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**Intraoperative imaging during Mohs surgery with reflectance confocal microscopy: initial clinical experience.**

*Flores ES, Cordova M, Kose K, Phillips W, Rossi A, Nehal K, Rajadhyaksha M, J Biomed Opt. 2015 Jun;20(6):61103. doi: 10.1117/1.JBO.20.6.061103.*

### **ABSTRACT**

Mohs surgery for the removal of nonmelanoma skin cancers (NMSCs) is performed in stages, while being guided by the examination for residual tumor with frozen pathology. However, preparation of frozen pathology at each stage is time consuming and labor intensive. Real-time intraoperative reflectance confocal microscopy(RCM), combined with video mosaicking, may enable rapid detection of residual tumor directly in the surgical wounds on patients. We report our initial experience on 25 patients, using aluminum chloride for nuclear contrast. Imaging was performed in quadrants in the wound to simulate the Mohs surgeon's examination of pathology. Images and videos of the epidermal and dermal margins were found to be of clinically acceptable quality. Bright nuclear morphology was identified at the epidermal margin and detectable in residual NMSC tumors. The presence of residual tumor and normal skin features could be detected in the peripheral and deep dermal margins. Intraoperative RCM imaging may enable detection of residual tumor directly on patients during Mohs surgery, and may serve as an adjunct for frozen pathology. Ultimately, for routine clinical utility, a stronger tumor-to-dermis contrast may be necessary, and also a smaller microscope with an automated approach for imaging in the entire wound in a rapid and controlled manner.