

Research Networks and Major Trauma

What can we achieve?

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Injuries and Emergencies

- Three clinical communities:
 - pre-hospital care
 - emergency department
 - trauma surgery
- What do the patients have in common?
 - ‘time-dependent’...rapid interventions
 - scared, in pain, informed consent?
- Also, gate-keeper role
 - many patients identified in the ED

DRAFFT

ProFHER

AIM

FixDT

WOLFF

SWIFFT

WHIST

UKSTAR

DRAFFT2

AIR



Stakeholders

- Royal College of Emergency Medicine
- UK Orthopaedic Trauma Society
- British Burns Society
- Society for Acute Medicine
- Paediatric Emergency Research in the UK and Ireland
- National Ambulance Research Steering Group

WOLFF

Wound Management of Open Lower Limb Fractures

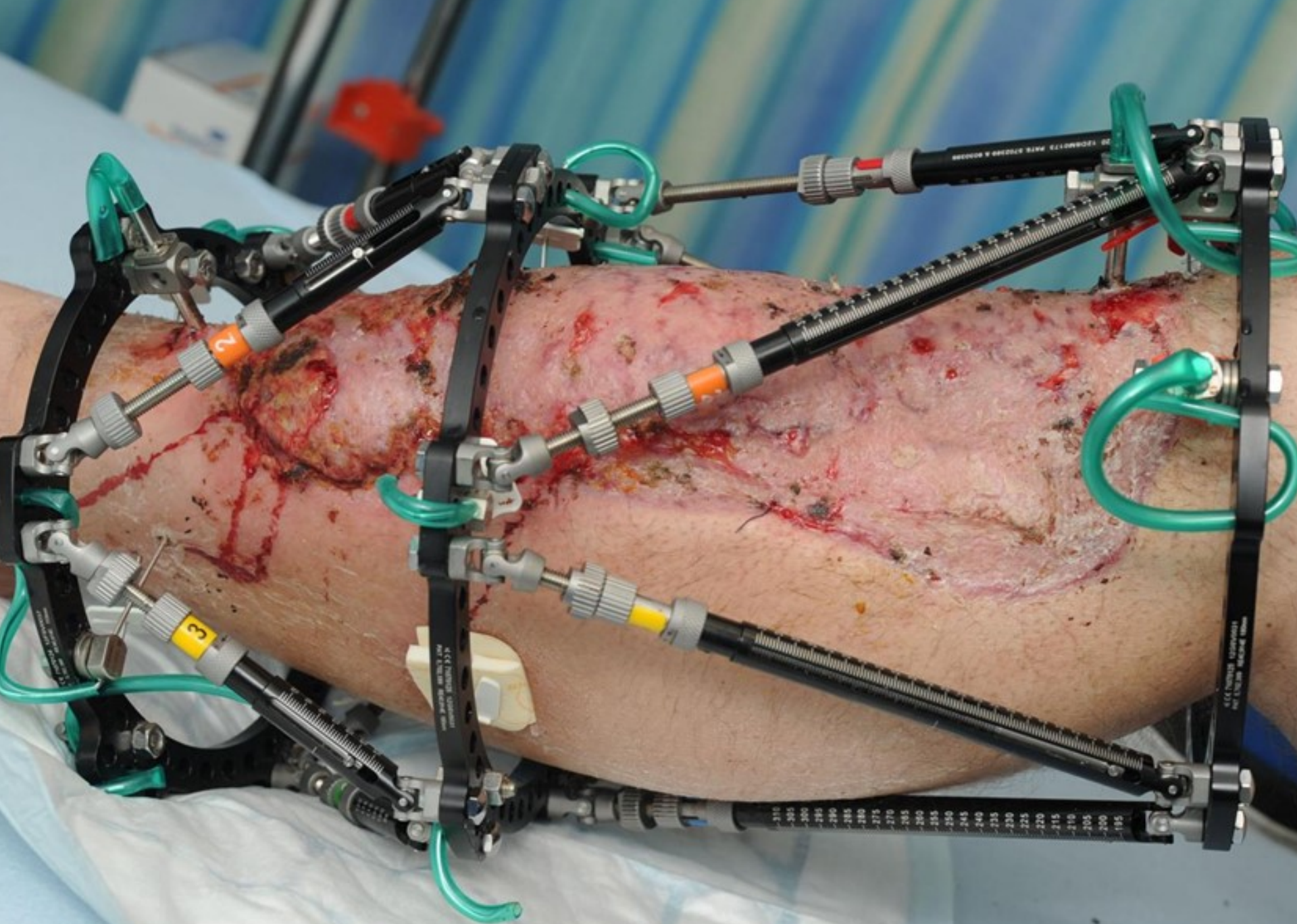
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Department of Health Disclaimer:

The views and opinions expressed therein are those of the authors and do not necessarily reflect those of the HTA, NIHR, NHS or the Department of Health.





Inclusion Criteria

- Aged 16 years or over
- Severe open fracture of the lower limb

Standard care wound management versus negative pressure wound therapy

NPWT



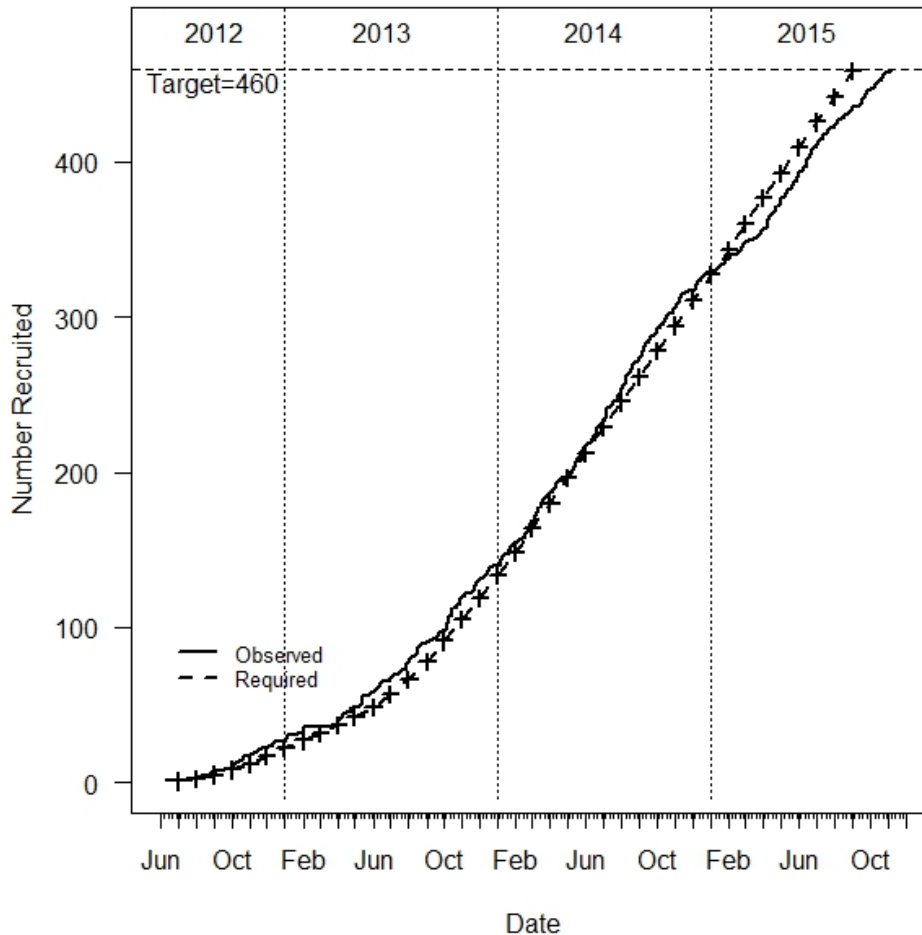
Standard Dressing



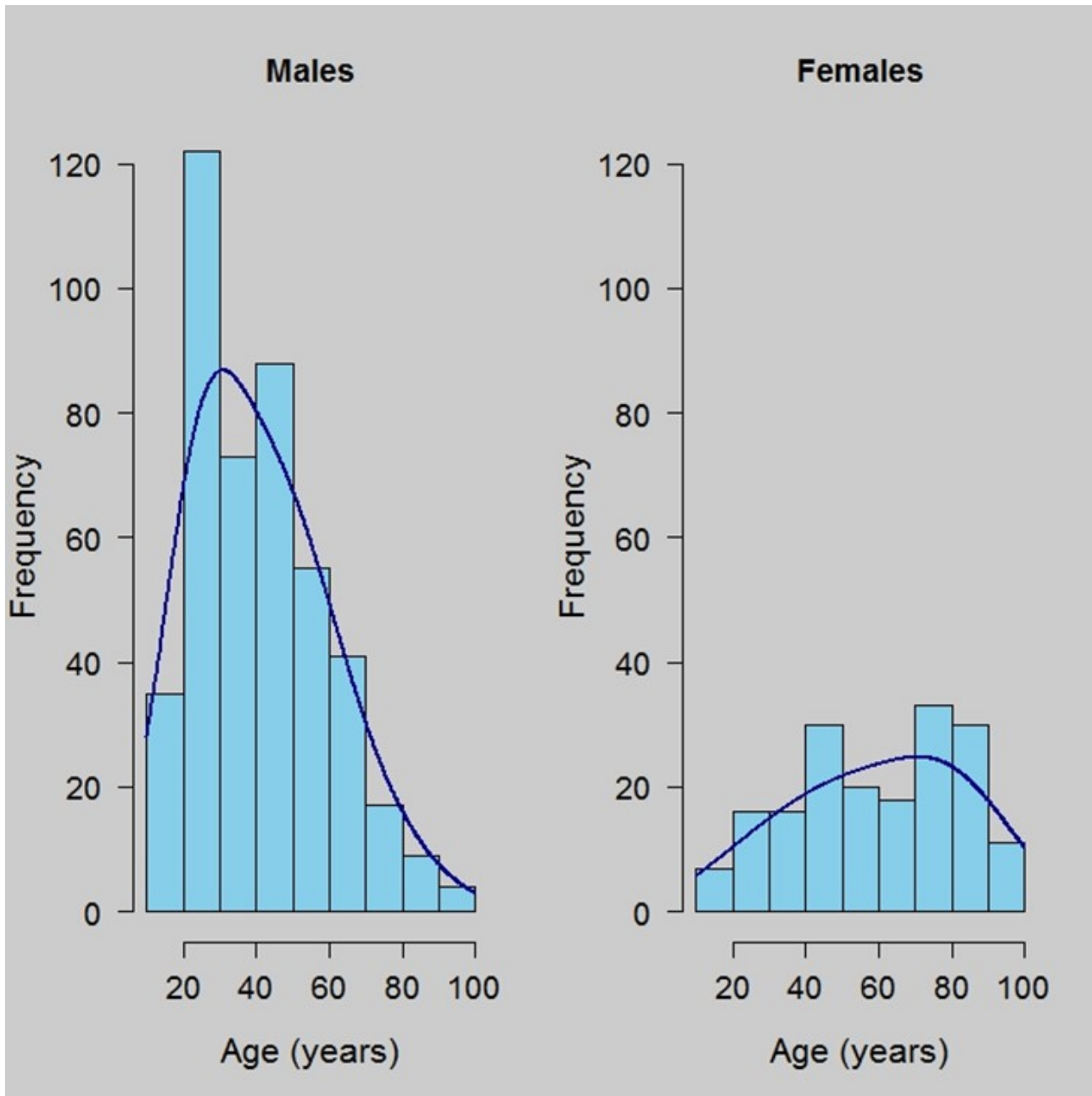
Challenges

- Relatively rare injury
- Patients presenting 24/7
- Emergency surgery required
 - Limited time for consent
- Several specialties involved
 - Prehospital teams
 - Emergency Department
 - Trauma Surgeons
 - Plastic Surgeons

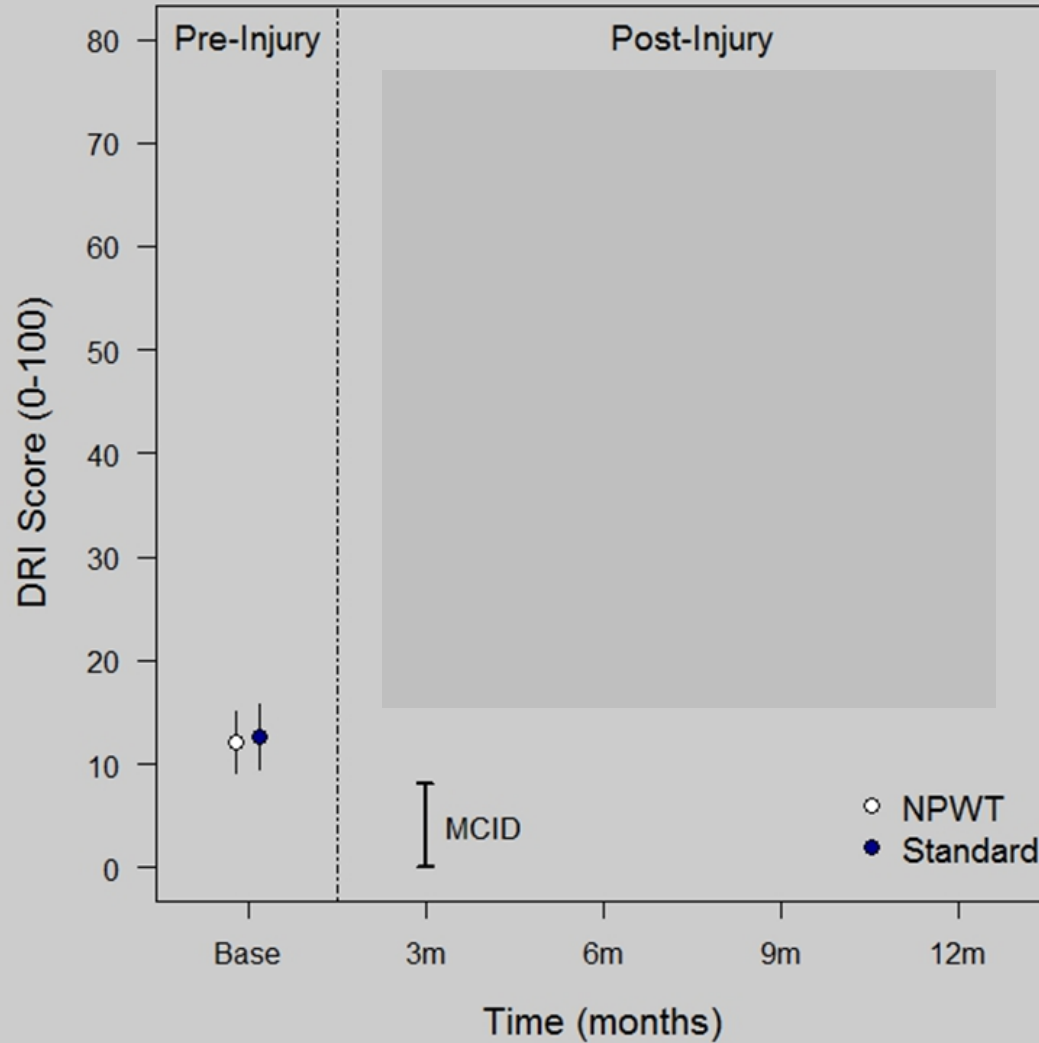
Recruitment (n = 460)



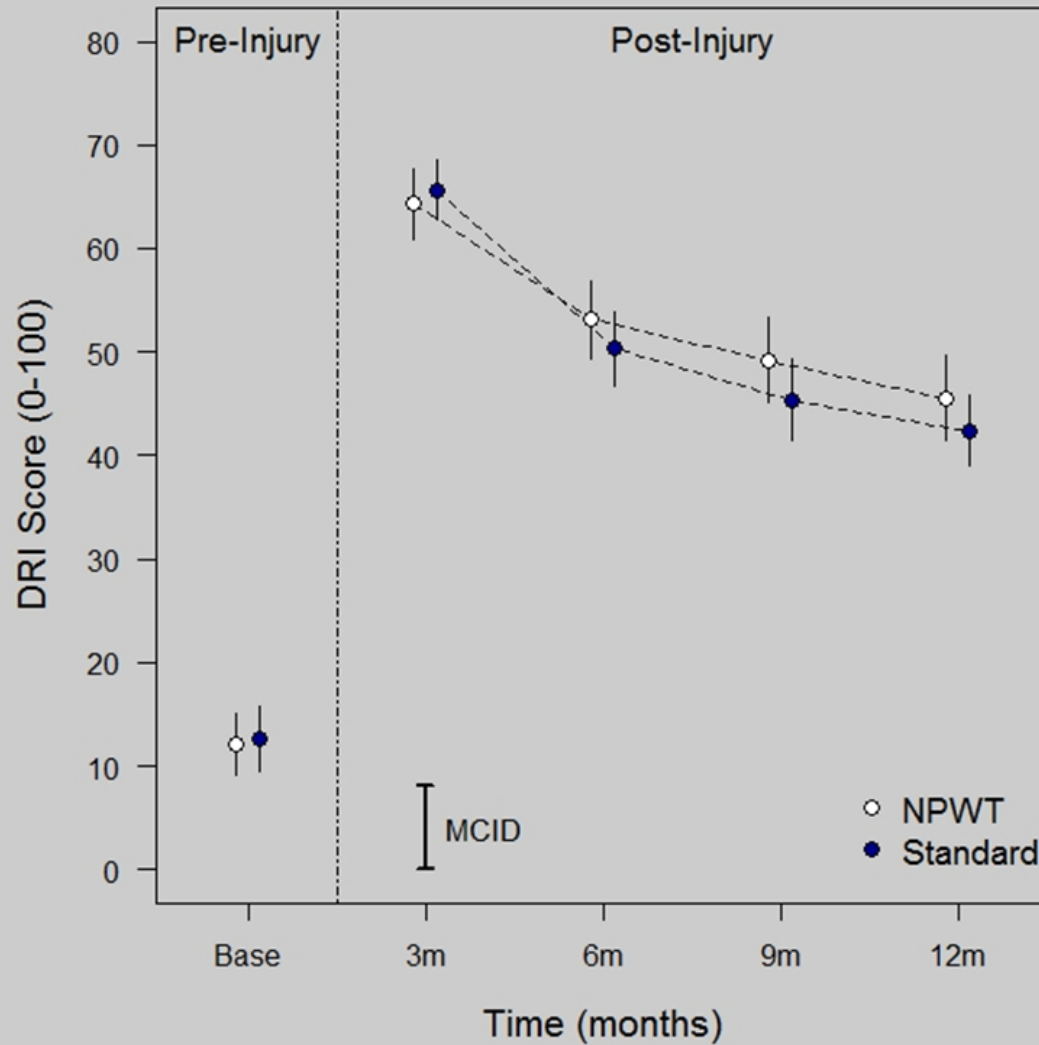
- (1) Royal London Hospital (RLH)
- (2) Poole Hospital (POH)
- (3) Aintree University Hospital (AUH)
- (4) Leeds General Infirmary (LGI)
- (5) Addenbrookes Hospital, Cambridge (ADH)
- (6) University Hospital Southampton (UHS)
- (7) Northern General Hospital Sheffield (STH)
- (8) Queen Alexandra Hospital (QAH)
- (9) Royal Berkshire Hospital (RBH)
- (10) Kings College Hospital (KCH)
- (11) University Hospital of North Staffordshire (UNS)
- (12) Plymouth Hospitals (PLY)
- (13) University Hospital Coventry & Warwickshire (UHC)
- (14) Norfolk and Norwich University Hospital (NNH)
- (15) Queen Elizabeth Hospital, Birmingham (UHB)
- (16) Royal Victoria Infirmary (RVI)
- (17) Royal Derby Hospital (RDH)
- (18) John Radcliffe Hospital (JRH)
- (19) Frenchay Hospital (FRH)
- (20) Hull Royal Infirmary (HRI)
- (21) University Hospital Leicester (UHL)
- (22) Nottingham University Hospital (NUH)
- (23) Royal Sussex County Hospital, Brighton (RSC)
- (24) Morriston Hospital Swansea (MHS)



Results



Results



Infection

- Deep Surgical Site Infection
 - In total 35 of the 460 participants (7.6%) deep SSI
 - 16 (7.1%) in NPWT vs 19 (8.1%) in Standard (p = 0.638)
- **No evidence of a difference in infection rate**

Health economics

- For the initial patient stay, mean costs were higher in the NPWT arm ($p = 0.030$)
- Overall resource use was similar in the two groups
 - c£14,000 (£1,109) in each group
 - Mean cost difference of £77 (95% CI: -£2,114 to £2,925)
- **As there were minimal differences in health-related quality of life, the probability that NPWT is cost-effective is low**

Conclusions

- In the context of a national Major Trauma Network, with combined orthoplastic care
 - Overall infection rate low (7.6%)
- Contrary to current UK and international guidelines:

This trial provides no evidence that NPWT provides a clinical or cost benefit for patients with an open fracture of the lower limb

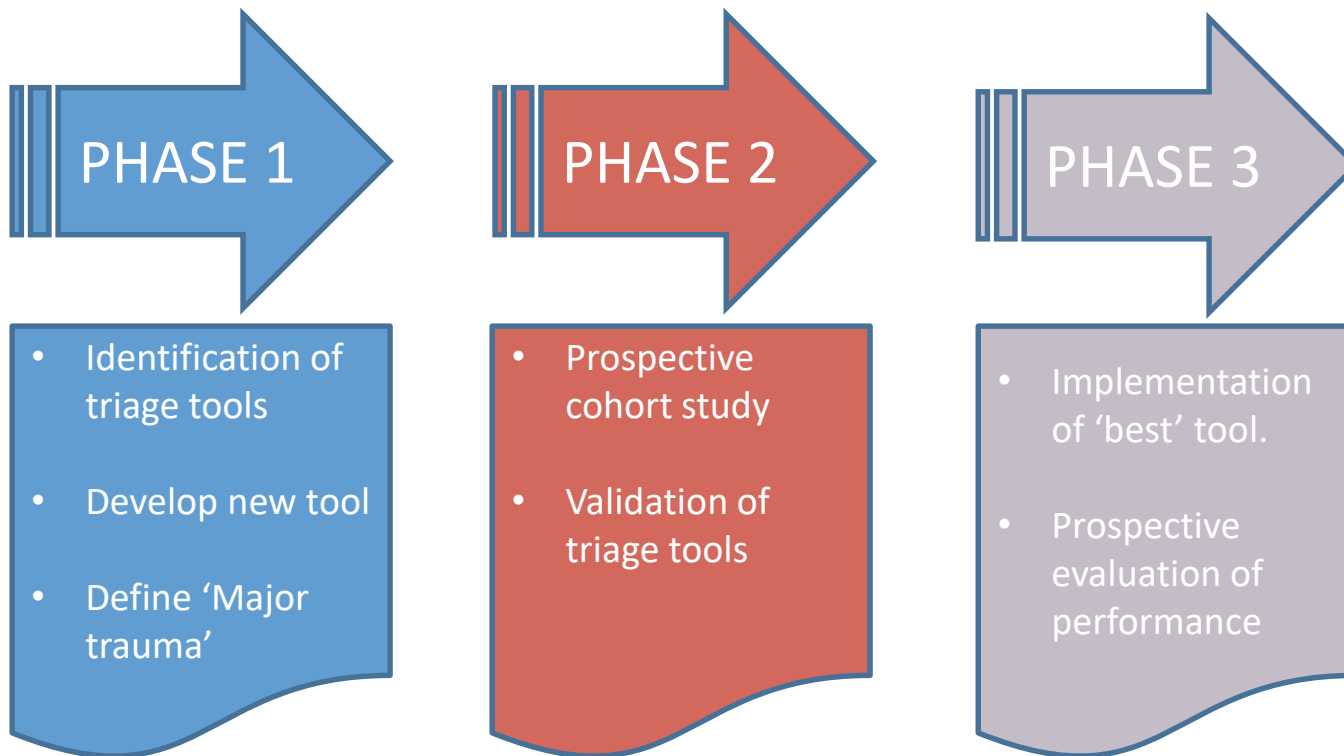
Major Trauma Network

- What we learnt
 - The major trauma network facilitates research
 - Integrating clinical and research staff vital
 - Dedicated research associates (with experience of recruiting patients in a time-limited environment with variable capacity)
- The Network can deliver even the most difficult trials
- And, we've got the best clinical outcomes in the world...



MATTS: Major Trauma Triage Study

Developing the optimal triage tool to identify patients benefiting from MTC care



UK hospitals not YET part of the research network

