CORE CONCEPT

Histopathology and Cytology Laboratory Management Course: Specimen Pathway and Digital Readiness

16 – 20 May 2027
Dammam - Eastern Province five-star

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Ref: 1967_29192 **Date:** 16 – 20 May 2027 **Location:** Dammam - Eastern Province five-star **Fees:** 19500 SAR

Introduction:

Histopathology and cytology laboratory management, from the cut-up bench to the signed report and the slide scanner, is a 1-week course for anatomical pathology managers, senior biomedical scientists and section leads that ends with a Histopathology and Cytology Laboratory Improvement Plan for a case organisation. Departments face swapped blocks, poorly fixed tissue, cytology artefact and reporting backlogs that delay cancer pathways. Nominees already supervise grossing, microtomy, staining or cytology screening, and the course is taught through case studies on specimen logs, slide defects and workload data. CoreConcept Training Center delivers this histopathology and cytology laboratory management course.

Course Objectives:

- Map the cellular pathology specimen pathway from container receipt and grossing to block, slide, scan and signed report, and locate failure points
- Control fixation, tissue processing, embedding, microtomy and H&E staining quality using daily slide review records and artefact logs
- Manage cytology preparation for fluids, brushings, fine-needle aspirates and liquid-based samples, including on-site adequacy assessment
- Prevent specimen, cassette, block and slide identification errors with barcode tracking, labelling rules and mismatch investigation
- Set turnaround indicators, workload units and staffing rosters that keep biopsy and resection backlogs within agreed targets
- Plan whole slide imaging readiness covering scanner choice, slide quality, storage capacity, file formats and diagnostic validation

Target Audience:

- Cellular pathology management staff responsible for section budgets, staffing rosters and turnaround reporting
- Senior biomedical science staff responsible for grossing, tissue processing, microtomy and staining bench quality
- Cytology section leads responsible for fluid, aspirate and liquid-based preparation and screening workload
- Laboratory quality and safety staff responsible for incident review, formalin and xylene handling and audit evidence
- Pathology informatics and project staff responsible for specimen tracking systems and digital slide scanning projects

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Course Outline:

Day 1: Cellular Pathology Specimen Pathway and Current-State Review

- Histopathology Versus Cytopathology Specimen Types and Request Forms
- Container Receipt, Accessioning and Fixative Volume Checks
- Grossing Bench Practice With Cassette Selection and Agar Pre-Embedding
- Value Stream Map From Cut-Up to Authorised Report
- Current-State Audit of Backlog, Recuts and Incident Logs

Day 2: Tissue Fixation, Processing, Embedding and Staining Control

- Neutral Buffered Formalin Fixation Time and Tissue Penetration
- Tissue Processor Schedules for Dehydration, Clearing and Wax Infiltration
- Embedding Orientation and Microtome Sectioning Level Protocols
- H&E Stain Quality Review Using Control Slides and Artefact Logs
- Immunohistochemistry and Special Stain Run Controls and Antibody Inventory

Day 3: Cytology Preparation, Identification Safety and Formalin Hazards

- Fluid, Brushing and Fine-Needle Aspirate Preparation Routes
- Liquid-Based Cytology, Cytocentrifuge and Cell Block Workflow Choices
- Papanicolaou and Romanowsky Staining With Cornflake Artefact Prevention
- Barcode Tracking of Cassettes, Blocks and Slides Against Mix-Ups
- Formalin and Xylene Exposure Controls, Spill Kits and Ventilation

Day 4: Turnaround, Workload, Staffing and Digital Pathology Readiness

- Turnaround Indicators by Biopsy, Resection, Frozen Section and Cytology
- Workload Unit Measurement and Grossing and Reporting Staff Rosters
- Whole Slide Scanner Selection Between Tile and Line Scanning
- Slide Quality, Z-Stacking and Rescan Rules Before Digital Reporting
- Image Storage Sizing, DICOM WSI and OME-TIFF Format Decisions

Day 5: Case Study Workshop for the Laboratory Improvement Plan

- Case Study Tracing a Swapped Block to Amended Report
- Case Study Recovering a Biopsy Backlog With Revised Rosters
- Case Study Validating Whole Slide Imaging for Primary Diagnosis
- Improvement Plan Indicators, Owners and Review Cycle Agreement
- Histopathology and Cytology Laboratory Improvement Plan Completion and Peer Review

Skills You Will Gain:

- Specimen Pathway Mapping
- Tissue Processing Quality Review
- Stain Artefact Troubleshooting
- Cytology Preparation Management
- Block and Slide Traceability
- Pathology Workload Planning
- Fixative and Solvent Hazard Control
- Whole Slide Imaging Readiness

Why Attend This Course:

- Present a Histopathology and Cytology Laboratory Improvement Plan to the head of department and the pathology quality lead for approval
- Decide which processor schedules, staffing rosters and scanner options to change using turnaround and artefact data rather than habit
- Avoid swapped blocks, repeat biopsies, formalin exposure incidents and scanner purchases that stall for lack of storage or validation
- Equip bench colleagues with grossing checklists, artefact logs and identification audit templates used during the case studies

Conclusion:

Back at work, the participant presents the Histopathology and Cytology Laboratory Improvement Plan to the head of department, the section leads and the pathology quality lead. They use it to agree which grossing, processing, cytology preparation and identification controls to tighten, which turnaround targets and rosters to adopt, and whether the laboratory is ready to procure and validate a whole slide scanner. After the first quarter under the plan, the unit should compare turnaround, recut rate, identification incidents and scan rejection figures with the baseline and adjust priorities.

Frequently Asked Questions FAQ:

What should participants know before a histopathology and cytology laboratory management course?

Participants should already supervise or work at the grossing bench, tissue processing, microtomy, staining or cytology preparation. Bringing anonymised turnaround figures, incident logs or slide defect records from their own laboratory helps the case studies reflect real conditions.

How does histopathology and cytology laboratory management differ from a general medical laboratory quality course?

It concentrates on tissue and cell specimens: fixation, processing, blocks, slides, cytology preparation and digital slide scanning. General medical laboratory quality courses cover analyser quality control, blood collection and accreditation across chemistry and haematology sections rather than the cellular pathology bench.

Why does histopathology and cytology laboratory management start digital pathology with glass slide quality?

Scanners reproduce whatever is on the slide. Dust, scratches, poor coverslipping, thick sections or uneven staining cause focus failures and rescans, so a laboratory must stabilise processing and staining before whole slide imaging can support efficient digital reporting.

What do participants take back from the histopathology and cytology laboratory management course?

Participants take back a Histopathology and Cytology Laboratory Improvement Plan for a case organisation, with a specimen pathway map, artefact and identification audit templates, turnaround and staffing calculations and a digital pathology readiness checklist.