

Technical Note



Dynamic infrared thermography (DIRT) in Deep Inferior Epigastric Perforator (DIEP) flap breast reconstruction: standardization of the measurement set-up

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Abstract: Breast reconstruction with an autologous free Deep Inferior Epigastric Perforator (DIEP) flap is one of the preferred options following mastectomy. A challenging step in this procedure is the selection of a suitable perforator that provides sufficient blood supply for the flap. The current golden standard for perforator mapping is computed tomography angiography (CTA). However, this is a relatively expensive imaging modality that requires intravenous contrast injection and exposes patients to ionizing radiation. More recently, dynamic infrared thermography (DIRT) has been proposed as an alternative imaging modality for perforator identification. DIRT appears to be an ideal alternative technique not only for the identification of the dominant perforators, but also for the mapping of the individual influence of each perforator on the flap perfusion. Multiple studies have been performed with the use of DIRT, unfortunately without standardisation of the measurement set-up. In this technical note we propose a standardised and reproducible measurement set-up for the use of DIRT during breast reconstructions with a free DIEP flap.

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