

# Negative-pressure wound therapy versus standard dressings for adults with an open lower limb fracture: the WOLLF RCT

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**Disclaimer:** This report contains transcripts of interviews conducted in the course of the research and contains language that may offend some readers.

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## Plain English summary

### The WOLLF randomised controlled trial

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## Plain English summary

An 'open fracture' occurs when a broken bone is exposed to the outside world through a breach in the skin. Open fractures often happen after high-energy trauma such as car crashes, but can also be caused by sports injuries and even simple falls. In an open fracture, the broken bone is at increased risk of infection due to contamination. Infection rates as high as 27% have been reported.

One factor that may affect the risk of infection is the type of dressing applied after the surgery. In this trial, we compared standard wound dressings with a new treatment called negative-pressure wound therapy (NPWT). NPWT is a special type of dressing whereby gentle suction is applied to the surface of the wound. This removes excess fluid and may reduce the risk of contamination.

A total of 460 patients, from 24 specialist trauma hospitals in England, agreed to take part and were assigned at random to receive either a standard wound dressing or NPWT after surgery. We then reviewed the recovery of the patients for 1 year after their injury. We asked the patients to rate the disability they suffered. We also collected information about the patients' quality of life (QoL), details of any wound infections and the cost of their treatment.

### What did the trial find?

There was no evidence of a difference in the Disability Rating Index between those patients treated with NPWT and those treated with standard wound dressings. There was no difference in the rate of wound complications, including infections, nor any difference in health-related QoL during the first year. NPWT did not reduce the cost of treatment.

In conclusion, contrary to previous reports and current surgical guidelines, NPWT does not provide a clinical nor economic benefit for patients with an open fracture of the leg.

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