DIGITAL PATHOLOGY AND ARTIFICAL INTELLIGENCE

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The term ‘digital pathology’ usually refers to the examination of digitised slides on a workstation (computer) or another device. Uses include education, quality assurance, surveys, research and expert consults. With the development of high-quality scanners, histopathology departments can scan all slides and store them so that pathologists can access them anywhere. Advantages include more flexible on-site and remote report - ing, easy sharing, a reduction in costs and better recruitment. Disadvantages include the expense of set-up, maintenance and IT and repetitive strain injury . Additionally , diagnostic accuracy may be slightly lower than with glass slides. Some pathologists, particularly cytopathologists, dislike the loss of a three-dimensional image, and detection of very small items such as microorganisms can be di ffi cult.

Biomarker Examples of tumours where relevant Application Mismatch repair genes CRC Gynaecological carcinomas Other digestive system carcinomas HER2 Breast carcinoma Gastric/oesophageal adenocarcinoma CRC (emerging evidence) PD-L1 Lung carcinoma Gastric carcinoma Bladder/urological carcinoma Malignant melanoma Breast carcinoma Endometrial carcinoma EGFR mutation Lung carcinoma BRAF mutation Malignant melanoma CRC KRAS mutation CRC NTRK fusions CRC ALK fusion Non-small cell lung carcinoma Renal cell carcinoma FGFR fusions Bladder carcinoma Tumour mutation burden Various CISH, chromogenic in situ hybridisation; CRC, colorectal carcinoma; FISH, /f_l uorescence NGS, next-generation sequencing; PCR, polymerase chain reaction.

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Revision #1
Created 2025-12-31 15:08:19 UTC by Omar Ayman
Updated 2025-12-31 15:08:19 UTC by Omar Ayman