TWIST
Tracking Wound Infection with Smartphone Technology

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Aims

• Can a smartphone-delivered questionnaire facilitate the assessment of surgical site infection, and result in earlier treatment? A randomized-controlled trial in emergency surgery patients.

• Primary outcome measure:
  • Time-to diagnosis

• Secondary outcome measures:
  • Service usage
  • Patient experience
  • Reliability of computer algorithm
Background

• Up to 25% of patients will report wound complications such as infection
• Many of these complications mild (only 1% of them require readmission)
• Two-thirds of adults have smartphones, with one-third using smartphone as primary access to internet.
• Increasing interest in Telehealth as an aid to diagnosis and management
Methods

• RCT aiming to recruit 400 patients across RIE and WGH

• Intervention: Smartphone Questionnaire

• Criteria:
  • Inclusion:
    • Emergency Abdominal Surgery
    • Age >16
    • Owner of Smartphone
  • Exclusion:
    • Significant Visual Impairment

In-patient Stay

Participant Recruitment

Intervention Arm (n=200)

Control Arm (n=200)

Open Online Access to wound questionnaire

Wound Questionnaire also delivered at 3 time points

Follow-up at 30 days

Follow-up at 30 days

After Discharge

Follow-up
Intervention group (day 3, 7, 15 + any time within 30 days):
Clinician’s response:

- The clinician reviews the `concern score` calculated from the questionnaire and the photo.
Patient consents to take part in the TWIST Randomised Control Trial

Control arm

30-day follow-up by a blinded clinician

Intervention arm
Questions?

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What is TWIST?
- The TWIST trial is investigating whether a smartphone questionnaire can be used to help diagnose wound infection earlier.

Who can take part?
- We are looking for patients who have recently had (or are about to have) abdominal surgery
- Those taking part would also need a smartphone

For more information:
Contact the Emergency Surgery Nurses on:
07747473249
(or find them on the Surgical Assessment Unit)

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Questions?