# Microcirculation measurements in the skin and retina: review of non-invasive tools and their challenges

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**Abstract**

In the last decade new and more advanced microvascular imaging techniques have become available for use in clinical research. As it became more evident that microvascular dysfunction might prelude (cardio) vascular events, microvascular measurements have gained increasing interest for their applicability in the clinic and research. In this narrative review we aim to provide an updated oversight of microvascular measurement techniques. We have made an outline of the most common and latest techniques for microvascular cutaneous and retinal measurements and included the most frequently used challenges used together with these measurements. Furthermore this review includes an updated evaluation of the mechanistic background of microcirculatory dysfunction. Hereby this narrative literature review aims to assist with the identification of the most adequate microvascular imaging technique(s) for clinical application and research

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