

## ICG - Near-Infrared Fluorescence Lymphatic Imaging

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Indocyanine green (ICG), a fluorescent contrast agent, complements the collection of lymphatic imaging tools to study lymphedema and the superficial lymphatic system. The technique, providing dynamic images, is minimally invasive, low cost, and repeatable. Small quantities (0.08 mg) of diluted ICG (0.4ml) is injected intradermally.

To obtain rich images with plentiful collectors, it is essential to 'fill' the collectors through applying the 'Fill and Flush" MLD technique for 10 minutes after injection. Comparing normal and lymphoedematous images, NIRFLI characterizes the architecture of the superficial lymphatic network and demonstrates specific patterns which provide valuable information to characterise lymphedema.

NIRFLI has many applications, including screening; detecting the earliest failure of secondary lymphedema; Mapping; assessing lymphangion motricity, valvular continence, pumping forces and demonstrating substitution pathways, and reflux to the genitalia. Used during surgery it helps to identify and protect functional lymphatic collectors. NIRFLI also provide an efficient tool to study lympho-venous anastomosis.