

## Medical > In Vivo > Melanoma & Pigmented Lesion Research

### 198 | Development of a two-step method for the diagnosis of melanoma by reflectance confocal microscopy.

Segura S, Puig S, Carrera C, Palou J, Malvehy J.; *J Am Acad Dermatol.* 2009 Aug;61(2):216-29. DOI: 10.1016/j.jaad.2009.02.014.

#### ABSTRACT

**BACKGROUND:** Reflectance confocal microscopy (RCM) has been shown to improve accuracy in the differentiation of nevus from melanoma, but only a few studies have evaluated both melanocytic lesions (ML) and non-ML.

**OBJECTIVE:** We sought to develop an algorithm for the in vivo diagnosis of skin tumors by RCM.

**METHODS:** In 143 patients we evaluated 154 skin tumors (100 melanocytic, 54 nonmelanocytic) by RCM before their excision. We analyzed RCM features on stored images and performed univariate and multivariate analyses to determine the association of RCM features with tumor types.

**RESULTS:** Four confocal features differentiated ML from non-ML: cobblestone pattern of epidermal layers, pagetoid spread, mesh appearance of the dermoepidermal junction, and the presence of dermal nests. Within ML, the presence of roundish suprabasal cells and atypical nucleated cells in the dermis was associated with melanoma, and the presence of edged papillae and typical basal cells was associated with nevi. Based on the correlation of RCM features with dermatoscopy and histology, we developed a two-step algorithm for the diagnosis of skin tumors by RCM.

**LIMITATIONS:** This is a preliminary study, and the results must be validated in further studies with a larger number of cases.

**CONCLUSION:** RCM appears to be helpful in improving the presurgical diagnosis of difficult skin tumors.