ARTICLE:
- Citation: Randomized controlled trial of patient-controlled analgesia compared with boluses of analgesia for the control of acute traumatic pain in the emergency department
- Country: Malaysia
- Funding Sources:

PURPOSE:
- Research Question(s):

PCA vs bolus – which is more effective and which results in higher patient satisfaction

- Hypothesis: What is the anticipated outcome or alternatively, the null hypothesis (there will be no difference between groups).

PCA is more effective in relieving pain and would result in higher patient satisfaction

DESIGN:
- Study Design:
  - Randomized controlled trial
- Dependent / outcome Variable(s): What is the variable of interest / outcome being studied.
  - Is there a best strategy when it comes to pain treatment
- Independent / research Variable: What is the variable that is modified among groups?
  - Bolus vs PCA

SETTING / SUBJECTS:
- Research Setting: Inpatient hosp, 2 in Malaysia
- Subjects:
  - Study population: 96 patients
  - Inclusion / Exclusion criteria:
- >18 and <55
- weight >50kg
- pain from trauma (rapid onset and short, severe course)
- VAS score >7

Exclusion
- Age <18 or >55
- Systolic BP <110
- VAS <7
- Chronic pain
- GCS<15
- Patients with learning disabilities or who were blind
- Hx of reactive airway disease
- IVDU

- Number (control / intervention groups): roughly 48 each
- Demographics: doesn’t say race, likely all Malaysian
- Attrition: don’t mention.

METHODS:
- Interventions: PCA vs titration
  PCA vs 1-2mg/min until “patient perceived to be comfortable”
  Titration treatment only followed for 2 hours

- Study Groups: What were the various study groups (eg: control / placebo, intervention 1, intervention 2, etc)
- Instruments:
  - VAS
  - Vital signs recorded as well
- Data Collection: does not say who collected data

DATA ANALYSIS:
- Level of Data: Ordinal
- Statistics Used:
  - Repeated measure analysis of variance, using histograms
- What, if any, variables were controlled for
  - n/a

RESULTS:
- Brief answers to research questions:
Both groups said they achieved pain relief
Better perception of the doctor’s concern regarding pain management (P<0.05)

THE BELOW FINDINGS DON’T HAVE STATS LISTED IN THE PAPER
PCA group experienced a higher degree of pain relief
PCA more satisfied with nursing care

Other possible explanation for findings/Limitations

LIMITATIONS:

THE BIGGEST LIMITATION IS THAT THE MORPHINE BOLUS GROUP WAS NOT GIVEN BASED ON A MG/KG STRATEGY – OF COURSE IT IS GOING TO TAKE LONGER TO TREAT THEIR PAIN

On table 3, they total morphine used between PCA group and Bolus group, the n does not add up to the number of study subjects they had.
This is Malaysia
All study subjects admitted to the hospital (perhaps this means their injuries were more severe).
They were approached and consented before receiving any pain medicine.
after enrolling patients for a whole year, how do you only get 96 people
They claim that the PCA has a reduced incidence of side effects yet do not provide reference to this. How do we safely monitor vital signs prior to a patient giving themselves boluses
They clearly state the PCA is not a set up and forget therapy

IMPLICATIONS FOR PRACTICE:

Applicable to this clinical practice: Is the study population generalizable to the population likely to be affected by this intervention / outcome in your clinical practice? If not, what setting may this be applicable to?

It makes you think, that is good.

Feasible? – Needs more work.

Clinically Relevant: Yes

LEVEL OF EVIDENCE / DECISION FOR USE:

Background Consider Replication Ready for use

Level of Evidence:
Ia Evidence obtained from meta-analysis of randomized controlled trials
Ib Evidence obtained from at least one RCT
IIa Evidence obtained from at least one well-designed controlled study without randomization
IIb Evidence obtained from at least one other type of well-designed quasi-experimental study
III Well-designed non-experimental studies
IV Expert committee reports, opinions of experts