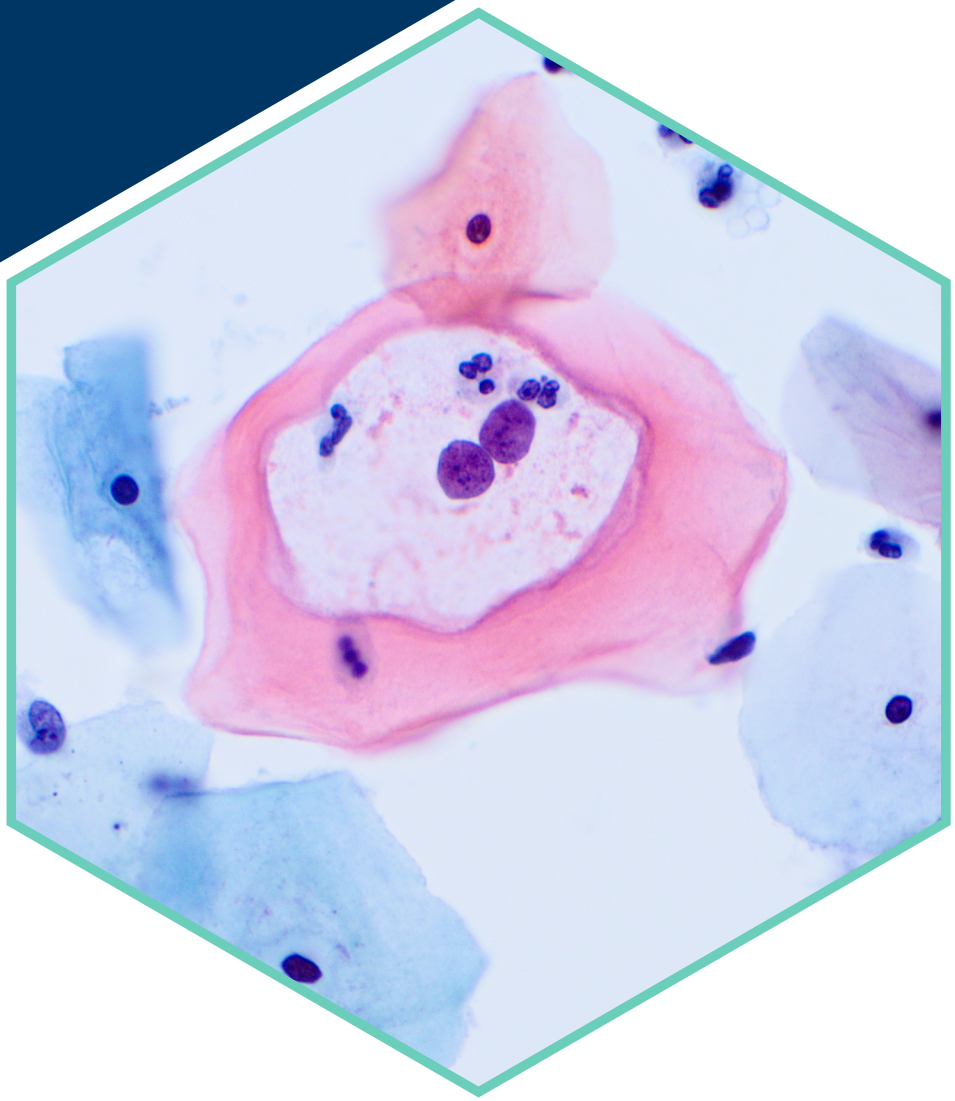
CERVICAL CYTOLOGY DIGITAL SPECIALIST PORTFOLIO MODULES



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Cervical Cytology Digital Specialist Portfolio Modules

- Quality - See separate document for LOs
- Cervical Screening Programmes
- Aetiology and Epidemiology of Cervical Cancer
- Processing of Samples for the Detection of Human Papillomavirus (HPV)
- Primary Care, Specimen Collection and Processing for Cytological Evaluation
- Normal Cervical Cytology and Micro-organisms
- Abnormal Cervical Cytology
- Diagnosis and Treatment of Pre-malignant Changes and Malignancies of the Female Genital Tract (FGT)

Candidates must have completed and passed the NHS Cervical Screening Programme training in Cervical Cytology before applying for the Cervical Cytology Digital Specialist Portfolio

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.

Module Title	Cervical Screening Programmes
Module code	8842
Rationale/ Aims	Candidates will gain knowledge and understanding of the purpose, aims and management of cervical screening programmes, including incidence, mortality data and other cervical screening programme statistical data. Candidates will gain knowledge and understanding of internal and external audit processes and external quality assurance processes in the National Health Service Cervical Screening Programme (NHSCSP). Candidates will gain understanding of the importance and effective functioning of failsafe in cervical screening.
Learning outcomes	1. Demonstrate ability to analyse data on incidence and mortality of cervical cancer from national and global statistics. 2. Discuss the effectiveness of strategies to eliminate cervical cancer. 3. Demonstrate ability to access and interpret information relating to the cervical cancer screening programme (KC53, KC61, KC65 data or equivalent). 4. Identify documentation pertaining to the cervical screening programme in the laboratory (NHSCSP guidelines or equivalent) and discuss situations where candidate has referred to this documentation to assist with decision making. 5. Assess the appropriateness of samples received based on call and recall history and discuss resolution of issues relating to inappropriate recall. 6. Explain the impact of low coverage on the effectiveness of the cervical screening programme and discuss ways to improve attendance for cervical screening. 7. Discuss the responsibilities of laboratories and other agencies within the cervical screening programme in operating an effective failsafe mechanism, identifying possible outcomes if appropriate action is not taken.
Indicative Content	Candidates require knowledge and understanding of: Incidence, prevalence, and worldwide variation of cervical cancer. Theory and practice of screening programmes. Purpose aims and organisation of the cancer/cervical screening programme (e.g., NHS Cervical Screening Programme (NHSCSP) appropriate to your country of work). Multi-disciplinary nature of a cancer / cervical screening programme. Operation of call and recall systems. Rationales for the age range and intervals for cervical screening. Roles that cytology and human papillomavirus (HPV) testing play in national screening programmes (current & future). Potential impact of human papilloma virus (HPV) vaccination on the cervical screening programme. Principles of multidisciplinary audit, clinical and service audits.

	Quality assurance structure for the NHS Cervical Screening Programme (NHSCSP) or equivalent. Importance of internal quality control and external quality assessment as part of good laboratory practice. How quality assurance data are used to help monitor the effectiveness of the NHSCSP or equivalent. Responsibilities of laboratories and other agencies in operating an effective failsafe mechanism within the screening programme. Barriers to cervical screening Potential application of self-sampling devices in the cervical screening programme.

Module Title	Aetiology and Epidemiology of Cervical Cancer
Module code	8839
Rationale/ Aims	Candidates will gain knowledge and understanding of Human Papilloma Virus (HPV) and its role in the aetiology of cervical cancer. Candidates will gain understanding of the impact of the introduction of HPV testing and HPV vaccination on the epidemiology of cervical disease.
Learning outcomes	1. Assess the significance of the various risk factors for the development of cervical cancer. 2. Describe the structure of Human Papilloma Virus (HPV), its genome, and corresponding viral proteins. 3. Describe the role of HPV in oncogenesis. 4. Discuss the rationale for HPV testing within Cervical Screening Programmes. 5. Identify cases in practice and explain how these patients benefited from the introduction of primary HPV testing. 6. Evaluate different molecular techniques which are available for the detection of HPV, discussing the factors influencing the choice of HPV platform used in your own laboratory. 7. Discuss the current and future impact of HPV vaccination in the prevention and treatment of cervical cancer.
Indicative Content	Candidates require knowledge and understanding of: Incidence, prevalence and worldwide variation of cervical cancer. Risk factors for cervical cancer. Different types of human papillomavirus (HPV). Role of HPV in cervical neoplasia and cancer. Nature and molecular structure of HPV. Mode of transmission of HPV. Molecular techniques for detecting HPV. Relevance of HPV subtypes. Molecular cancer biomarkers

Module Title	Processing Cervical Samples for the Detection of Human Papillomavirus (HPV)
Module code	Allocated on Brightspace
Rationale/ Aims	Candidates will gain knowledge of the processing of samples for molecular testing and an understanding of the requirements to process HPV samples. Candidates will be able to analyse HPV samples and assess the quality and reliability of the results produced.
Learning outcomes	1. Identify samples where the integrity or suitability for HPV testing is compromised and discuss the appropriate management. 2. Describe processing of specimens for HPV testing. 3. Discuss factors that might influence effective processing and analysis of HPV samples. 4. Discuss the risks and hazards associated with preparing and processing samples for HPV testing and how these are mitigated. 5. Discuss the importance of the correct / regular maintenance of HPV analytical equipment. 6. Discuss with examples from laboratory practice how the quality and reliability of the results are assessed in HPV molecular testing. 7. Discuss validating electronic interfaces between the HPV platform, Laboratory Information Management System (LIMS) and middleware, explain why this is important, and describe steps taken if LIMS/middleware systems go down.
Indicative Content	Candidates require knowledge and understanding of: Different automated systems available for the detection of human papillomavirus (HPV) in cervical screening samples. Theory and practice of HPV testing. Methods for the processing of cervical samples for HPV testing. Different pre-analytical automated systems available. Factors affecting sample integrity with relevance to HPV testing techniques. Risks and hazards associated with processing of samples for the detection of HPV. Importance of validation, quality control and quality assurance in HPV testing. Relevant standards in relation to HPV testing and laboratory accreditation. Use of Levy-Jennings plots and CT values to monitor assay drift where appropriate. Importance of maintenance, calibration and servicing of equipment.

Module Title	Primary Care, Sample Collection and Processing of Samples for Cytological Evaluation
Module code	8840
Rationale/ Aims	Candidates will be able to recognise the importance of primary care in ensuring individuals understand the purpose of the cervical screening programme and encouraging attendance. Candidates will be able to liaise with and advise primary care staff on issues relating to cervical sampling. Candidates will gain the knowledge and ability to prepare liquid-based cytology samples for screening.
Learning outcomes	1. Discuss the importance and implications of training primary care staff in the quality and effectiveness of the NHS Cervical Screening Programme. 2. Describe physiological and sample taking issues which may lead to an invalid HPV, unsatisfactory or rejected cervical screening test result. 3. Demonstrate identification of inappropriate, unsuitable, or mis-labelled samples or forms and describe actions taken to rectify the situation, and informing primary care staff so that appropriate measures can be taken. 4. Describe how primary care errors are recorded and discuss the criteria for and process of raising a screening incident. 5. Discuss the rationale behind the use of liquid-based cytology. 6. Identify factors that might influence effective preparation of samples for cervical screening. 7. Identify examples of poor sample preparation including processing staining and cover slipping and describe appropriate corrective actions.
Indicative Content	Candidates require knowledge and understanding of: Role of primary care staff in obtaining samples for cervical screening. Informed consent & counselling of patients. Sampling devices. Correct procedure for taking cervical screening samples. Principle of audit of sample takers. Potential application of self-sampling devices in the screening programme. Theory and practice of liquid-based cytology. Importance of how processing affects the microscopical interpretation of the sample. Theory and practice of fixation. Theory and practice of Papanicolau staining. Risks and hazards associated with sample processing. Principles and application of light microscopy. Communicate with primary care and other colleagues.

Module Title	Normal Cervical Cytology and Micro-organisms.
Module code	8837
Rationale/ Aims	The candidate will gain an understanding of the relationship between the anatomy, physiology, and histology of the Female Genital Tract (FGT) and the interpretation of cervical cytology samples. Candidates will be able to recognise the relevance of clinical information provided in the interpretation of cervical cytology. Candidates will be able to recognise the cellular appearances associated with infection and inflammation and understand the difficulties in interpretation encountered. Candidates will be able to recognise the appearance and relevance of artefacts, contaminants and iatrogenic changes which can be seen in cervical cytology.
Learning outcomes	1. Interpret, with examples from practice, the relevance of clinical information given by sample takers in relation to cervical cytology. 2. Distinguish, with examples from practice, between satisfactory and unsatisfactory samples. 3. Identify and explain, using examples from your own practice, the correct management recommendations for unsatisfactory and normal cervical screening reports. 4. Discuss the relevance of intrinsic and extrinsic hormones on the cytological interpretation of cervical samples and identify from candidates practice a final report which has been influenced by the hormonal status of the patient. 5. Describe the cytological and histological features of squamous metaplasia and relate these to the difficulties encountered in the interpretation of metaplastic cells in cervical samples. 6. Describe the cellular response to inflammation and infection in the female genital tract and relate this to difficulties encountered in the interpretation of cytological changes in cervical samples. 7. Discuss the relevance of reporting micro-organisms in cervical samples in the era of HPV primary testing. 8. Discuss the various iatrogenic changes which can be seen in cervical samples, and with examples from practice, demonstrate the potential for cytological misinterpretation. 9. Discuss the cause, appearance and impact of common artefacts and contaminants found in cervical samples and identify ways to reduce or eliminate them.
Indicative Content	Candidates require knowledge and understanding of: Anatomy and physiology of the female genital tract.

	Histology of the female genital tract: with the focus on cervical histology. Endogenous and exogenous factors which affect normal physiology. Process of squamous metaplasia and the development of the transformation zone. Normal cellular components of cervical samples. Cellular response to inflammation and infection. The role organisms have in the development of vaginitis and cervicitis. Cytological appearance of common organisms found in cervical samples. Awareness of other endogenous and exogenous flora of the vagina. Criteria for sample adequacy. Artefacts and contaminants in cervical cytopathology. Iatrogenesis Current terminology and management guidelines in cervical screening.

Module Title	Abnormal Cervical Cytology
Module code	8841
Rationale/ Aims	Candidates will gain the knowledge to identify, grade and report abnormalities in cervical cytology samples and the correlation with histology. Candidates will gain understanding of the difficulties in interpretation of squamous and glandular abnormalities and the use and significance of the Borderline nuclear change category. Candidates will gain understanding of the impact of cervical screening results on the patient.
Learning outcomes	1. Identify examples from your own practice where the final histological diagnosis has not correlated with the grade of squamous dyskaryosis reported on cytology and discuss why this might be the case. 2. Describe the cytological and histological features of squamous cell carcinoma of the cervix and discuss the predictive value of a 'high grade dyskaryosis ? invasive squamous cell carcinoma' report. 3. Relate the cytological features of Cervical Glandular Intraepthelial Neoplasia (CGIN) and endocervical adenocarcinoma to their histological appearance, and using examples discuss the difficulties in the cytological detection of glandular abnormalities. 4. Discuss the rationale behind the management recommendations for abnormal cytology reports. 5. Identify and demonstrate examples of the cytological and histological morphological features that may give rise to false negative and false positive results. 6. Discuss the use and significance of the borderline change category, including the wider impact on the patient. 7. Discuss the potential use of new technologies and ancillary testing within the NHS cervical screening programme to assist in the detection and reporting of cervical abnormalities.
Indicative Content	Candidates require knowledge and understanding of: Histopathological basis of cervical intraepithelial neoplasia (CIN) and squamous carcinoma. Histopathological basis of cervical glandular intraepithelial neoplasia (CGIN) and adenocarcinoma. Cytomorphology of CIN and squamous carcinoma. Cytomorphology of CGIN and adenocarcinoma. Grading criteria associated with dyskaryosis and CIN. Relevance of the borderline change category. Current terminology and guidelines in cervical screening. Histopathological basis of non-cervical adenocarcinoma. Use of additional (deeper) levels in the assessment of histological cervical screening samples.

	Use of p16 immunocytochemistry and other relevant immunocytochemical stains in the assessment of histological and cytological cervical screening samples. Relevance of correlation and non-correlation between histology and cytology findings for cervical screening cases. Relevant internal and external quality assurance procedures. Use of semi-automated and automated scanning devices and digital pathology. Technology and use of molecular pathology techniques (e.g. polymerase chain reaction (PCR), hybrid capture). Use of biomarkers.

Module Title	Diagnosis and Treatment of Pre-malignant Changes and Malignancies of the Female Genital Tract (FGT)
Module code	8838
Rationale/ Aims	The candidate will gain knowledge of the histological basis of CIN and CGIN and the use of ancillary testing. The candidate will gain understanding of the role of various disciplines in the diagnosis, treatment and management of pre-malignant changes and malignancies of the female genital tract.
Learning outcomes	1. Describe the role of the pathologist, gynaecologist and colposcopist in the diagnosis, treatment, and management of malignancy. 2. Describe the colposcopic appearance of cervical abnormalities and interpret colposcopic information provided on request forms. 3. Describe the process of staging in cervical cancer and discuss the implications to the patient. 4. Discuss methods of treatment for pre-malignant and malignant disease of the female genital tract. 5. Discuss the limitations of colposcopy in the diagnosis of cervical abnormalities. 6. Discuss the selection of appropriate cases for MDT meetings and explain how these impact on practice. 7. Discuss the follow-up of women who have been treated for pre-malignant changes and cervical cancer.
Indicative Content	Candidates require knowledge and understanding of: Histopathological basis of cervical intraepithelial neoplasia (CIN) and squamous carcinoma. Histopathological basis of cervical glandular intraepithelial neoplasia (CGIN) and adenocarcinoma. Use of additional (deeper) levels in the assessment of histological cervical screening samples. Use of p16 immunocytochemistry and other relevant immunocytochemical stains in the assessment of histological cervical screening samples. Use of special stains e.g.: PAS+/- diastase in the assessment of histological cervical screening samples. Relevance of correlation and non-correlation between histology and cytology findings for cervical screening cases. Wider clinical aspects of malignancy. Role of the gynaecologist and colposcopist in the diagnosis, treatment, and management of cervical and non-cervical disease. Role of adjunctive technologies used in colposcopy e.g. DYSIS. Role of multidisciplinary team meetings in the management of cervical disease and cancer. Difference between screening and clinical presentation (symptomatic) in noncervical disease. Relevant internal and external quality assurance procedures.

About this version

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