East Lancashire Hospitals NHS
NHS Trust

IBMS REGISTRATION PORTFOLIO TRAINING PLAN

40 WEEK PLACEMENT

MICROBIOLOGY

STUDENT NAME:

TRAINING OFFICER:

DATE STARTED:

Training Programme for the Institute of Biomedical Sciences Registration Portfolio

The registration portfolio is a formal demonstration of an individual's fitness to practice as a biomedical scientist.
Candidates undertaking this qualification are expected to read the guidance notes and information available on the IBMS website **www.ibms.org**

Certificate of Competence

The IBMS Certificate of Competence is awarded to those who have demonstrated they have met the Health and Care Professions Council (HCPC) standards of proficiency.
This can be achieved through one of three main routes:

• Integrated degree (completion of the registration portfolio is part of the degree programme)

• IBMS accredited degree plus registration portfolio (completion of registration portfolio can be completed after the degree)

• Non-accredited degree (plus completion of any supplementary education identified by the IBMS) and registration portfolio.

Successful candidates will be eligible to become a Licentiate member of the IBMS (if they are not already).

Training Reviews:
Each candidate will have an assigned training officer who will oversee progress of the portfolio and will be the first point of contact for any issues.

There will be monthly review where targets will be set and evidence reviewed

A record of these meetings will be recorded in the appropriate section in the portfolio document

Competence & Assessment

There are a range of competence and assessment methods which can vary depending on the individual and the portfolio requirements

For example direct observation, written question and answers, verbal question and answers, EQA etc.

Candidates must achieve the necessary level of competence according to the portfolio undertaken and compile a portfolio of evidence demonstrating competence. The evidence of achievement individual sections should be signed off by an appropriately qualified member of staff.

The training programme indicates appropriate in-house competences which should be covered in each section. Once competence has been achieved they may trigger the sign off of a section in the evidence of achievement.

Verification may only be arranged if the candidate has completed the portfolio and either an IBMS accredited degree or supplementary education as identified by the IBMS.

Upon completion, an application is made to the IBMS by the laboratory (application form available on IBMS website) to arrange an assessment visit by an external verifier. For Healthcare Science students from the University of Central Lancashire, the portfolio verification is organised by the university.

Further details on the verification can be found in the registration portfolio, and the IBMS website.

Rotation:
A member of staff undertaking the IBMS Registration Portfolio is expected to complete the training within a 12 month period.

Healthcare Science students from UCLan will rotate through all Pathology disciplines in their first 10 week placement (see documents ELMIC/F/303 and ELMIC/F/230), and then choose a single discipline in which to spend their 42 week placement.

Each candidate is expected to follow the training programme indicated and will rotate through each section Some areas will be covered by multiple rotations, where other, more specialised areas such as CSF processing will be demonstrated as and when available. The department will endeavour to follow this programme as closely as possible but, due to leave and sickness, amendments may have to be made.

The minimum duration indicates the minimum level of time is it expected for a candidate to achieve the necessary level of competence; however this will vary for each individual.

Each rotation have indicated portfolio standards to be covered, these should not be viewed as exclusive as there will be crossover and candidates are expected to collate evidence as it becomes available rather than waiting for the relevant rotation

Microbiology IBMS Registration - Student placement programme 2018

TRAINING = WHAT THE INDIVIDUAL SHOULD EXPECT

LEARNING OBJECTIVE= WHAT WE EXPECT THE STUDENT TO BE ABLE TO EXPLAIN

TRAINING OVERVIEW:

These training items underpin all work in Microbiology

Sample reception and handling

Training Elements/Learning Objectives:

- To receive and distribute samples as appropriate around the laboratory
- To check request and sample details match and are complete/sufficient
- To be aware of various sample types and investigations, sample and request form labelling conventions
- To be aware of various inoculation and spreading techniques; to access the Test Selection SOP
- To be aware of storage, retention and disposal procedures for samples and request forms
- To be aware of the different culture media and methods available
- To be aware of the Health and safety issues within the department

TelePath laboratory information management system

Training Elements/Learning Objectives:

- Access the TelePath system, its menus and all available options
- Input patient, specimen and investigation details via request entry screen
- Awareness of search functions and techniques (e.g. "??" and "@" searches, PAS, ICE)
- Use of patient and specimen enquiry functions for location of patient details, test results etc.
- Navigation to and use of specimen (and patient) "notepad" screens for the recording (e.g. Telephoned reports)

Administrative and clerical duties

Training Elements/Learning Objectives:

- Use document scanner to electronically store all sample request forms
- Use "Autocard Viewer" software to retrieve records
- Request from filing, storage and disposal procedures; means of disposal of all confidential waste
- Procedures for effective transmission of results by telephone and the logging of calls on TelePath
- Initiate report print runs, collate and package items ready for despatch / pick-up

Housekeeping

Training Elements:

- Access the electronic housekeeping checklist record; record activities as performed.
- Clean centrifuges as per instructions / schedule
- Take daily and weekly temperature checks of all temperature devices
- Flush all plumbed fittings not in regular use as per instructions / schedule
- Change / refresh Gram stain reagents
- Perform other listed tasks as required
- Receive, receipt, unpack and store (by rotation) all delivered ready prepared culture media (and other products)

Quality assurance

Training Elements:

- Use Q-Pulse Q.M.S. to access documents and to record non-conformances, incidents etc.
- Perform all types of repeat sample investigations as part of the internal quality assurance
- Reporting of incidents and problems (expired consumables, mal-functioning equipment etc.) to relevant staff
- Observe external quality assurance samples / work

Safety procedures

Training Elements:

- Perform all work as per instruction / guidance from qualified staff
- Maintain all work areas in a tidy and clean state at all times
- Safe use of gas burners
- Use of appropriate personal protective equipment as necessary (laboratory coat, gloves etc.)
- Disinfection of work surfaces after completion of daily tasks; clean and disinfect after spill
- Dispose of all types of waste in accordance with instruction / guidance (e.g. yellow bag, steam sterilisation etc.)

KEY OVERALL OBJECTIVES:

1. Familiarisation with the range of tasks performed in Microbiology
2. Ability to set up cultures for all main specimen types
3. Ability to produce and examine both stained and wet preparations for microscopy
4. Familiarity with appearance of and identification of routine bacterial isolates
5. Understanding of the interpretation of cultures (normal flora, pathogens)
6. To set up, read and interpret routine sensitivities
7. To become familiar with the purpose and operation of a range of automated and semi-automated equipment
8. To understand result reporting procedures

TRAINING TIMETABLE

September – Reception & Familiarisation

October – Urine Section

November – Faeces Section

December/January – Swabs Section

February – Respiratory Section

March – Blood Culture Section

April – Urine Section

May – Swabs Section

June – Faeces Section

July & August – Consolidation and Review

ONGOING

Quality Management System Training

TASK	DETAILS	DATE ACHIEVED/SIGNED BY	HCPC STANDARD
Has attended Basic Q-Pulse Training	-Training session delivered by Quality Manager		1.1, 4.6
Can describe the purpose of a Quality Management System			10.1, 10.6, 12.3
Can access Q-Pulse system	-Unique log-in		
Can search for and read a document			
Can acknowledge a document			
Can raise a change request against a document			
Can raise a CAPA using a wizard	-Management of non-conformances		4.1, 10.3, 15.2
Can raise a CAPA without wizards			4.1, 10.3, 15.2
Has attended departmental audit training	-Training session delivered by Quality Manager		1.1, 4.6, 12.1
Can state the principles of auditing			11.1, 11.2, 12.1, 12.3
Can correctly complete the audit record	-In Q-Pulse -Include sufficient detail		12.4
Can raise CAPAs related to the audit	-Assign owners and target dates		4.1
Can complete and close audit findings			4.3, 11.1
Can close an audit			
Has undertaken an audit during placement	-Departmental audit schedule		14.18

SEPTEMBER 2018

Specimen Reception & Familiarisation

Training Elements/Learning Objectives:

- To receive and distribute samples as appropriate around the laboratory
- To check request and sample details match and are complete/sufficient
- To be aware of various sample types and investigations, sample and request form labelling conventions
- To be aware of various inoculation and spreading techniques; to access the Test Selection SOP
- To be aware of storage, retention and disposal procedures for samples and request forms
- To be aware of the different culture media and methods available
- To be aware of the Health and safety issues within the department

TASK	DETAILS	DATE ACHIEVED/SIGNED BY	HCPC STANDARD
Receipt samples into the laboratory and sort	-Ensure correct patient details -Ensure request form completed fully		1.2
Can reject a specimen			9.1, 15.1
Book a specimen into LIMS (Telepath)	-Ensure correct patient -Awareness of search functions		10.1, 10.2, 10.4, 10.5
Use patient and specimen enquiry functions in LIMS	-Checking patient details/test results etc		10.4, 15.1
Use document scanner to scan request forms	-Storage of electronic records		10.6
Use Autocard Viewer to retrieve records	-Storage of electronic records		10.6
Store and dispose of samples according to SOPs	-Storage and disposal of specimens		2.5, 2.6, 14
Access the housekeeping checklists and complete	-Cleaning, temperature logging etc		12.4, 15.6
Can prepare and package items ready for sending away			10.5

Can deal with telephone enquiries	-Communication		4.1, 5.1, 6, 7.2, 7.3, 8
Use QMS to log any non-conformances	-Identification and control of non-conformities		4.1, 10.3, 12.4, 15.2
Disposal of waste via correct waste stream	-Clinical, domestic, confidential, steam sterilisation		15.2, 15.5
Can receipt and unpack deliveries	-Rotation of stock -Correct storage		15.6
Use PPE as required	-Lab coat (fastened), gloves, eye protection		3.1, 3.2, 15
Comply with laboratory health and safety	-Footwear, use of mobile phones, hand washing etc		2.6, 3.2, 15

OCTOBER 2018/APRIL 2019

Urine Processing

Training Element/Objectives:

- Access to SOP and Test Selection Guide via Q-Pulse quality management system
- Inoculation techniques for urine and related sample types; recognition of appropriate culture media
- Sample handling and management at the bench
- Plate spreading techniques; use of disposable loops
- Awareness of incubation protocols (temperature, atmosphere, locations)
- Operation of Sedimax urine sedimentation system
- Operation of Urisystems inoculation system
- Observation of bacterial culture plates from urine samples following through sensitivity testing
- Observation of bacterial antigen kits for Legionella and Pneumococcal infections

- *Understanding of bacterial cultures*
- *Understanding of the value of clinical data and different sample types*
- *Understanding of sensitivity testing*
- *Understanding of antigen and antibody reactions*

TASK	DETAILS	DATE ACHIEVED/SIGNED BY	HCPC STANDARD
Can demonstrate a range of inoculation techniques	-Recognition of appropriate culture media		13.10, 14
Can access and use the Test Selection guide	-Via Q-Pulse		4.2, 14
Can demonstrate plate spreading techniques	-Use of disposable loops		13.10, 14
Awareness of different incubation protocols	-Temperature, atmosphere, location etc.		13.2, 14
Can operate the Sedimax system, including QC and basic troubleshooting	-Sedimax		12.6, 13.10, 14.3, 14
Can transfer urine aliquots to Urisystem	-Preparation of Urisystem culture plate		13.10, 14
Observe bacterial culture plates and sensitivity testing			13.9, 14

Use of bacterial antigen kits	-Legionella and Pneumococcal infections		13.2,14
Can explain the principle of antigen-antibody reactions			13.2, 13.6, 14
Can store/dispose of samples appropriately			2.5, 2.6, 14
Can log a non-conformance/error on QMS	-Q-Pulse use		4.1, 10.3, 12.4, 15.2
Uses PPE as appropriate	-Lab coat (fastened), gloves, eye protection		3.1, 3.2, 15
Complies with laboratory health and safety	-Footwear, use of mobile phones, handwashing etc.		2.6, 3.2, 15

NOVEMBER 2018/JUNE 2019

Faeces Processing

Training Element/Objectives:

- Access to SOP and Test Selection Guide via Q-Pulse quality management system
- Sample handling and management at the bench; sample splitting for multiple / referred tests
- Inoculation techniques for faeces and related sample types; recognition of appropriate culture media
- Plate spreading techniques; use of loops and flame sterilisation; subculture of broth cultures
- Awareness of incubation protocols (temperature, atmosphere, locations)
- Awareness of the use of the Containment Level 3 laboratory and subsequent modifications to procedures
- Preparation of slides for staining; preparation of coverslip mounts of wet material for microscopy
- Procedures for the use of Parasep concentrators for investigations for ova, cysts and parasites
- Observation of procedures for ELISA-based detection using DS2
- Observation of Adeno and Rota virus detection
- Observation of bacterial culture plates from faecal samples following through to identification of faecal Pathogens

- *Understanding of different selective media*
- *Understanding of enteric pathogens*
- *Understanding of the importance of clinical data*
- *Understanding of antigen and antibody reactions and typing*
- *Understanding the use of microscopy for parasite identification*
- *Understanding of automation in microbiology*

TASK	DETAILS	DATE ACHIEVED/SIGNED BY	HCPC STANDARD
Can access and use the Test Selection guide	-Via Q-Pulse		4.2, 14
Can demonstrate appropriate splitting of samples	-For multiple/referred tests		4.2, 14
Can demonstrate a range of inoculation techniques	-Selection of appropriate culture media		13.10, 14
Can demonstrate plate spreading techniques	-Use of loops and flame sterilisation		13.10, 14
Can subculture broth cultures			13.10, 14

Awareness of different incubation protocols	-Temperature, atmosphere, location etc.		13.2, 14
Can prepare slides for staining, and coverslip for microscopy			13.10, 14
Aware of the procedures for investigation of ova, cysts and parasites			13.2, 13.10, 14
Awareness of use of CL3	-Modifications to procedure		3.2, 13.11, 15.3
Has observed ELISA-based detection using DS2			13.2, 14
Has observed Quick Check test for *C. difficile*	-Flow system for demonstration of difficile antigen and GDH		
Has observed the detection of Adeno and Rota virus			13.2, 14
Observation of bacterial culture plates	-Identification of faecal pathogens		13.2, 14
Can store/dispose of samples appropriately			2.5, 2.6, 14
Can log a non-conformance/error on QMS	-Via Q-Pulse		4.1, 10.3, 12.4, 15.2
Uses PPE as appropriate	-Lab coat (fastened), gloves, eye protection		3.1, 3.2, 15
Complies with laboratory health and safety	-Footwear, use of mobile phones, handwashing etc.		2.6, 3.2, 15

DECEMBER 2018/JANUARY 2019 & MAY 2019

Swabs Processing

Training Elements/Objectives:

- Access to SOP and Test Selection Guide via Q-Pulse quality management system
- Sample handling and management at the bench; sample splitting for multiple/referred tests
- Inoculation techniques for ,swabs and tissue etc.; recognition of appropriate culture media
- Plate spreading techniques; use of disposable/nichrome loops and flame sterilisation; broth cultures
- Awareness of incubation protocols (temperature, atmosphere, locations)
- Awareness of the use of the Containment Level 3 laboratory and Class 1 safety cabinets
- Use of anaerobic cabinets
- Observation of sensitivity testing using various methodologies, BSA C and automated techniques
- Preparation of slides for staining; preparation of coverslip mounts of wet material for microscopy

- *Understanding of the various media used and why*
- *Understanding of bacterial growth and factors effecting this*
- *Understanding of different incubation conditions and times*
- *Understanding of normal bacterial flora*
- *Understanding of bacterial identification*
- *Understanding of bacterial sensitivity testing*
- *Understanding of bacterial requirements*
- *Understanding of antibacterial action*
- *Understanding bacterial typing and epidemiology*
- *Understanding of automation*

TASK	DETAILS	DATE ACHIEVED/SIGNED BY	HCPC STANDARD
Can access and use the Test Selection guide	-Via Q-Pulse		4.2, 14
Can demonstrate appropriate splitting of samples	-For multiple/referred tests		4.2, 14
Can demonstrate a range of inoculation techniques for swabs, tissues etc.	-Selection of appropriate culture media		13.10, 14
Can demonstrate plate spreading techniques	-Use of disposable/nichrome loops and flame sterilisation		13.10, 14
Operation of WASP/automation	-Automated inoculation of plates		

Can subculture broth cultures			13.10, 14
Awareness of different incubation protocols	-Temperature, atmosphere, location etc.		13.2, 14
Awareness of use of CL3	-Modifications to procedure		3.2, 13.11, 15.3
Awareness of use of Class 1 safety cabinets			3.2, 13.11, 15.3
Can use anaerobic cabinets			13.10, 14
Has observed sensitivity testing using various methods	-BSA C -Automation		13.2, 14
Can store/dispose of samples appropriately			2.5, 2.6, 14
Can log a non-conformance/error on QMS	-Via Q-Pulse		4.1, 10.3, 12.4, 15.2
Uses PPE as appropriate	-Lab coat (fastened), gloves, eye protection		3.1, 3.2, 15
Complies with laboratory health and safety	Footwear, use of mobile phones, handwashing etc.		2.6, 3.2, 15

FEBRUARY 2019

Respiratory Sample Processing

Training Elements/Objectives:

- Access to SOP and Test Selection Guide via Q-Pulse quality management system
- Inoculation techniques for sputum etc.; recognition of appropriate culture media for bacterial culture
- Inoculation techniques for sputum etc.; recognition of appropriate culture media for mycobacteria culture
- Inoculation techniques for sputum etc.; recognition of appropriate culture media for bacterial culture
- Plate spreading techniques; use of disposable / nichrome loops and flame sterilisation; broth cultures
- Awareness of incubation protocols (temperature, atmosphere, locations)
- Use of automation for TB detection
- Use of immunofluorescence microscopes
- Awareness of the use of the Containment Level 3 laboratory and Class 1 safety cabinets for handling respiratory samples)
- Observation of sensitivity testing using various methodologies, BSA C and automated methodology

- *Understanding of the various media used and why*
- *Understanding of different incubation conditions and times*
- *Understanding of normal bacterial flora*
- *Understanding of bacterial identification*
- *Understanding of bacterial sensitivity testing*
- *Understanding of bacterial requirements*
- *Understanding of antibacterial action*
- *Understanding bacterial typing and epidemiology*
- *Understanding of automation*
- *Understanding of fluorescence microscopy*

TASK	DETAILS	DATE ACHIEVED/SIGNED BY	HCPC STANDARD
Can access and use the Test Selection guide	-Via Q-Pulse		4.2, 14
Can demonstrate a range of inoculation techniques	-Selection of appropriate culture media		13.10, 14
Can demonstrate plate spreading techniques	-Use of disposable/nichrome loops and flame sterilisation		13.10, 14
Awareness of different incubation protocols	-Temperature, atmosphere, location etc.		13.2, 14
Use of automated TB detection			13.10, 14

Can use fluorescent microscope	-Including understanding of prnciple		13.10, 14
Awareness of use of CL3 and Class 1 safety cabinets	-Modifications to procedure		3.2, 13.11, 15.3
Has observed sensitivity testing using various methods	-BSA C Automation		3.2, 14
Can store/dispose of samples appropriately			2.5, 2.6, 14
Can log a non-conformance/error on QMS	-Via Q-Pulse		4.1, 10.3, 12.4, 15.2
Uses PPE as appropriate	-Lab coat (fastened), gloves, eye protection		3.1, 3.2, 15
Complies with laboratory health and safety	Footwear, use of mobile phones, handwashing etc.		2.6, 3.2, 15

MARCH 2019

Blood Culture Processing

Training Elements/Objectives:

- Check sample and request details in line with the Pathology specimen acceptance criteria
- Labelling of request form with accession (laboratory) number and with bottle bar code labels
- Accessing the BacT/View system management application
- Selection of "Quick Data Entry" screen, recognition/acceptance of current accession number
- Input of bottle barcodes from the request form and saving the entry
- Correction of bottle input errors
- Correct procedure to log off BacT/View after bottle loading sessions are completed
- Working with the BacT/Alert controller module interactive touch screen functions
- Drawer selection and barcoding of bottles onto the BacT/Alert
- Explanation of the mechanics of the BacT/Alert system
- Observation of removal of positive blood cultures
- Observation of examination of positive blood cultures
- Observation of Gram stains
- Observation of bacterial culture and susceptibility testing
- Observation of bacterial identification, including antigen and antibody reaction, Mec A and Mec C.

- *Understanding of the clinical significance of blood cultures*
- *Understanding of the bio kinetics of how the blood culture system works and significance of false positives*
- *Understanding of the Gram stain and microscopy*
- *Understanding of the bacterial identification methods used*
- *Understanding of the use of different blood culture bottles and the components and factors effecting samples*
- *Understanding of high risk samples*

TASK	DETAILS	DATE ACHIEVED/SIGNED BY	HCPC STANDARD
Can check sample and request details	-Pathology acceptance criteria		10.1, 10.2, 10.4, 15.1
Labelling of request form and sample	-Bottle bar code labels		10.1, 10.2, 10.4, 10.5
Appropriate drawer selection and barcoding of bottles on BacT/Alert system	-Use of interactive touch screen functions		13.10, 14
Can explain the mechanisms of the BacT/Alert system			13.2, 14

Observation of removal and examination of positive blood cultures			13.2, 14
Has observed Gram staining			13.2, 14
Has observed bacterial culture and susceptibility testing			13.2, 14
Observation of bacterial identification	-Antigen and antibody reactions -MecA and MecC		13.2, 14
Can store/dispose of samples appropriately			2.5, 2.6, 10.1, 10.2, 14
Can log a non-conformance/error on QMS	-Via Q-Pulse		4.1, 10.3, 12.4, 15.2
Uses PPE as appropriate	-Lab coat (fastened), gloves, eye protection		3.1, 3.2, 15
Complies with laboratory health and safety	Footwear, use of mobile phones, handwashing etc.		2.6, 3.2, 15