

Reducing post-surgical swelling and pain after total knee arthroplasty: a pilot study

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We hypothesized that the use of a graduated medical elastic thigh compression stocking for 14 days after total knee arthroplasty would reduce post-surgical swelling and pain among patients with a BMI ≥ 30 kg/m².

The aim of this pilot study was to provide preliminary data and test feasibility.

What was the aim of the research?

Can the effect of a graduated medical elastic thigh compression stocking be transferred to total knee arthroplasty surgery?

Will patients be interested in study participation and will they comply with the use of a graduated medical elastic thigh compression stocking?

Why is it important?

42% of the patients in Denmark who had knee replacement surgery in 2017 were obese.

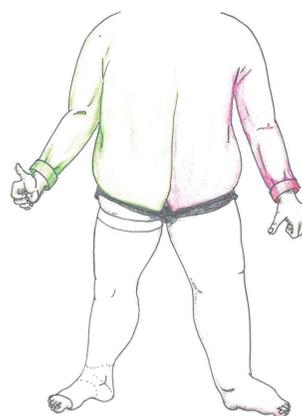
91% of the patients experience swelling of the operated leg after total knee replacement surgery.

Obesity increases the risk of post-surgical swelling, which can cause pain and discomfort as well as complicate and prolong rehabilitation.

25% of returns to the Emergency Department post-surgery, are related to swelling in the operated leg, with a **10%** readmission rate.

What did we do?

In a randomized controlled pilot study, **44 patients** with a BMI ≥ 30 kg/m² were allocated to a graduated medical elastic thigh compression stocking or standard care treatment for 14 days after total knee arthroplasty.



Outcome measures were knee, calf, and ankle swelling and pain.

Study feasibility included acceptable rates of written consent and compliance with the use of the graduated medical elastic thigh compression stocking.

What did we find?

Patients are interested in study participation

An acceptable consent rate of 69%

A 2 mm difference in knee swelling

A graduated medical elastic thigh compression stocking may have a positive effect on the reduction of swelling after total knee arthroplasty

Patient-reported reason for non-compliance: inadequate fit

A relatively low compliance rate of 41%

What impact will it have?

The research question remains important and future research must be performed in order to establish the effectiveness of the graduated medical elastic thigh compression stocking after total knee arthroplasty. However, before initiating a randomized controlled trial, steps must be taken to ensure a higher level of compliance.

