

Optical imaging of blood flow in the microcirculation

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Abstract

Optical techniques provide useful tools for monitoring the microcirculation. These can be used to provide an estimate of overall flow in the microcirculation or, at appropriate sites in the body, can be used to monitor the motion of individual cells. A brief overview of techniques such as Doppler optical coherence tomography (OCT), photoacoustic imaging and laser speckle contrast analysis (LASCA) will be provided. The main focus will then fall on our group's work in full field laser Doppler imaging and capillaroscopy for applications in vein viewing, inflammatory responses and sickle cell anaemia.