COLLEGE of AMERICAN PATHOLOGISTS

Laboratory Quality Solutions

Ex Vivo Microscopy
Why EVM Is An Important Tool For Pathologists

With ex vivo microscopy (EVM), images are obtained from unprocessed, fresh tissue using reflected light of various wavelengths. Both 2D and 3D images, either static or video, can be created. It is similar to in vivo microscopy (IVM) which uses the same technologies to obtain images from a living person.

EVM helps conserve tissue samples, avoid freezing artifacts and, most importantly, saves patients from undergoing repeat procedures. The process is proving so effective that some experts believe EVM may augment or even replace traditional histology.
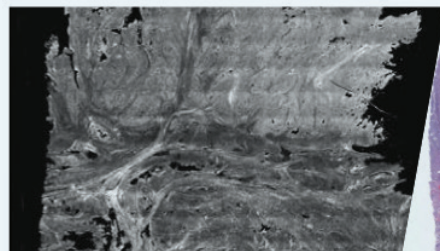
Uses of EVM Technologies

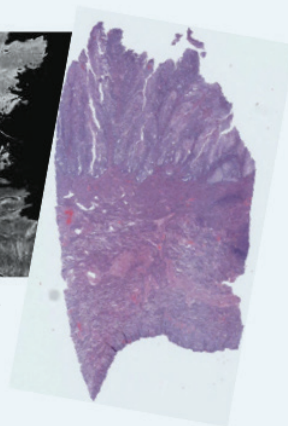**EVM is being successfully used in a number of applications, including:**

- Mohs surgery margins
- Needle biopsies intra-procedurally to determine biopsy adequacy
- Tumor margins
- Lymph nodes evaluation and sampling
- Guiding block selection during specimen grossing
- Tissue sampling of both primary and metastatic tumors in genomic medicine
- Tissue selection for genetic studies without damaging or destroying minute samples
- Creating permanent digital records of tissues

Future uses could include:

- Adequacy assessment of small tissue biopsies or fine needle aspiration (FNA) specimens
- Intraoperative evaluation of tissues in lieu of frozen section
- Guided specimen grossing for optimal and accurate sampling of surgical specimens

The Role of Pathologists in EVM

Take advantage of your experience and expertise with whole slide images to interpret EVM images and make diagnoses.

Expert Resources Made For You

Access the CAP's resources that can help you develop a robust EVM practice, including a resource guide, webinars, presentations, and workshops.

To access IVM and EVM resources, visit the IVM Topic Center capatholo.gy/ivm

Endometrial cancer (left, optical coherence tomography; right whole slide image)

Images courtesy of Jeffrey L. Fine, MD, FCAP

EVM images are fully digital and can resemble traditional H&E stained light microscope slide images, making pathologists ideally suited to interpret the results.

cap.org