

## Medical > In Vivo > Other material

# 58

**In vivo confocal microscopy in clinical practice: comparison of bedside diagnostic accuracy of a trained physician and distant diagnosis of an expert reader.**

Rao BK, Mateus R, Wassef C, Pellacani G.

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### ABSTRACT

**BACKGROUND:** Reflectance confocal microscopy (RCM) is an imaging tool that allows the visualization of cellular details without biopsy. To our knowledge, RCM sensitivity and specificity has not been studied in a telemedicine setting. **OBJECTIVE:** We sought to assess RCM diagnostic accuracy in a support teleconsultation setting. **METHODS:** Between June 2010 and September 2011, 340 lesions were imaged using a confocal scanning microscope. The images were evaluated by 2 readers, one on site, and the other at a distance. **RESULTS:** A total of 334 cases were included. For each reader the sensitivity was greater than 90% and specificity for each reader was greater than 60%. Both readers had a combined sensitivity of 98.6% and 44% specificity. **LIMITATIONS:** RCM may be limited in the correct classification of epithelial tumors. **CONCLUSIONS:** RCM is a tool in the clinical diagnosis of skin lesions, providing a high diagnostic accuracy in teleconsultation use. Copyright © 2013 American Academy of Dermatology, Inc. Published by Mosby, Inc. All rights reserved. **KEYWORDS:** AK; BCC; MM; RCM; SCC; SK; actinic keratosis; basal cell carcinoma; cutaneous lesions; malignant melanoma; noninvasive imaging; reflectance confocal microscopy; seborrheic keratosis; squamous cell carcinoma; teledermatology PMID: 24035553 DOI: 10.1016/j.jaad.2013.07.022