
Background
Patient surveys and research have shown that Emergency Department attendees do not receive adequate analgesia. Pain monitoring has not been automated and usually involves a member of staff asking the patient to rate their score with no continuous record, often no specific place to record it and no automated alarm system for scores outside accepted parameters. Few patients have regular monitoring of their pain and our own preliminary research showed that over one week only 58% of patients with moderate to severe pain had a second or subsequent score recorded.

Equipment
A small pain monitoring display has been developed at the University of Leicester and acts as an electronic version of the 11 point numerical rating scale. Data are transmitted to a tablet through a wireless connection. PIMPERNEL (Patient Input Monitoring of Pain in the Emergency Room: Novel Electronic Log) is a feasibility study testing this for the first time.

Objectives
The primary objective is to determine the feasibility of studying the effect of an electronic pain monitoring display on the pain experienced by emergency care patients. Secondary objectives include determining whether patients use the display, whether pain ratings correlate with routine records, how pain changes over time, whether patients use the display for reasons other than pain, which potential stratification factors may be useful for a subsequent multi-centre study and whether analgesia prescription changes. We will also obtain patient and staff feedback.

Inclusion criteria
Adults, initial pain score 5 or more, likely to be staying for at least 2 hours, able to consent and understand English.

Study procedure
We aim to recruit 200 patients (100 per arm) from the emergency department at Leicester Royal Infirmary. All patients will use the display. This is a parallel group, two arm superiority trial with a 1:1 allocation ratio. Patients will be randomised to have their pain score on display (intervention) or hidden (control). Blinding is not possible. The display beeps every 15 minutes to remind patients to enter their pain score. Treatment will not be constrained by study protocol and will depend on the judgment of the treating clinician. The study will continue for up to 6 hours to allow time for the first dose of analgesia to wear off. Data collection will cease when the patient leaves the department. Questionnaires will be given to participants and the staff nursing them.