

Comprehending  
Comprehensive  
Compression

Program



# Mogelijkheden in de lymfechirurgie na borstkanker

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Plastisch chirurg

Universitair hoofddocent

Directeur van Maastricht Expertisecentrum voor lymfechirurgie

## Disclosure slide

Conflict of interests	None
Relevant relationship with companies	None



# Plastische chirurgie



# Lymfoedeem polikliniek since 2015



60-70 nieuw patienten/jaar

80-100 lymfchirurgie/jaar

2.3 M€ in subsidies

Sinds April 2023: Expertisecentrum voor lymfchirurgie

3 studenten met PhD afgerond, nog 4 in het proces

>20 artikelen

# Lymphedema research group



patiëntenzorg



onderwijs



onderzoek

# PhD studenten Lymphedema Research Group



Dr. Cornelissen 2018



Dr. Wolfs 2023



Dr. Jonis 2022 - 2024



Dr. Kleeven from 2023



R. Van der Hel from 2023



Dr. Hahn from 2024



Dr. Bettens from 2024



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**Maastricht UMC+**



Lymphatic Education  
& Research Network

# Centers of Excellence



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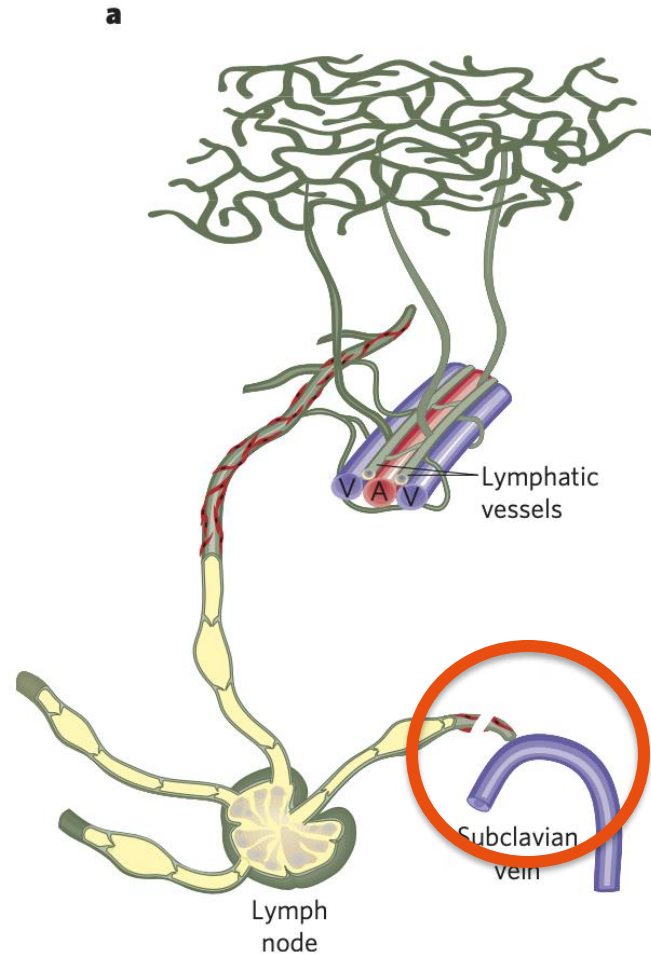


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Formation of lymph fluid

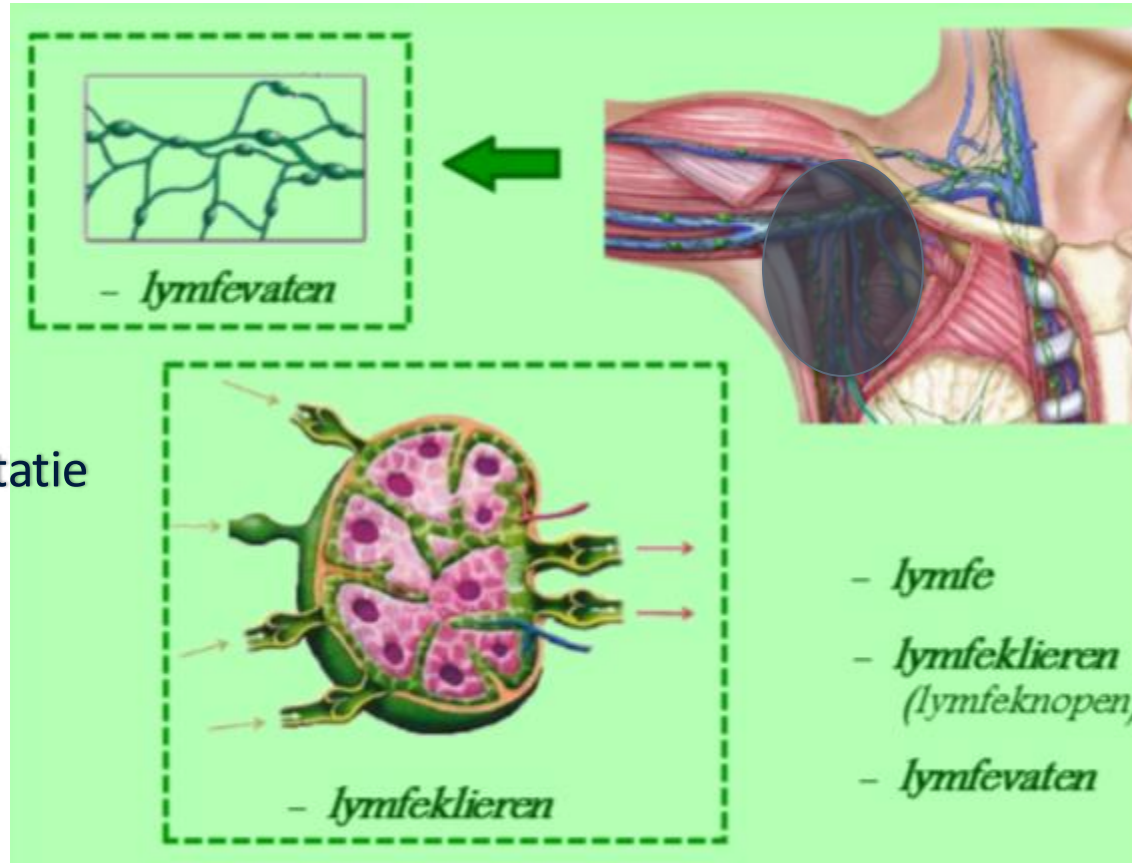
Pump function of the lymphatic collector vessels

Filtering of lymph fluid, capturing harmful substances, activating immune response





# LVA



Lymfevatentransplantatie

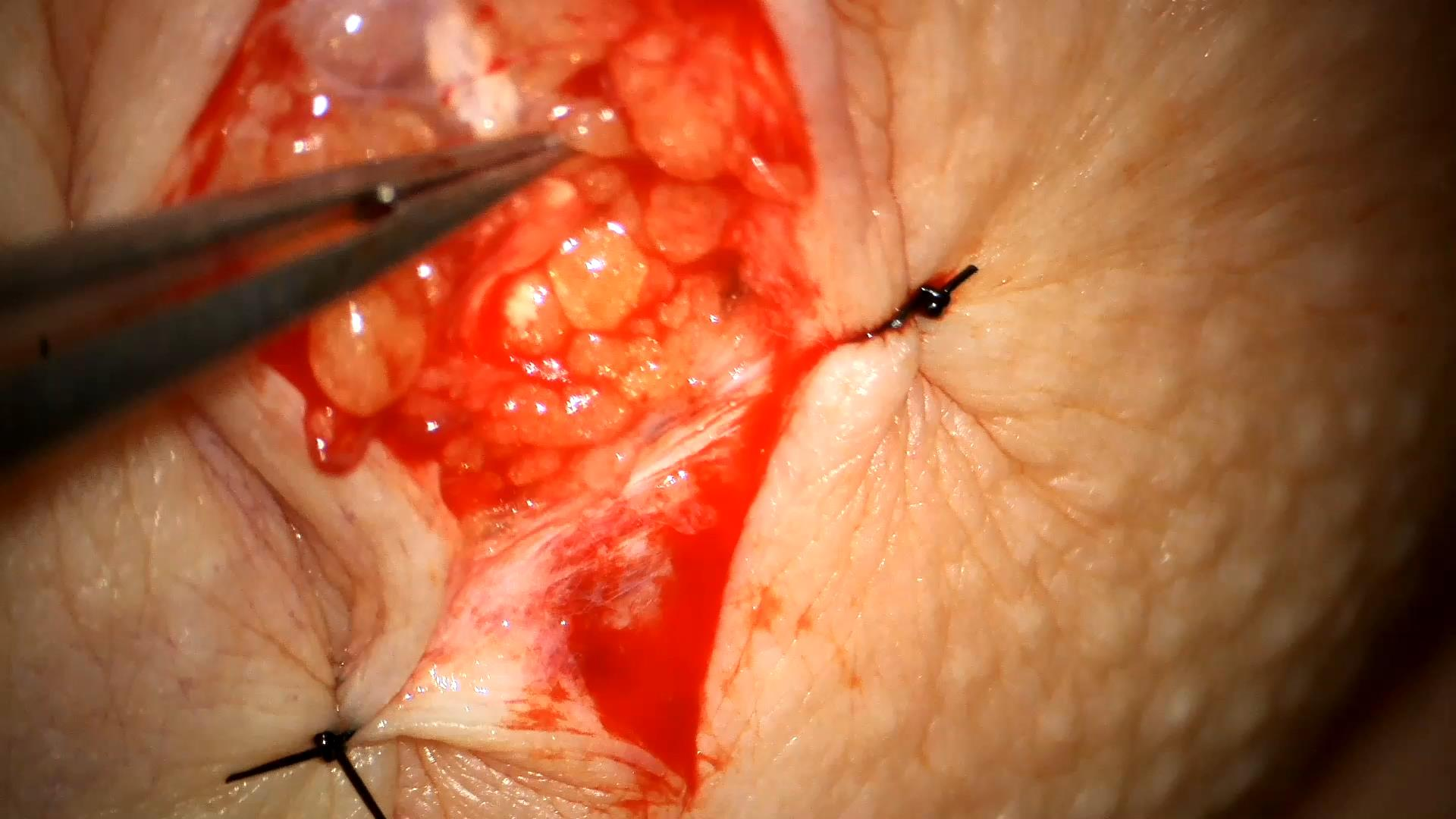
# Lymfeveneuze anastomose- LVA

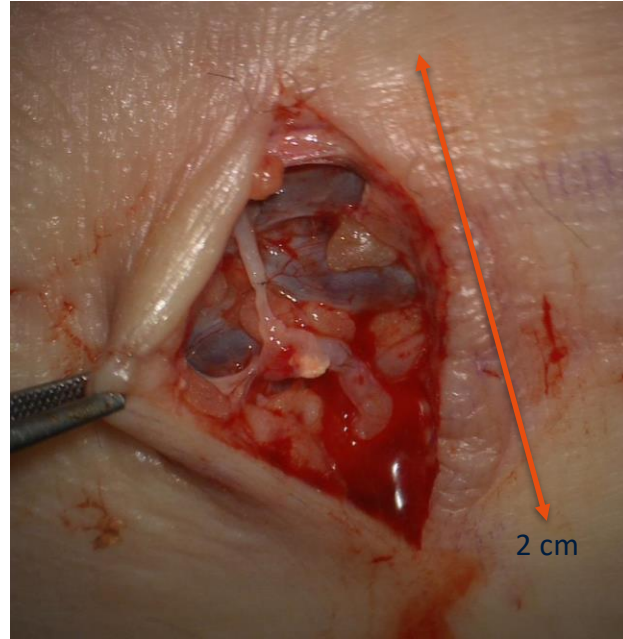
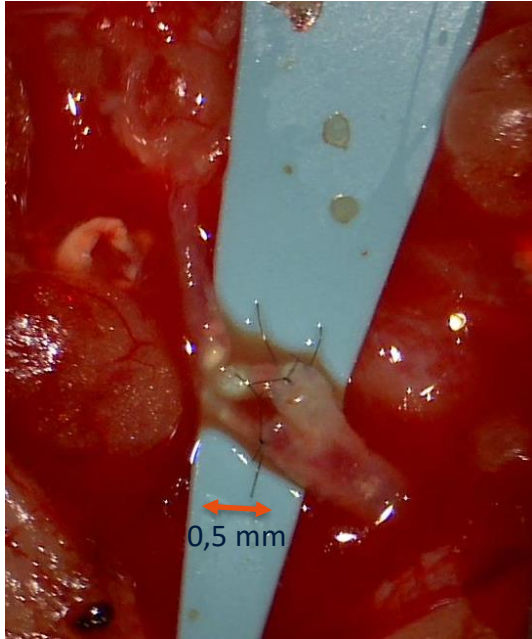


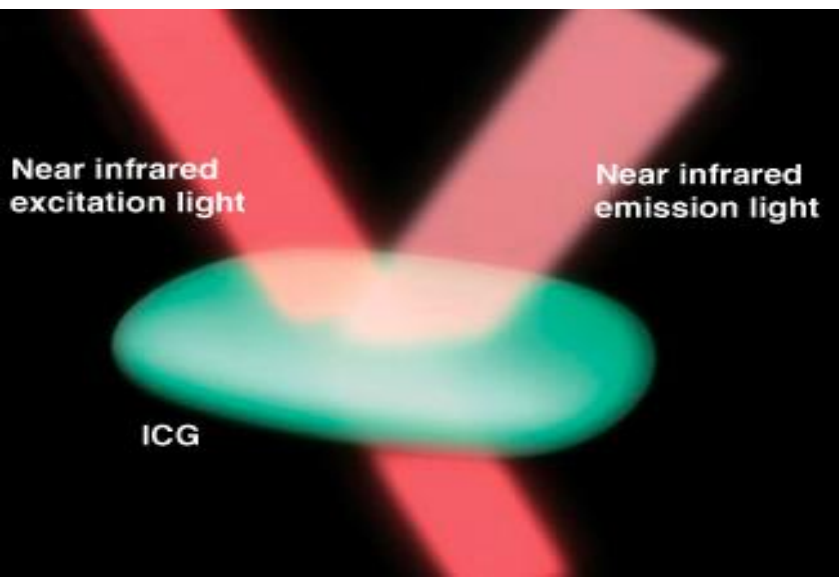
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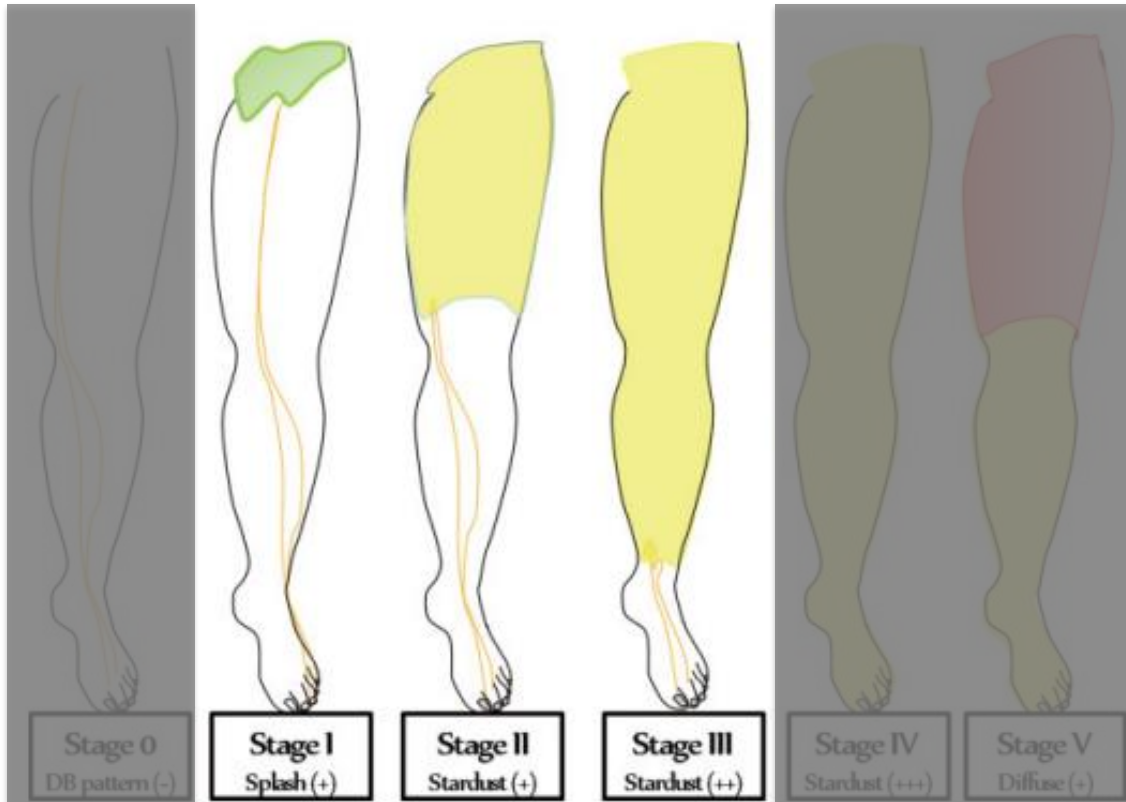


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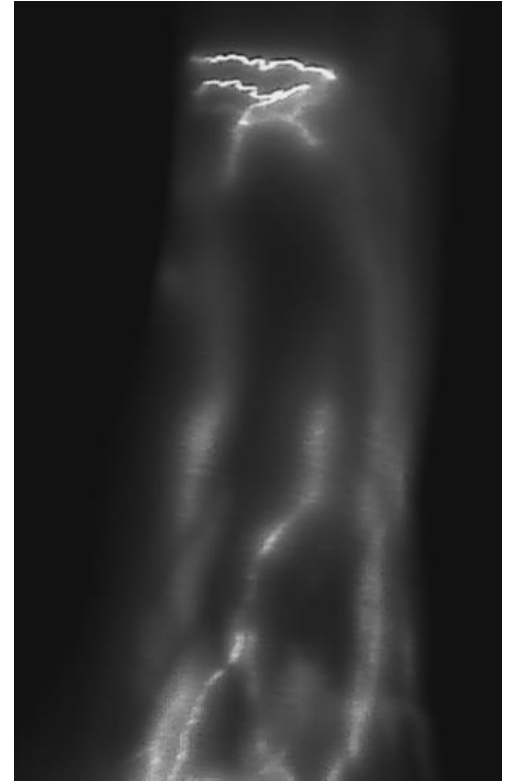
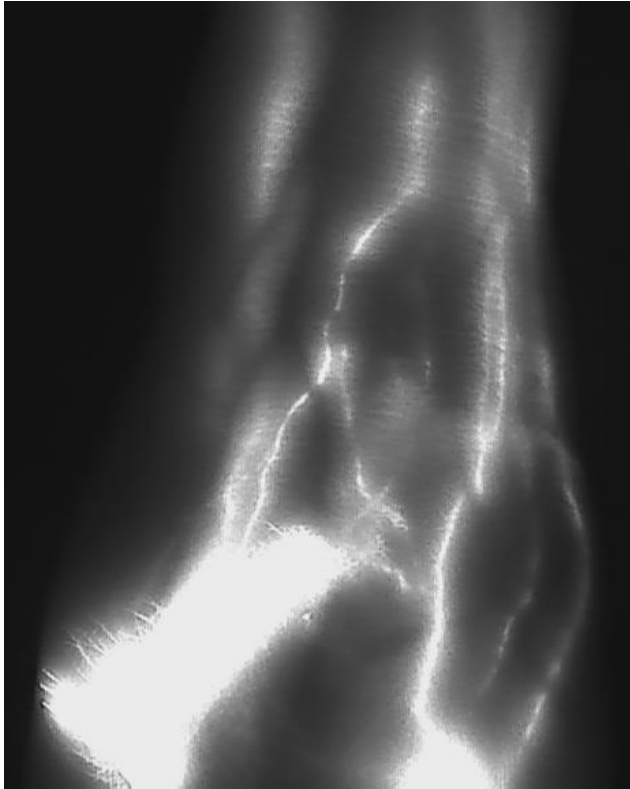
Narushima et al. J Reconstr Microsurg. 2016;32:72-79



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## Correlation between patency and clinical improvement after lymphaticovenous anastomosis (LVA) in breast cancer-related lymphedema: 12-month follow-up

Joost A. G. N. Wolfs<sup>1</sup> · Luuke G. E. H. de Joode<sup>1</sup> · René R. W. J. van der Hulst<sup>1</sup> · Shan S. Qiu<sup>1</sup> 

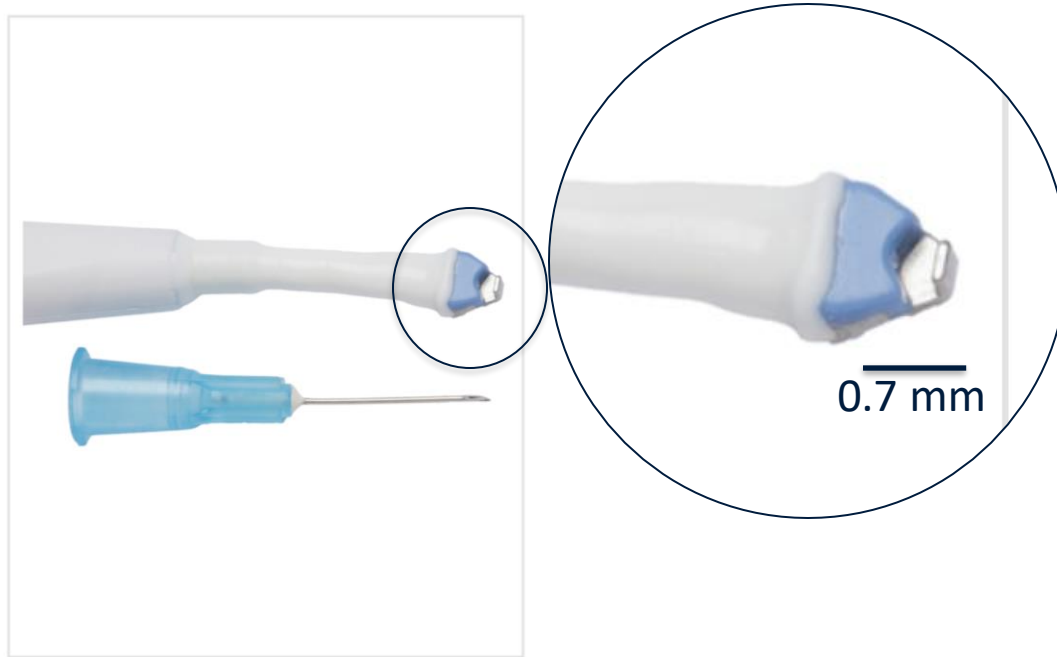
1 jaar na de LVA is deze nog doorgankelijk bij 75% van de patienten

Deze doorgankelijkheid correleert met een betere klinische uitkomst

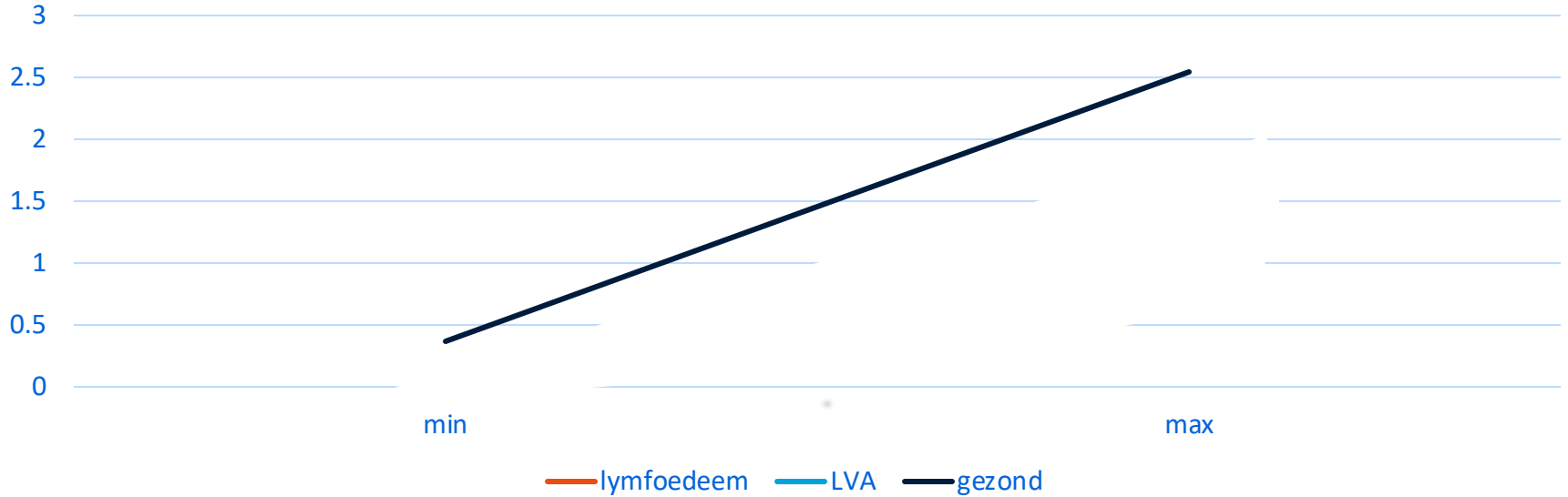




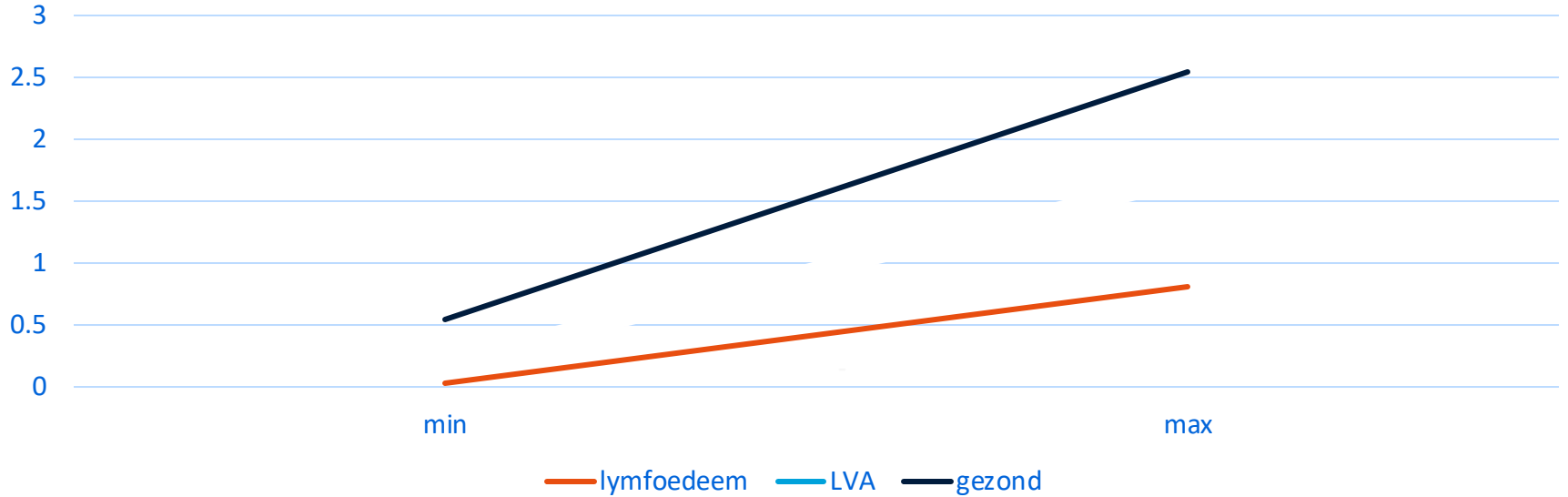
# Flow binnen het lymfevat



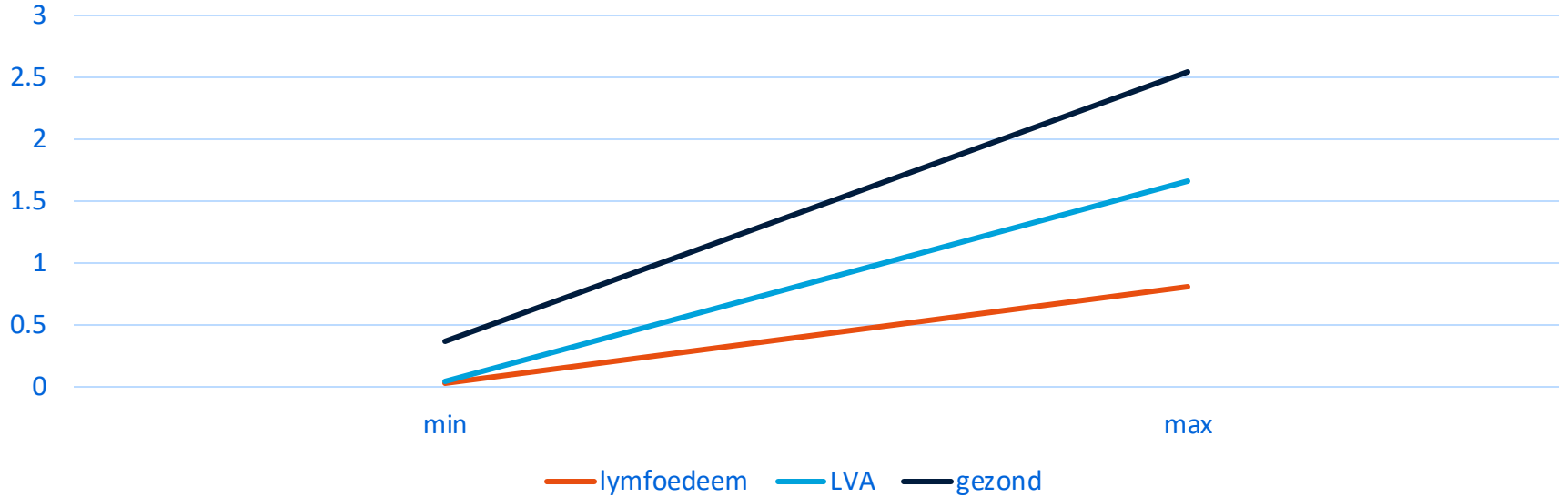
# Lymfflow



# Lymfflow



# Lymfflow





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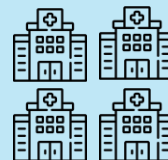
# Is **LVA** (cost)effective than complexe decongestieve therapie (CDT)?



Randomized  
controlled trial



**100** patients with  
BCRL



Maastricht UMC+  
Radboud UMC  
Zuyderland MC  
Canisius-Wilhelmina ziekenhuis

**1:1**

Randomisatie



**LVA**

50



**CDT**

50



Primary outcome:  
**Lymph-ICF**



More info:  
[www.thelymphtrial.com](http://www.thelymphtrial.com)







**N-LVA  
STUDY**

# Is **LVA** more (cost)effective than a *sham* operation?



Randomized  
controlled trial



**110 patients:**  
70 arm & 40 leg



Maastricht UMC+  
Radboud umc  
Erasmus MC

**1:1**

Randomization



**LVA**

55 patients



**sham**

55 patients



Primary outcome:  
**Lymph-ICF**



More info:  
[www.nlvastudy.com](http://www.nlvastudy.com)



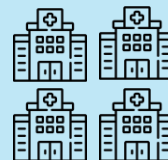
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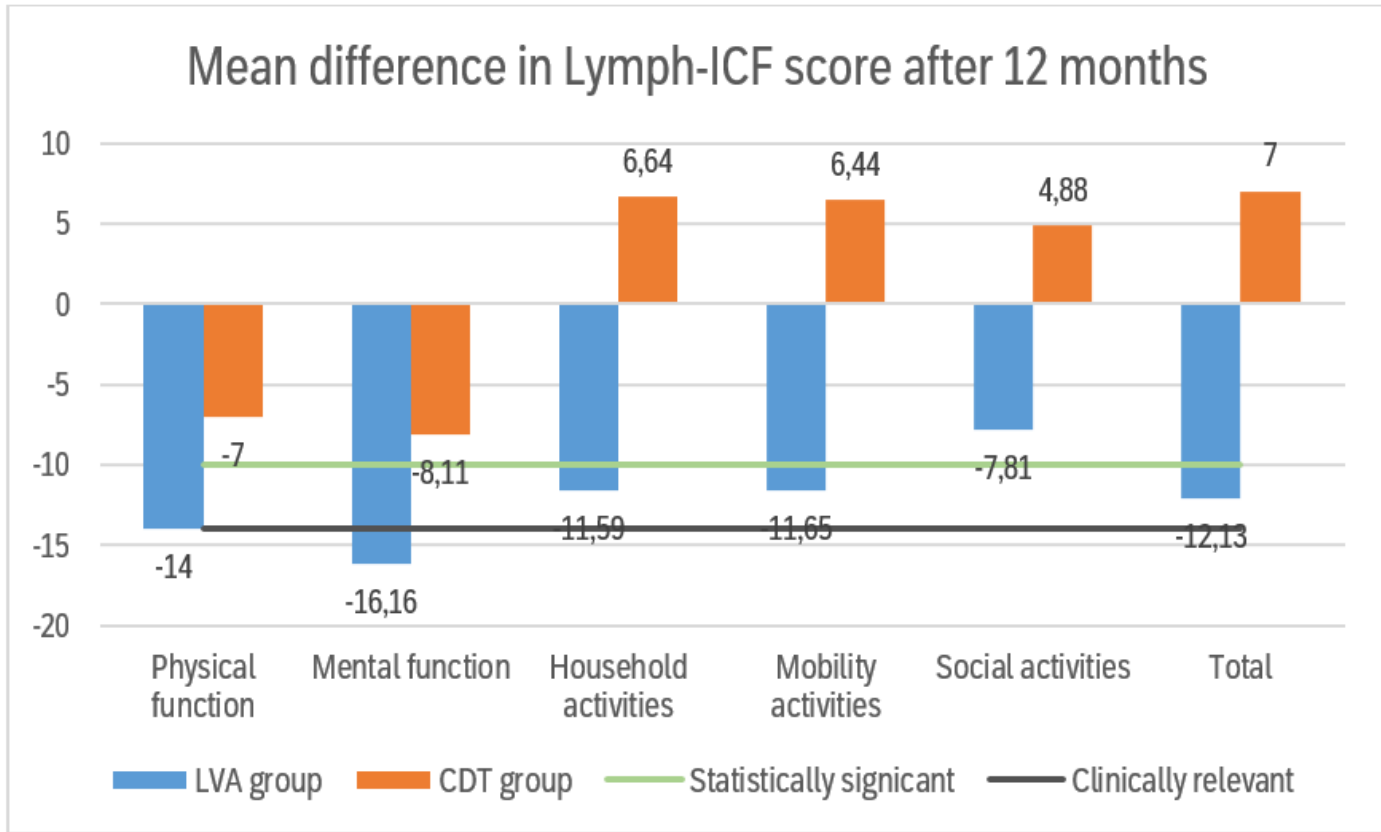
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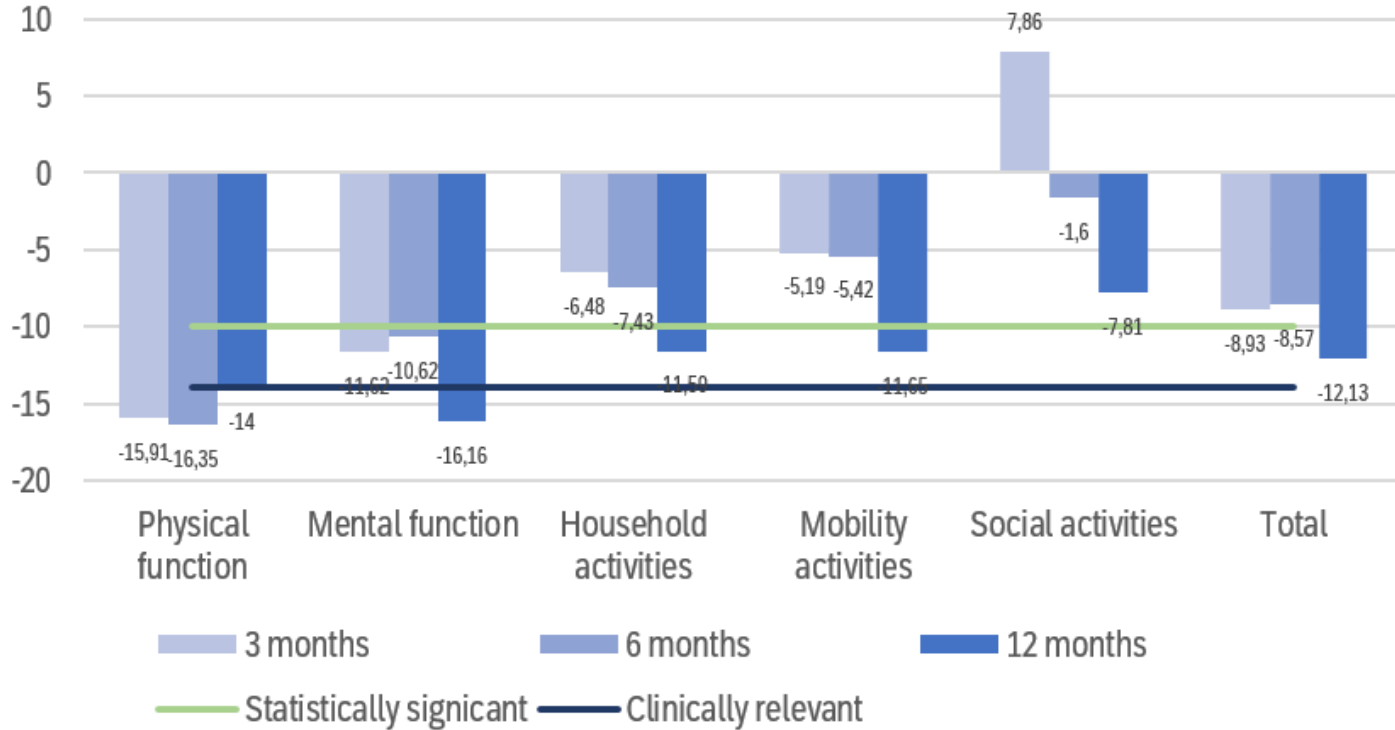
More info:  
[www.thelymphtrial.com](http://www.thelymphtrial.com)



# Results: Quality of Life

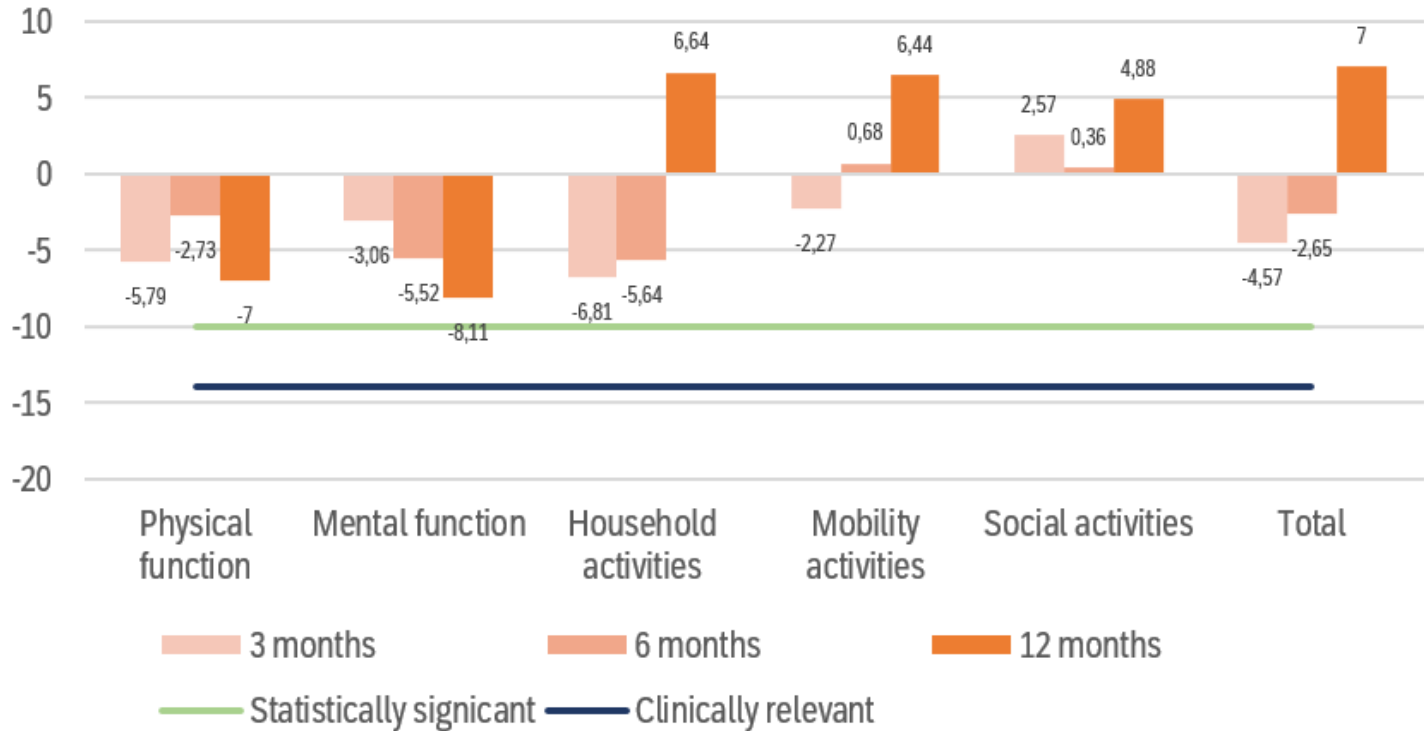


## Mean difference in Lymph-ICF score - LVA group

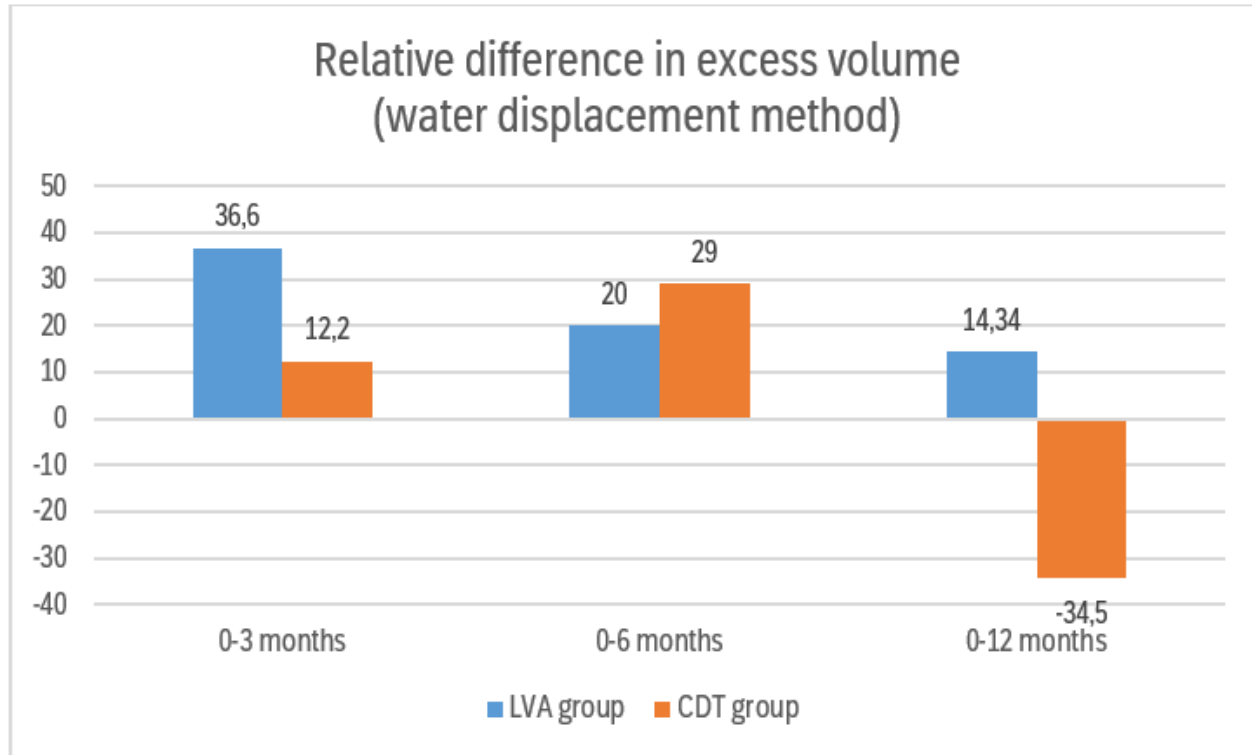




## Mean difference in Lymph-ICF scores - CDT group



# Results: Volume



# Borstreconstructie + lymfevaten transplantatie

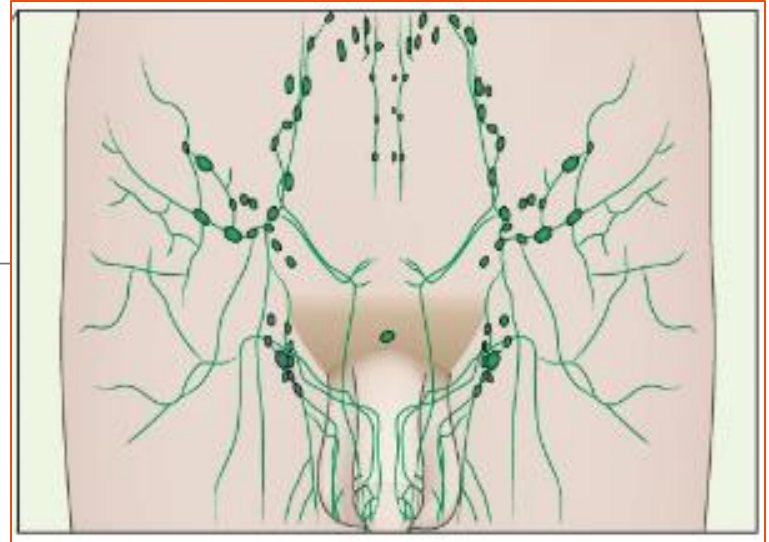
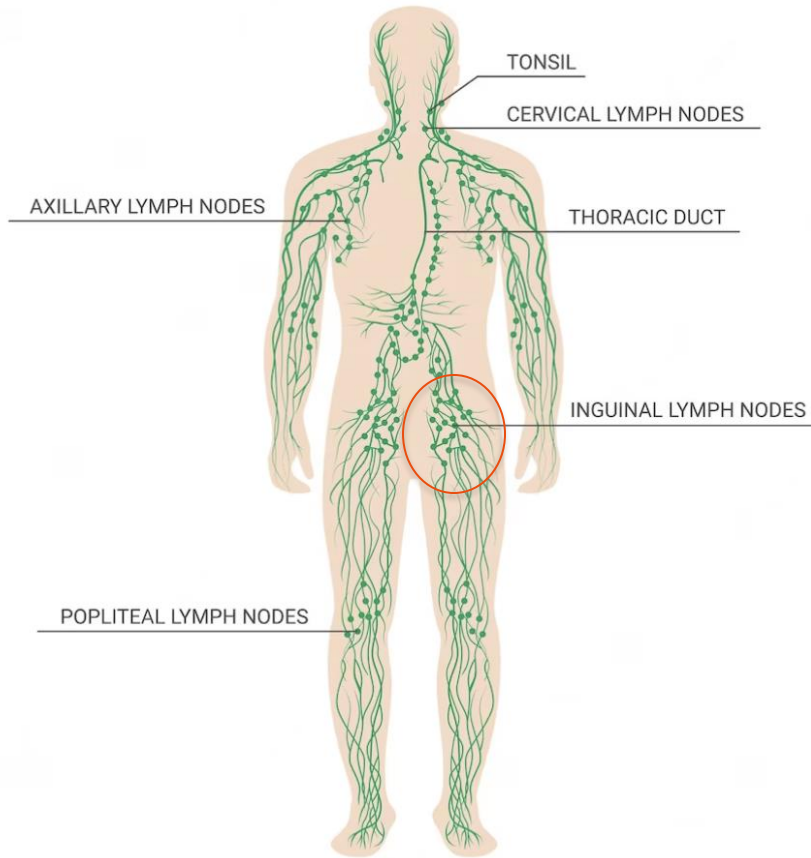


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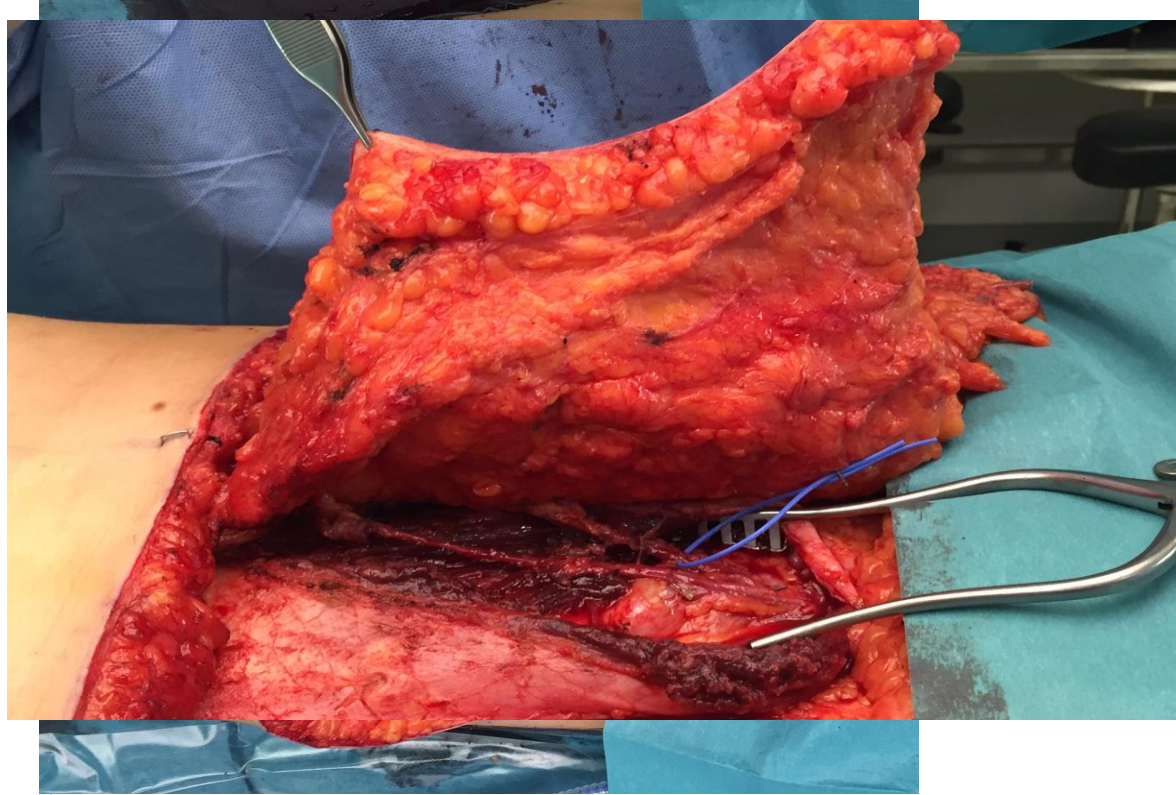
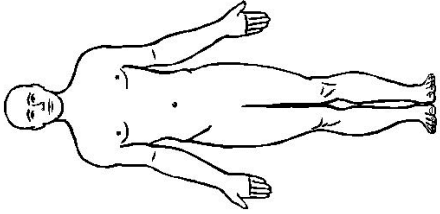


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# Borstreconstructie met lymfevaten transplantatie







# Resultaten

- De resultaten van de operatie zijn pas na 12-18 maanden zichtbaar
- Minder kans op wondroos of erysipelas
- De arm voelt soepeler en minder zwaar aan
- Compressiekousen blijven nodig

# Screening van lymfoedeem

# Analysis of OCT scans of lymphedema skin collected by MUMC

Slides from JD Holmes, Michelson  
Diagnostics Ltd, UK



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# Optical Coherence Tomography



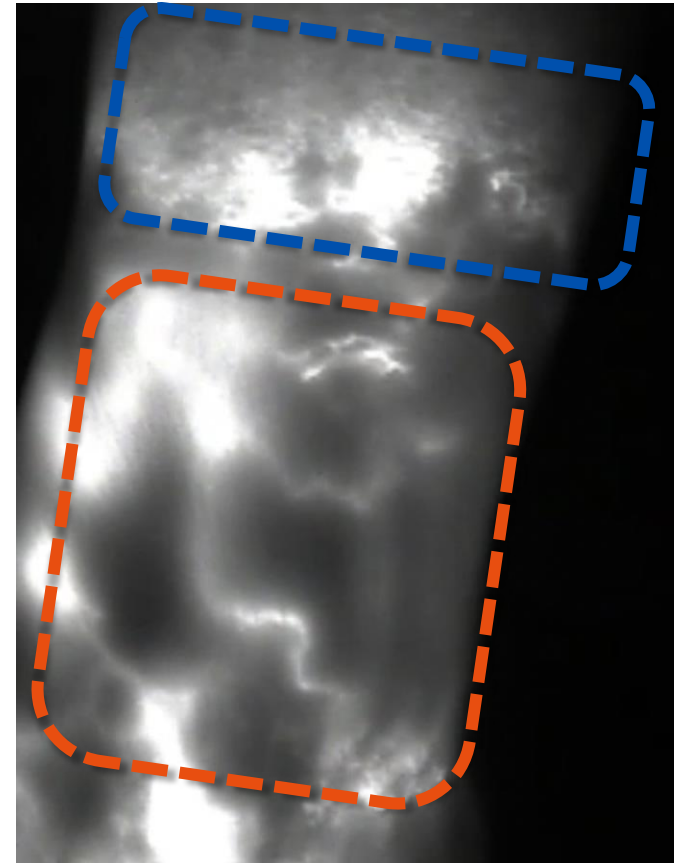
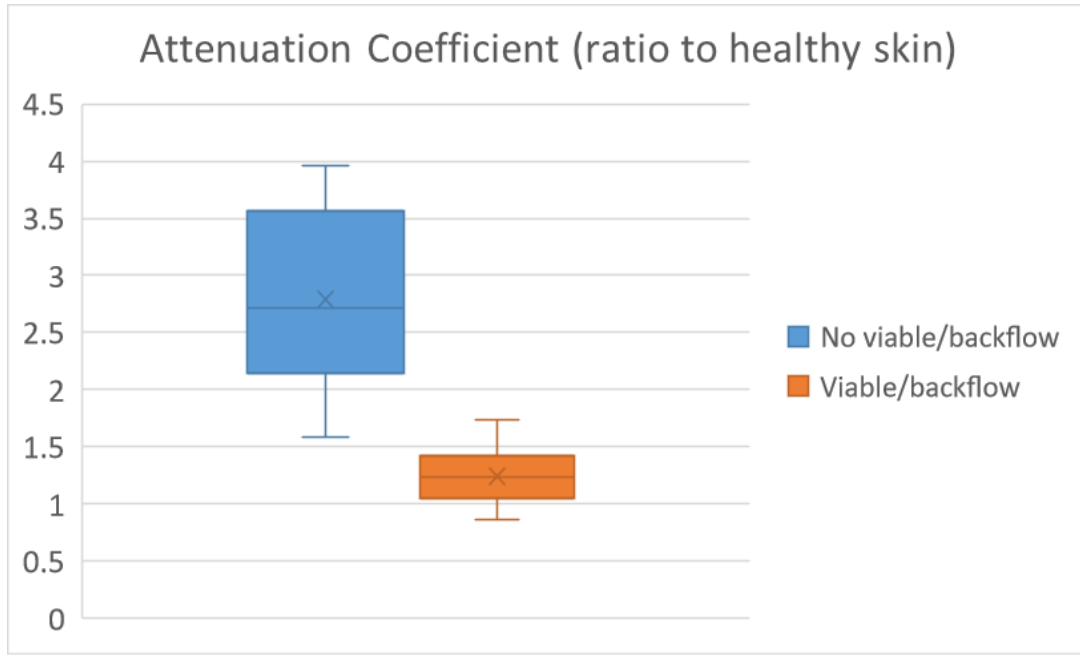
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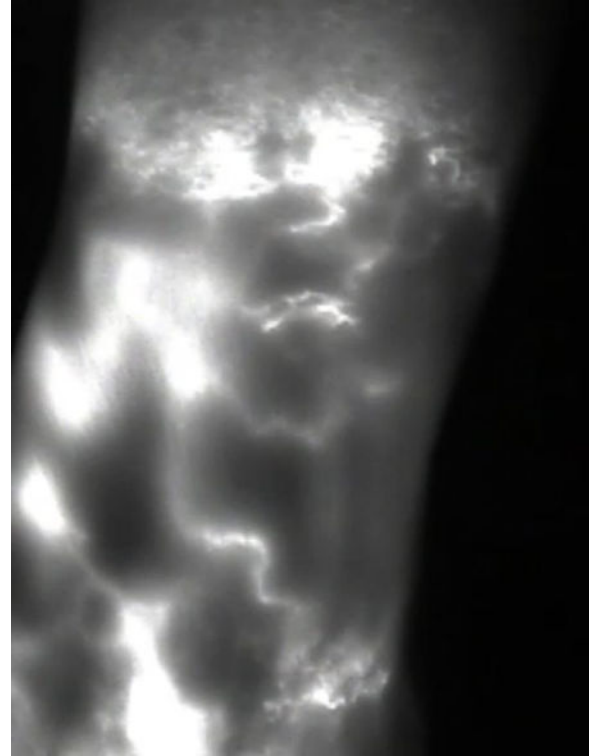
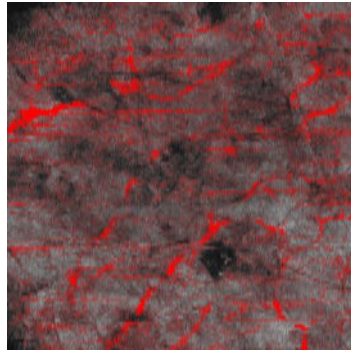
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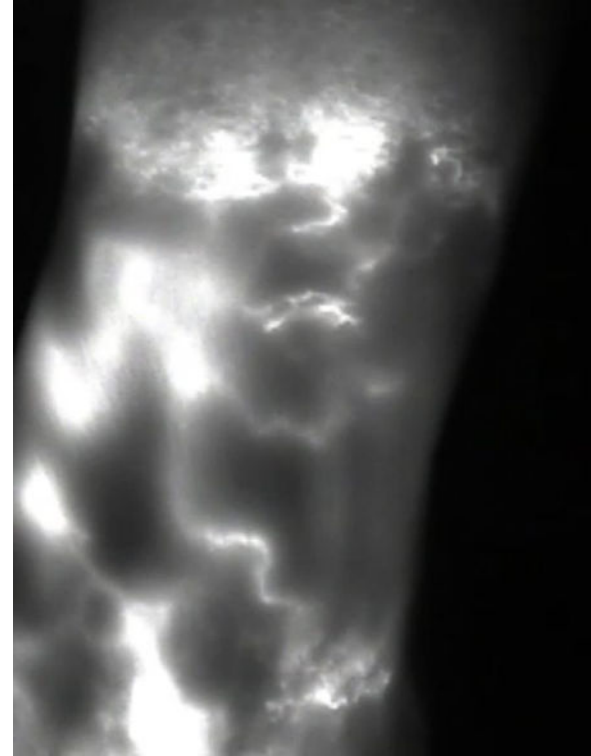
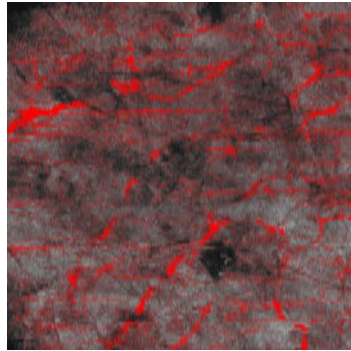
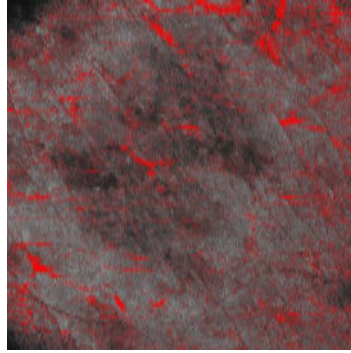
# Amount of water in dermis (OAC data)



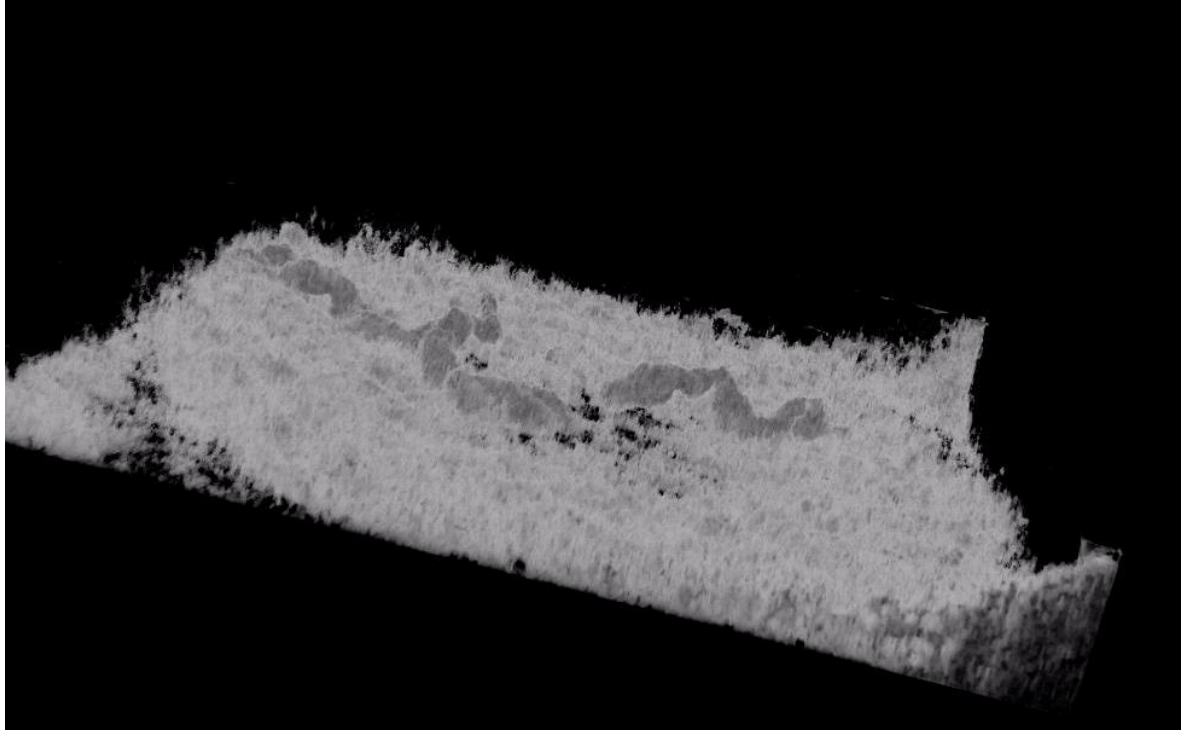
# Density of vessels at depth 0.5 mm



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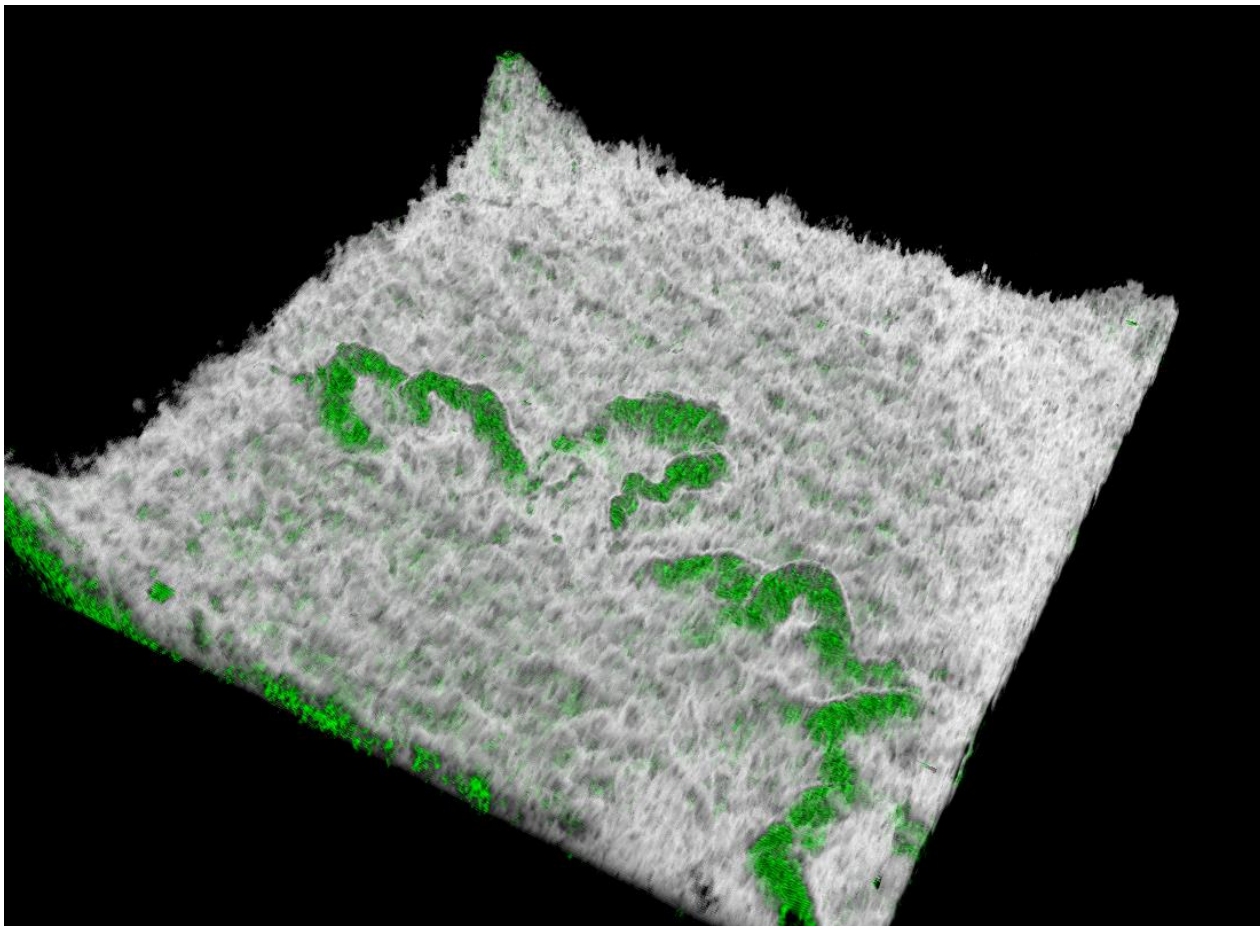
# Observations of unusual vessels



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# Samenvatting

- Een duidelijk verschil tussen de gezonde extremiteit en de extremiteit met lymfoedeem
- Lymfevaten kunnen worden gevisualiseerd zonder dat een contrastinjectie nodig is
- Degelijke studies zijn nodig om de validatie van OCT als screeningsmethode te ondersteunen



# Centers of Excellence



[Lymfoedeemstudie.plastischechirurgie@mumc.nl](mailto:Lymfoedeemstudie.plastischechirurgie@mumc.nl)