this Qualification Important?



- Landscape has changed since the qualification was initially offered
 - EM units scientist lead
 - UKAS (standard 6.2.2 – competence requirements)
 - External work increasing (proof of standard of work)
- Other than dissection, EM is the one area where decisions are made about what tissue/area is selected for examination.
- Increasingly more common for our ultrastructural reports to be included within the histological report issued to clinicians

Why is this Qualification Important?



- There are similarities between dissection and EM
 - Both specialisms involve selection of tissue to examine
 - Both require decision making along the pathway
 - Both give the pathologist selected areas (tissue sections/digital images) for a diagnosis to be made
- It is commonly accepted that progression in dissection goes hand in hand with passing the DEP in dissection...
- So why should EM be different?

Eligibility Criteria

To undertake the DEP in Ultrastructural Pathology (if in the UK) applicants must have:

- registration with the HCPC as a biomedical scientist
- Membership (MIBMS) or Fellowship (FIBMS) of the Institute of Biomedical Science
- have at least **three** years whole time equivalent post-registration experience in histology
- have at least two years current practical experience in ultrastructural pathology

They need to have a named supervisor who could be Consultant Pathologist, Clinical Scientist, or an Advanced Biomedical Scientist.

Discussion taking place about those outside of the UK being able to access qualification

Structure of Qualification

Mandatory Modules

- Clinical Governance
- General Principles of Electron Microscopy Preparation Techniques
- Pathological Process Relevant to Electron Microscopy
- Electron Microscope Use
- Ultrastructural Examination

Optional Modules

- Renal Biopsies
- Skin
- Primary Ciliary Dyskinesia
- Muscle and Nerve

Assessment of Qualification



Qualification will be assessed through:

- Portfolio of Evidence - A compilation of documentary evidence of experiential learning gained during preparation for the DEP examination
- Written Examination

Portfolio of Evidence



The portfolio that is submitted for assessment must contain:

- Case Log of specimens consistent with modules applied for and summary showing at least **two** years current practical experience
- Evidence of regular Case Reviews with named supervisor
- Audit (minimum of three)
- Case studies (minimum of two, one for each module applied for)
- Formative Assessments
- Tutorials and Training
- Review and reflection
- A signed training logbook



Institute of
Biomedical Science

Compiling Your Portfolio of Evidence

- Break into logical sections
- Have a contents page /index
- Start with an introduction about your background / experience / gaps in training
- Include statement of support from supervisor(s)
- Show record of progress
- Make information easily accessible
- Make the assessment of the portfolio evidence easy for the examiner!

Portfolio must be submitted electronically – NOT IN HARD COPY

Potential Portfolio Sections



1. Introduction, supporting statement & acknowledgements
2. Case log including summary
3. Case reviews
4. Case studies
5. Audits
6. Formative assessments
7. Tutorials and training sessions

You need to include scanned copy of your Training Logbook – Mandatory Modules and each of the Optional Modules being applied for



MANDATORY MODULE 1 Clinical Governance	Date Started	Date Completed	Signature of scientific supervisor
<p>Knows and understands:</p> <p><u>Health and Safety</u> The safety responsibilities of the employee under the Health and Safety at Work Act 1974, COSHH, RIDDOR, Ionising Radiation Regulations and other current safety legislation</p> <p>The departmental safety policy</p> <p>The need to wear appropriate personal protective equipment and not to contaminate the work area</p> <p>Operation and use of ventilated work areas</p> <p>The universal precautions for handling specimens and the procedures in place to deal with high risk specimens</p> <p>The hazards associated with</p> <ul style="list-style-type: none"> • chemicals used in EM preparation including but not limited to, fixatives, resins and EM stains • physical hazards including but not limited to, glass knives, diamond knives and blades • electrical hazards of the TEM <p>Methods of dealing with spillages</p> <p>The requirements for clinical and chemical waste disposal</p> <p><u>Errors and Incidents</u> The risk to the patient of diagnostic errors</p> <p>How transposition errors can impact on patient treatment</p>			

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Case Log

- Is a record of the number of cases you have been exposed to

Case Log	Case Reviews
0 to 49 cases per year – All cases should be included in the log	50% of the cases included in the log should be reviewed
50 to 149 cases per year – 80% of these cases should be included in the log	33% of the cases included in the log should be reviewed (Minimum of 26 and maximum of 50 per year)
150 to 499 cases per year – 50% of the cases should be included in the log	25% of the cases included in the log should be reviewed - Up to a maximum of 50 case reviews per annum
>500 cases per year – 25% of the cases should be included in the log	10% of the cases included in the log should be reviewed – Up to a maximum of 50 case reviews per annum

- No set number for each pathology type – Assessors know that some pathologies are more common than others and there will be variation between laboratories

Case Log

- Must include a summary of numbers and it is important to show experience of range of pathologies within each module being applied for

Pathology	Period			TOTAL
	X to X	X to X	X to X	
Alport's syndrome				
Amyloidosis, NOS/ AL/ Others				
Anti-glomerular basement membrane disease				
C1q nephropathy				
C3 glomerulonephritis				
C3 Dense Deposit Disease				
Congenital nephrotic syndrome, Finnish type				
Cryoglobulinaemic glomerulonephritis				
Diabetic nephropathy				
Fabry's disease				
Focal segmental glomerulosclerosis, NOS/ tip				

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Case Reviews

- Case reviews must show evidence of knowledge and understanding of the patient's diagnosis and the possible impact on subsequent treatment and outcome
- Expected number of case reviews should be linked to number of cases in log.

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Case Review:-

Case number:		Lab number:	
Date of Review:			
Reviewed with:			
Purpose of the review:			
Clinical Details:			
Details of review:			
Summary/reflection:			

Difference between review and case study?

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Case Studies

- **1500** + / - 10% words each.
- One for each optional module applying for – if only doing one module you must do two case studies on that module
- Does not need to be anything special or particular rare and usual – your scope of practice
- Should be referenced and include appropriate imagery
- Headings of Pre-analysis, Analysis, Post-Analysis
- **MUST** include reflection on what has been learnt as a result of the case study

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Audits



Introduce your audits with a statement to show you understand the different types of audits that can be undertaken and the audit cycle

Minimum of three audits can include observational (examination), vertical, horizontal, health and safety, personal or clinical audits - There must be at least one audit that relates to personal practice and another must be of clinical practice

Audits should be undertaken against local or nationally published performance targets

Audits

Include learning outcomes, both positive & negative

Explain if the event led to a change in practice

Use an audit cycle model to guide you, including presentation & action plan

Don't just include the audit with no context / background / description



Audit Examples;

- **Personal practice:-**
 - Audit number of cases that required review of grids
 - cases that required alteration of report before issue.
- **Clinical practice:-**
 - review cases reported as IgA – audit how many cases you looked at contained mesangial deposits
 - cases that EM suggests a type 1 PCD – compare to final diagnosis

Potential Portfolio Sections



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6. **Formative assessments**
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What Are Formative Assessments?

- An observation of the skills of the scientist carried by the supervisor to show how practice has evolved i.e. It's an assessment of progression and learning

What Can They Look Like?

- Essay plan of quality management system as it relates to EM
- Recorded observation of examination of an unusual case
- Recorded conversation around recognition of a particular pathology

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Tutorials and Training Sessions

Portfolio should show evidence of appropriate:

- Seminars, Meeting, Conferences - including this event!
- Webinars
- Training Events both internal and external courses
- Virtual Courses
- Self-directed learning
- Presentations

Tutorials and Training Sessions

- Reflections on papers read
- Discussions with Pathologists or colleagues
- Attendance at MDT's
- **Visits to other EM units**

Training doesn't have to be complicated – “Did I learn something new from that discussion, reading, Observation? – then its training (and also CPD!)

Make a template and save it to your desktop –then its easy to fill out and keep track of!

Portfolio Assessment

Candidates must submit an electronic version to IBMS by the published date. (think how you are going to do this – the folder will be very large and unlikely to be sent via straight forward email – WeTransfer or similar file transfer

The portfolio is marked against the portfolio assessment indicators in the guidance to candidates and trainer. These should be used as a checklist

Exam Arrangements

PAPER 1
MANDATORY MODULES

Two hours

5 questions

20 points each

1 question per module

PAPER 2
OPTIONAL MODULES

Two hours

Candidates must do four
questions from choice of
eight

25 points each

Exam Arrangements

**MANDATORY
MODULES**
Two hours
5 questions
20 points each
1 question per

Q1. Clinical Governance

- a. Describe **six** elements of specimen dissection where consideration of the risks involved must be made and suggest ways of mitigating against them whilst carrying out the dissection process. (12 marks)
- b. There are two permissible exposure limits for formaldehyde in the workplace, name them and what is the permissible level with each. (4 marks)
- c. You have received a sample with a different label on form and pot. What would you do? (4 marks)

Exam Arrangements

PAPER 2

OPTIONAL MODULES

Two hours

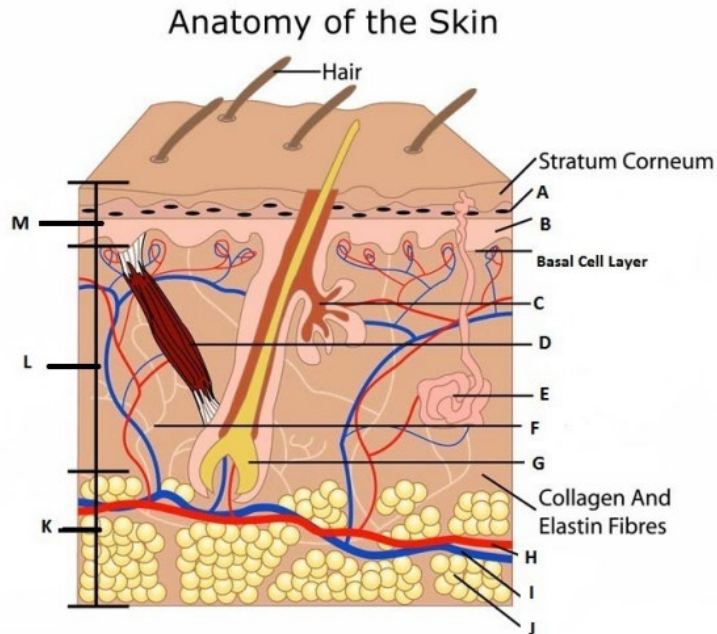
Candidates must do four
questions from choice of
eight

25 points each

Exam Arrangements

Q2. Skin

- a. Name the components and structures (A to J) and layers (K to M) shown in the schematic diagram of skin shown below. (7 marks)



- b. Write short notes on the clinical and histological findings seen in dermatitis herpetiformis. (5 marks)
- c. You receive a 50 x 15 x 7 mm skin biopsy from a 50 year old male (photograph below), with clinical history of ?SCC on back. No indication given of suture orientation provided. How would you dissect this specimen? (4 marks)



- d. Some Squamous Cell Carcinomas are reported as High Risk. What clinical and histological features are high risk? (4 marks)

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Thank you for Listening

Any Questions

