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# In Vivo Reflectance Confocal Microscopy of Meissner Corpuscles

## *Meissner Korpusküllerinin Konfokal Microskopta İn Vivo Yansıması*

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### Introduction

Meissner's corpuscles (MCs) are mechanoreceptors that are responsible for sensitivity to light touch. They were first described in 1852, with Meissner and Wagner (1). Meissner's corpuscles are located in the dermis between epidermal ridges. They contain an unmyelinated nerve ending surrounded by Schwann cells. Meissner's corpuscles are touch receptors and found in greater numbers in non-hairy skin of the hands, feet and fingers.

In vivo reflectance confocal microscopy (RCM) allows real-time visualization subcellular level image resolution in the epidermis and superficial dermis. The use of RCM for neuropathy is a popularity study in neurology (24).

In vivo RCM is a painless, non-invasive technique that is increasingly being used for the imaging of human skin. Optical microscopy is widely used in many systems where the domain of interest lies in the submicrometer to micrometer range (2).

In vivo RCM was performed over the volar surface of left hand digit 2 (Figure 1A). A trained microscopist performed MC imaging on this area from the basal layer of epidermis (Figure 1B).

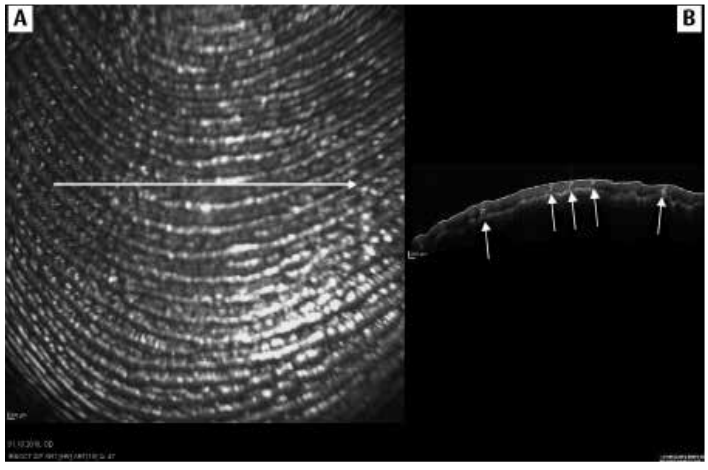


**Figure 1.** A) In vivo reflectance confocal microscopy performed over the volar surface of left hand digit 2. B) A trained microscopist performed Meissner's corpuscle imaging at this site area from the basal layer of epidermis

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## References


1. Wagner R, Meissner G, Ueber das Vorhandensein bisher unbekannter eigenthümlicher Tastkörperchen (Corpuscula tactus) in den Gefühlswärzchen der menschlichen Haut und über die Endausbreitung sensitiver Nerven, 1852.
2. Herrmann DN, Boger JN, Jansen C, Alessi-Fox C. In vivo confocal microscopy of Meissner corpuscles as a measure of sensory neuropathy. Neurology 2007;69:2121-2127.
3. Almodovar JL, Ferguson M, McDermott MP, Lewis RA, Shy ME, Herrmann DN. In vivo confocal microscopy of Meissner corpuscles as a novel sensory measure in CMT1A. J Peripher Nerv Syst 2011;16:169-174.
4. Almodovar JL, Schifitto G, McDermott MP, Ferguson M, Herrmann DN. HIV neuropathy: an in vivo confocal microscopic study. J Neurovirol 2012 ;18:503-510.