POINT OF CARE TESTING DIGITAL SPECIALIST PORTFOLIO MODULES

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Point of Care Testing Digital Specialist Portfolio Modules

- Quality (separate document)
- Implementing a New Point of Care Testing Device, Test or Service
- Point of Care Testing (POCT) Information Technology and Connectivity
- Training in Point of Care Testing (POCT) Environments
- Blood Gas Analysis in Point of Care Testing (POCT)
- Point of Care Testing (POCT), Diabetes and Hypoglycaemia
- Assessment of Infection in Point of Care Testing (POCT)

Please note:

All learning outcomes (LOs) are met through two pieces of evidence, Q&A as agreed with a training officer and an additional piece of work as selected by the candidate.

A statement of work and reflective statement on each module will be required which will include sign off by the trainer stating that the candidate works in accordance with laboratory procedures, the competence for which should be evidenced in-house and is not part of the portfolio submission.

Indicative Content outlines background knowledge that may be required to meet the LOs and/or knowledge and competences expected to be demonstrated across multiple modules. Knowledge of areas highlighted in the indicative content may be examined during the viva.

All specialist portfolios include the quality module.

Module Title	Implementing a New Point of Care Testing Device, Test or Service
Module code	20092
Rationale/ Aims	To provide the knowledge required to successfully introduce a new point of care service, test or device into an existing service or novel area of care. By completing this module the candidate will gain a clear understanding of the essential steps and requirements to be considered when new point of care test requests are received from healthcare providers. The candidate will also be able to state and explain the steps required to implement an agreed change to service. Candidates will gain knowledge of the importance of horizon scanning and continual service development and the impact on patient care pathways.
Learning outcomes	1. Discuss the different types of service requests that may be received by a point of care team. 2. Discuss the local procedure for submitting a request and who is responsible for reviewing the suitability and appropriateness of the request for approval. 3. Review the business planning processes in your organisation and identify what needs to be considered when submitting a plan for a new point of care service. 4. Identify the factors that should be considered when selecting a new test, device or process in point of care testing. 5. Discuss steps required in the process of adopting a new test, including responsibilities and ownership at each step of the process 6. Explain the role of quality management and governance of testing in improving patient outcomes and maintaining patient safety, when implementing a new test. 7. Describe, with examples, other specialties and services that must be consulted and engaged with to successfully plan and deliver a new implementation. 8. Explain processes that can be undertaken to assess the clinical and cost effectiveness of a new test adopted in point of care. 9. Discuss how your organisations processes/decisions are influenced by wider UK practice and policies. 10. Explain the importance of horizon scanning and future planning in delivering an optimised point of care service.

Indicative Content	Candidates require knowledge and understanding of: Device implementation including end to end testing Impact on service Scope of POC service Relationships between POC and users Business cases Developments and potential developments in POC, related services and healthcare

Module Title	Point of Care Testing (POCT) Information Technology and Connectivity
Module code	2087
Rationale/ Aims	Candidates will gain the knowledge and skills to understand the importance of a fully functioning IT Infrastructure in POCT. Candidates will be able to show proficiency in the use of POC Middleware including user management, configuration, report building and troubleshooting.
Learning outcomes	1. Discuss the role of an IT Infrastructure in maintaining the quality and governance of Point of Care (POC), including implementation and service improvement. 2. Evaluate the impact of interrupted or loss of connectivity for POC and discuss local contingency plans. 3. Discuss situations where connectivity is unavailable or available with limited functionality, and what could be put in place to maintain governance within the service. 4. Demonstrate management of POC IT systems, including Middleware and IT security. 5. Demonstrate with an example from candidates practice troubleshooting POC IT systems including the pathway of notification to internal and external support teams. 6. Discuss different methods of data transfer and the importance of security protocols in their governance. 7. Discuss, with examples from practice, management of change control when adding locations, devices and users to Middleware. 8. Discuss IT considerations when implementing a new platform/test, identify who would need to be involved and why. 9. Discuss the governance behind sunsetting tests or devices.
Indicative Content	Candidates require knowledge and understanding of: Remote analyser monitoring, device management, consumables and troubleshooting. Auditing result transfer to end point systems (LIMS/EPR/HIS) Result manipulation/correction/deletion and the governance behind this, including failure to send to HIS User acceptance, addition and management on systems. Facility/location creation on middleware and user/device activation Impact of changing IT provision on service, connectivity and importance of end-to-end testing Instrument configuration building in middleware, including custom and default QC management/calibration on IT middleware, including audit and report building

	Direct/manual test result entry when IT connectivity infrastructure absent or in a state of downtime, including mitigations for transcription error. Business continuity and recovery steps post failure IT language of POC devices (POCT 1A/ HL7) and the mechanisms used for result/data transfer. Relationships with host IT teams – including procedures for implementing new systems with connectivity and Care Cert management/notification Test device and middleware security and login/ID management Show an understanding of the connectivity 'Map' of the POC department Data retention and device record keeping, inside and outside the use/life of the device

Module Title	Training in Point of Care Testing (POCT) Environments
Module code	20091
Rationale/ Aims	Candidates will gain a clear understanding of the training requirements for delivering a Point of Care (POC) service and the importance of assessing user competence. Candidates will be able to prepare and deliver a POC training session.
Learning outcomes	1. Describe accreditation/governance requirements for training on POCT devices and discuss with examples how this is implemented in your workplace. 2. Discuss what should be considered prior to organising and delivering a practical training session for service users. 3. Demonstrate preparation and delivery of a POCT training session. 4. Discuss the process for assessing service users post training and managing their continuing competence. 5. Discuss different methods used for delivering training sessions and explain the advantages and disadvantages of each. 6. Discuss strategies for evaluating training sessions, including user feedback and explain how evaluation of this feedback can be used to improve training content and delivery. 7. Discuss different methods of monitoring operator activity to identify when individuals deviate from standard operating procedures and discuss how these events are investigated and rectified.
Indicative Content	Candidates require knowledge and understanding of: Audits- investigating competence Training requirements for different service users, e.g. ward staff, lab staff. Training methods, e.g. online, cascade Methods of evaluation and monitoring, e.g. audit, survey, assessment, non-compliance

Module Title	Blood Gas Analysis in Point of Care Testing (POCT)
Module code	20090
Rationale/ Aims	Candidates will gain knowledge of pre-analytical errors and interfering substances in blood gas analysis as well as understanding the implications of blood gas analysis for patients. Candidates will be able to operate equipment and troubleshoot issues relating to blood gas analysis.
Learning outcomes	1. Explain the range of methodologies employed by different blood gas analysers including handheld devices. 2. Describe different sample types used in BG analysis and discuss the impact on results. 3. Discuss pre-analytical errors that impact on the accuracy and imprecision of blood test results from blood gas analysers. 4. Describe respiratory and metabolic acidosis/alkalosis and discuss how the use of blood gas testing helps assess the correction of these physiological conditions. 5. Discuss the impact of interfering substances on blood gas analysis and the impact on results, e.g. haemolysis, icterus, salicylates, heparin, benzylkonium. 6. Discuss the advantages and disadvantages of handheld devices and benchtop analysers when used at the point of care 7. Discuss with examples the importance of detecting acid-base disorders in managing the unwell patient. 8. Demonstrate troubleshooting an issue with blood gas analyser functionality, include identification of the issue, correction and follow up. 9. Discuss with examples, how accuracy and imprecision can differ between point of care and laboratory results and why, and what measures can be taken to mitigate the impact on clinical interpretation of results.
Indicative Content	Candidates require knowledge and understanding of: BGA EQA Differences between different sample types, e.g. whole blood/plasma/serum Calculated and non-calculated parameters and factors affecting their determination Analytes performed on a blood gas analyser and in a laboratory environment and the differences between them, e.g. ionised calcium, direct sodium analysis Differences between venous, arterial and capillary samples Candidates must be able to: Set up equipment for accurate blood gas analysis

Module Title	Point of Care Testing (POCT), Diabetes and Hypoglycaemia
Module code	2088
Rationale/ Aims	Candidates will gain knowledge of the key POCT tests associated with Diabetes and hypoglycaemia and understanding of the impact of POC testing for patients. Candidates will be able to use equipment involved in the investigation of diabetes and hypoglycaemia and troubleshoot the process.
Learning outcomes	1. Describe common clinical features of diabetes mellitus and discuss the diagnostic criteria. 2. Describe the clinical utility of the glucose tolerance test and discuss local procedures. 3. Discuss the use of POCT in monitoring of diabetic patients. 4.Explain the principles of methodologies for POCT: • Glucose measurement • Ketones measurement • Haemoglobin A1c 5. Discuss contraindications/interferences for POCT: • Glucose measurement • Ketones measurement • Haemoglobin A1c 6. Describe use of POCT equipment in diagnosing and monitoring of diabetic ketoacidosis. 7. Describe use of POCT equipment in diagnosing and monitoring of hypoglycaemia. 8. Demonstrate analysis of tests involved in the investigation and monitoring of Diabetes in your local setting.
Indicative Content	Candidates require knowledge and understanding of: The reference ranges for commonly performed tests. Candidates should be able to: Utilise analysers and processes associated with analytes measured including EQA as appropriate Apply internal quality processes including troubleshooting

Module Title	Assessment of Infection in Point of Care Testing (POCT)
Module code	20089
Rationale/ Aims	Candidates will gain the knowledge and skills to process POC samples to aid diagnosis and treatment when investigating for pathogens of infectious disease Candidates will be able to demonstrate proficiency in the use of dedicated POC devices and tests to enable the production of results including the requirement for reflex tests where appropriate.
Learning outcomes	1. Identify typical pathogens relevant to infectious disease POCT 2. Discuss a range of POC techniques designed to detect both viral and bacterial pathogens as markers of infection 3. Discuss risks associated with sample handling and disposal/retention 4. Demonstrate the use of at least one Rapid/POC Infectious disease test/platform and discuss the specific risks associated with the test reagents or method 5. Explain for the test/platform in LO4 how results are recorded and accessed by service users 6. Evaluate considerations around external quality assurance material provided by POC infectious testing schemes. 7. Explain how to follow up positive results by confirmation, when this might be required, the techniques used and the justifications behind this process. 8. Discuss the reasons for generation of false positive results on any device mentioned in LO4 and explain the associated risks with false positivity. Explain the management of false positive results that have been associated with the patient record/LIMS. 9. Discuss advantages, disadvantages and limitations of 3-5 infectious disease techniques used in POC environments, include at least one molecular and one lateral flow. 10. Discuss the impact of POC infectious disease screening on the patient and healthcare environment, considering seasonal pressures, and the role this screening has on local infection control measures.
Indicative Content	Candidates require knowledge and understanding of: Difference between targets/markers of infection and techniques including Antigen, Molecular PCR testing COSHH/Sypol or equivalent

	Policies and procedures for health and safety, e.g. wards, POC testing areas, What is being measured/analysed and the implications of results to patient management Transmission of respiratory viruses Management of respiratory viruses Importance of public health, including reporting National and international surveillance for control and prevention of respiratory pathogens Quality assurance processes Candidates must be able to: Operate equipment used locally in the investigation of infectious disease in a POC setting Demonstrate RA of pathogens and the samples collected and used Operate in a safe manner

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