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# 51 | Confocal Examination of Non-Melanoma Cancers in Thick Skin Excisions to Potentially Guide Mohs Micrographic Surgery without Frozen Histopathology

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**ABSTRACT**

Precise removal of nonmelanoma cancers with minimum damage to the surrounding normal skin is guided by the histopathologic examination of each excision during Mohs micrographic surgery. The preparation of frozen histopathology sections typically requires 20-45 min per excision. Real-time confocal reflectance microscopy offers an imaging method potentially to avoid frozen histopathology and prepare noninvasive (optical) sections within 5 min. Skin excisions (approximately 1 mm thick) from Mohs surgeries were washed with 5% acetic acid and imaged with a confocal cross-polarized microscope. The confocal images were compared with the corresponding histopathology. Acetic acid causes compaction of chromatin that increases light back-scatter and makes the nuclei bright and easily detectable. Crossed-polarization strongly enhances the contrast of the nuclei because the compacted chromatin depolarizes the illumination light whereas the surrounding cytoplasm and normal dermis does not. Fast low-resolution examination of cancer lobules in wide fields of view followed by high-resolution inspection of nuclear morphology in small fields of view is possible; this is similar to the procedure for examining histopathology sections. Both the Mohs surgeon and the patient will potentially save several hours per day in the operating room. Fast confocal reflectance microscopic examination of excisions (of any thickness) may improve the management of surgical pathology and guide microsurgery of any human tissue.