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Letter to the editor

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## **Abstract**

How is lymphofluoroscopy mapping altering lymphoedema management?

Wigg J, Cooper G

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Lymphoedema management has evolved over many decades, but the core components of treatment remain largely unaltered, such as skin care, compression and self-lymphatic drainage. Near-infrared fluorescence lymphatic imaging (NIRFLI) offers an opportunity to enhance patient outcomes by evaluating and increasing the effectiveness of these treatment options. This is relevant when we consider the impact of this chronic condition and its endemic proportions ( Mortimer, 2014 ), while Moffatt et al (2017) suggests it is one of the biggest health risks in the Western world, due to the multiple causes, such as cancer, obesity and as a complication of an ageing population. The impact of the condition can be reduced through early identification and the risk-reduction strategies that NIRFLI can offer through greater understanding of its chronicity. The use of NIRFLI has also led to the development of a new manual lymphatic drainage technique to assist in the management of lymphoedema ( Belgrado et al, 2016 ). The aim of this article is to introduce and describe NIRFLI and its use within lymphoedema management. It will discuss use with early detection of lymphoedema and expand further, focusing on its use within the management of lymphoedema.

## Letter to the Editor

Dear Editor,

With great interest we have read the recent [paper article](#) of Wigg and Cooper ([Br J Community Nurs. 2017](#)) ~~concerning in which~~ the near-infrared fluorescence lymphatic imaging technique and its use within lymphoedema management ~~is introduced and described~~. The implementation of two case studies is of great value in confirming the importance and relevance of this topic.

~~Breast cancer related lymphoedema (BCRL) of the arm is known to be a feared morbidity causing not only physical impairments(1) but also psychosocial problems(2), and shows a pooled incidence rate of 16.6%(3). Breast cancer is the most common cancer in women in the worldwide, with an incidence which is still increasing(4, 5). However, despite there is a steady increase in survival after breast cancer treatment, the prevalence of BCRL patients increases as well, requiring an effective treatment for these patients(6).~~

According to the International Society of Lymphology, the consensus treatment for [breast cancer related lymphoedema](#) (BCRL) is the decongestive lymphatic therapy. This is a two-phase treatment and consists of multiple combined treatment modalities like skin care, manual lymphatic drainage (MLD), compression therapy and exercise. Nevertheless, the additional effect of MLD is [still internationally debated](#) since [pooled data](#) only demonstrated a limited non-significant [contribution additional value](#) to the other modalities of the congestive lymphatic therapy ([referentie Huang, Ezzo](#)). One possible explanation is that in previous studies MLD has been applied [blindly](#), without knowledge of the patient-specific routes of lymphatic transport. Additionally, the ~~used MLD hand~~ manoeuvres of the therapists applied during ~~MLD in~~ previous studies, ~~might de~~ not [optimally](#) stimulate [the](#) lymphatic transport [optimally](#). According to ~~the article of~~ Wigg and Cooper, recently, near-infrared fluorescence imaging has been introduced 1) to visualise the [functional](#) superficial lymphatic network, and 2) to optimise the technique of MLD. Refining of the near-infrared lymphatic imaging technique has led to the introduction of a new MLD technique which focuses on 2 approaches involving 'filling' and 'flushing', based upon real life images during the assessment.

The physiological effect of one session of this fluoroscopy-guided MLD has been proven(7, 8). As mentioned in the article of Wigg & Cooper, in the study of Belgrado et al., all patients with BCRL (n=30) showed an increase of lymphatic transport from the hand to the axilla after 20 minutes of fluoroscopy-guided MLD (7). Furthermore, in a study of Tan et al., lymphatic contractile function before and after one session of fluoroscopy-guided MLD has been compared in patients with BCRL (n=10), showing immediate benefits regarding the lymph flow velocity and lymphatic propulsion period after MLD(8). Whether the application of different sessions of fluoroscopy-guided MLD has [any](#) clinical and long-lasting effects ~~on the~~ lymphoedema, superior to the traditional MLD, is yet to be established.

Therefore, we are ~~now~~ investigating ~~through a multicentre, double-blind, randomised controlled trial~~ the effectiveness of the fluoroscopy-guided MLD, additional to the other ~~pillars~~ of the decongestive lymphatic therapy and compared to the traditional or a placebo MLD, in the treatment of BCRL (EforT-BCRL trial; [clinicaltrials.gov NCT02609724](#)). [The design of the study is a multicentre, double-blind, three groups randomised controlled trial](#). We are looking forward to inform you about the results of our research within a few years, given the fact it can ratify these new insights into the management of lymphoedema and implications in facilitating self-management in [patients](#).

**Met opmerkingen [GN1]:** Vervangen door  
Meta analysis

Of combineren  
Pooled data and meta-analysis have shown..

**Met opmerkingen [GN2]:** Eventueel nog een verwijzing  
naar de guideline die we geschreven hebben over  
management BCRL

Gebruers N, Verbelen H, De Vrieze T, Vos L, Devoogdt N, Fias L, Tjalma W.  
Current and future perspectives on the evaluation,  
prevention and conservative  
management of breast cancer related lymphoedema: A best  
practice guideline. Eur J  
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