**Overview**

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**In vivo reflectance-mode confocal microscopy in clinical dermatology and cosmetology**


**ABSTRACT**

In vivo reflectance confocal microscopy (RCM) is a non-invasive imaging tool that allows real-time visualization of cells and structures in living skin with near histological resolution. RCM has been used for the assessment of benign and malignant lesions, showing great potential for applications in basic skin research and clinical dermatology. RCM also reveals dynamic changes in the skin over time and in response to specific stimuli, like ultraviolet exposure, which makes it a promising tool in cosmetology, as it allows repetitive sampling without biopsy collection, causing no further damage to the areas under investigation. This review summarizes the latest advances in RCM, and its applications in the characterization of both normal and pathological skin.