



Wound Management of Open Lower Limb Fracture: The WOLLF Trial

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Background

Open lower limb fractures at high risk of microbial contamination

- Rates of infection high 27% (Pollack, 2010)
- Usual management: early lavage, surgical debridement, fracture stabilisation +/- bone grafting, wound coverage
- Antibiotic prophylaxis

Negative Pressure Wound Therapy



- NPWT removes wound exudate by active suction
- Changes the bacterial environment, increases oxygenation
- Little evidence for open fractures (Stannard 2009)
- Consensus document (2011) concluded that the evidence base was limited
- Increased use in NHS

Aim of trial



To compare the **effectiveness** and **cost-effectiveness** of NPWT with standard postoperative wound dressings in treatment of wounds associated with **open fractures** of lower limb



Negative Pressure Wound Therapy

versus



Overview



Study Design

Multi-centre, randomised controlled trial (RCT)

Setting

18 Trauma Centres, UK

Sample size

460 patients

Interventions

Standard care vs. Negative Pressure Wound Therapy

Outcomes

Disability Rating Index, SSI, reoperation, QoL, costs

Participants

Inclusion criteria

- Aged 16 years or older
- Present within 72 hours of injury
- Open fracture of the lower limb: Gustilo & Anderson 2, 3 or 3+

Exclusion criteria

- Cannot undergo general anaesthesia /surgery
- Unable to adhere to trial procedures or complete questionnaires

Outcomes

Primary outcome

- Disability Rating Index (DRI)* at 12 months
- VAS, gross movement scale, suitable for different #'s
- Scale: no difficulty _____ great difficulty

e.g. walking, climbing stairs, running etc.

Secondary outcomes

- Surgical site infection @6 weeks, 12 months (Deep SSI)
- Wound healing
- Quality of life SF-12 & EQ-5D
- Resource use

Wound assessment

Observation at 6 weeks postoperatively

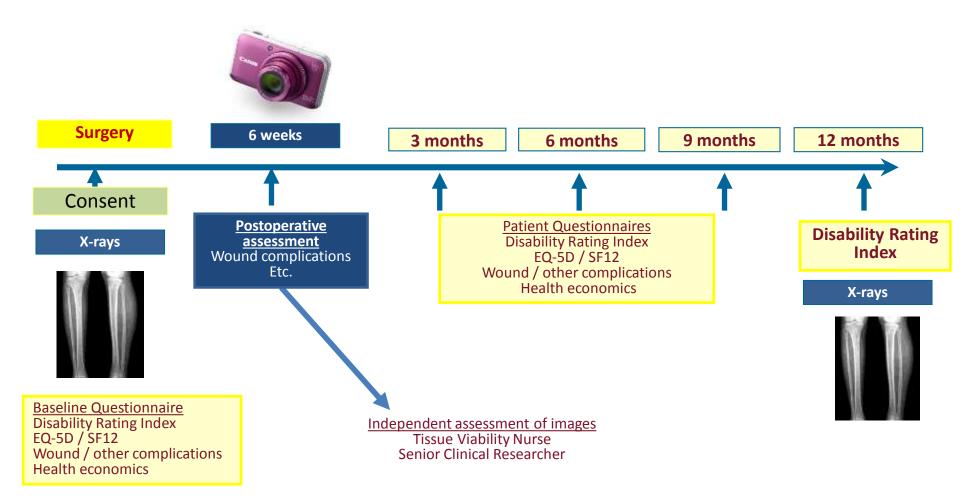
Section	2—	Trial	wound	comr	olications
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1. After surgery, have any of the following wound complications occurred in relation to the **trial wound?** Please go through each, with the patient and **tick all that apply**. (Please ignore pin site infections if the fracture was treated with an external-fixator)

WOLLF wound only	Anytime since surgery	Symptoms present today	No
Is the wound red and inflamed?			
Is the area around the wound swollen?			
Is the area around the wound painful or tender?			
Is there any fluid leaking from the wound?			
If yes, is the fluid pus or cloudy yellow?			
Is the wound gaping open (dehisced?)			
Has a surgeon deliberately opened the wound?			
Any fever of >38°C since the surgery?			
Is there any sign of abscess or infection on direct examination?			
Has a culture swab been taken from the trial wound?			

If a culture swab was taken from the trial wound, please confirm:								
Organism: Date taken (dd/mm/yyyy)								

WOLLF Data Collection



Status

Recruitment closed 10th Dec 2015, n=460





Example images

6 weeks postoperatively – photos by RAs

Images removed

Challenges

Data collection

- Good relationships with patients, long hospitalisations
- Patients traumatised
- All consented for images patient involvement!
- Challenging to use scale if external fixator
- Overall adhered to protocol

Data management

- Range 1 10 images x 460 patients
- Good visual indicator
- Used to supplement decisions re wound infection

Follow-up ongoing.....









Thanks to:

Amy Verdon, Tissue Viability Specialist, University Hospitals Coventry & Warwickshire





- Upper & lower limb trauma

- Closed surgical incisions, N=2000



WE NEED: Major Trauma Centres

Independent Assessment Panel

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