

Cytopathology and More | Touch Imprint/Crush Prep Program better by another name?



Barbara Crothers, DO
Pifu Luo, MD, PhDp

January 2015—Do you need a proficiency testing tool for your pathologists and cytotechnologists who perform rapid on-site evaluation?

Could you benefit from fine-tuning your cytopathology interpretive skills for the assessment of CT- and ultrasound-guided core biopsies and fine-needle aspirations?

Are you looking for a new tool to enhance intraoperative consultation and shorten turnaround time?

Why not try the online Touch Imprint/Crush Preparation Program?

You may not be a cytopathologist, but adopting scrape, crush, and touch preparations as an additional tool for evaluating intraoperative consultations and using touch imprints of core biopsies can provide diagnostic clues that may improve accuracy and confirm your frozen section and clinical impressions. Many pathologists are uncomfortable with using a modified Giemsa stain, but it requires only one to two minutes to perform and is faster than conventional frozen sections and rapid Papanicolaou stains. Intraoperative cytology has the advantage of allowing rapid sampling and interpretation of multiple areas of a fresh specimen. For example, scrape preparations of a hemithyroidectomy can help to evaluate multiple thyroid nodules in a short time and may even detect micropapillary carcinoma. Frozen section artifact can be circumvented with cytology, which is an adjunctive method that fills in missing information such as cellular cohesion and intricate nuclear detail. Cytology also has the advantage of doing more with less, so that precious small biopsies (such as neural tissue) can be optimized for other ancillary studies after initial cytologic evaluation.

The CAP Cytopathology Committee recognized that pathologists who perform intraoperative consultations may need initial help interpreting these preparations. In addition, pathologists and cytotechnologists who perform rapid on-site evaluation of core biopsy specimens using touch imprints might benefit from a program that highlights the pitfalls and advantages of these methods. Thus, the CAP has an online program to address that need.

The Touch Imprint/Crush Preparation (TICP) Program is designed to provide cytopathologists and cytotechnologists who perform rapid on-site evaluation of fine-needle aspiration specimens, or practicing pathologists who perform frozen section evaluation, with information that will assist in evaluating these specimens. The program is designed to cluster diagnostic entities according to usual practice exposure. For example, a pediatric or pulmonary pathologist could enroll in the program and focus on his or her area of expertise. While some modules are organ-specific, the program is also designed to be applicable to all pathologists and cytotechnologists who see a variety of specimens. Therefore, some annual offerings will include a variety of cases from different body sites.

The program has two modules annually, each consisting of five online cases. Each case has a whole slide created as a virtual slide that can be reviewed similar to microscopic evaluation. These slides may be crush/squash preparations, touch imprints, or scrape preparations and are stained with hematoxylin and eosin, modified Giemsa,

or Papanicolaou stains. Static images are also provided to call participant attention to particular diagnostic details. Frozen section slides, core biopsy, and cell block sections are also included, if applicable. To mirror actual practice, participants are asked to assess specimen adequacy and to give their initial impression of the lesion as a general category, such as normal, inflammatory/infectious process, benign neoplasm, or malignant neoplasm. The participant then decides if the specimen requires triage for ancillary studies and selects what those studies should be. Finally, a list of diagnostic choices is provided as a differential diagnosis. After review of ancillary studies, the participant selects an interpretation. Each diagnostic differential is described in detail and compared with the target diagnostic entity so that participants can learn the clinical and cytologic differences between lesions and what ancillary studies are most helpful to solidify the diagnosis.

There are several ways to prepare cytology specimens at the intraoperative bench. As commonly practiced in neuropathology, small fragments of tissue can be compressed between two slides (crushed or squashed) and gently smeared. Alternatively, a scalpel blade can be used to scrape the surface of a lesion. The specimen is transferred to a glass slide, where it is smeared between two slides. Touch imprints involve applying the slide surface directly to the lesion or tissue, a method that tends to preserve the relationship of cells to one another and is popular for assessing lymph node lesions and small core biopsies. Cytotechnologists who assist with endoscopic and radiologic procurement of specimens are familiar with these methods of preparation but may be less familiar with associated clinical findings and appropriate triage algorithms for tissue.

Cytology remains an underused tool for intraoperative consultation in many practices, probably stemming from a lack of training in evaluating these specimens and an insufficient comfort level. But there is no better way to learn fine-needle aspiration cytology than to evaluate specimens using cytology at the intraoperative bench, where the pathologist has the advantage of having immediate feedback of the diagnosis from the frozen section. This technique has been used for decades in many universities and some pathology practices. It has been advocated as an ancillary tool for intraoperative consultation by pathology icons, such as Steven Silverberg, MD, who incorporated cytologic findings into his *Principles of Surgical Pathology* textbook. The TICP Program is designed to fill general practice gaps and to meet CME/CE needs for those whose practices may be limited to a few body sites or specimen types and want to enhance their diagnostic skills using cytology. Perhaps the program should go by a different name: To Inspire Cytotechnologists and Pathologists (TICP) to integrate cytology fully into patient care.

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Dr. Crothers, chair of the CAP Cytopathology Committee, is cytopathology medical director at Walter Reed National Military Medical Center. Dr. Luo, a member of the Cytopathology Committee, is director of laboratory and pathology, Providence Medford (Ore.) Medical Center.