Managing pain in the pre-hospital immediate care setting

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The 16th South Thames Acute Pain Conference
11th November 2010

Introducing BASICS

- British Association For Immediate Care
  - Founded 1977
  - Dr Ken Easton OBE

Professional association

Doctors Nurses Paramedics

Technicians Military Medics CFRs

- Subscription membership
  - Individual
  - Associate
  - Student
- Annual scientific conference
  - Lectures
  - Hands on skill stations

BASICS
BRITISH ASSOCIATION FOR IMMEDIATE CARE

Advisory body and proud parent!

- Royal Colleges:
- JRCALC
- Department of Health
- Home Office

- Community Resuscitation Advisory Council
  - Resuscitation Council (UK)

Education

- A dedicated faculty of volunteer instructors:
  - Pre-hospital Emergency Care Certificate
  - Immediate Care Course
  - Paediatric Emergencies
  - Smart@Scene
  - Emergency Driving
  - Bespoke courses
- UK and International training

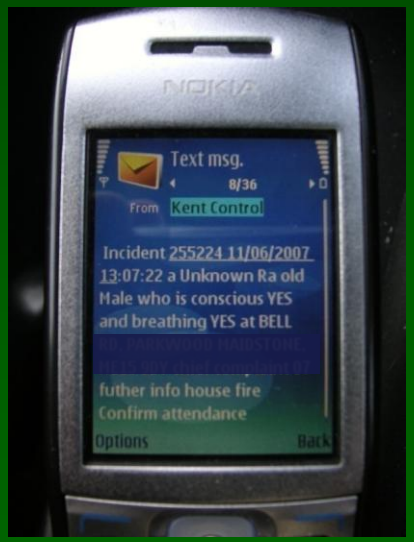
SIMCAS

- South East Coast Immediate Care Scheme
  - Surrey, Sussex & Kent
- Charity
- Providing operational support to SECAmb
  - Doctors
  - Nurses

BASICS
BRITISH ASSOCIATION FOR IMMEDIATE CARE

How does it work

- 999 call
  - Ambulance resources dispatched
  - BASICS activated by SMS/dispatchers
    - Road accident with significant mechanism, rollover, entrapment, ejection or death reported
    - Fall from height
    - Fire, persons reported
    - Paediatric resuscitation
    - Adult resuscitation
    - At request of attending crew/officer
    - Major incident



An example, HGV on M25

- Cab totally separated
  - Tottering on flatbed
  - Given as fatality
  - Conscious casualty – trapped in cab
  - Near bilateral amputation
- On scene
  - LFB & KFB
  - KAT
  - Kent police
  - Highways Agency
  - Mobile medical team

The outcome

Some thoughts on pre-hospital analgesia

"Patients were not always perceived by the participants to be honest when describing their pain and this was one of several reasons influencing the decision not to administer analgesia"

Jones G, Machen I (2003)

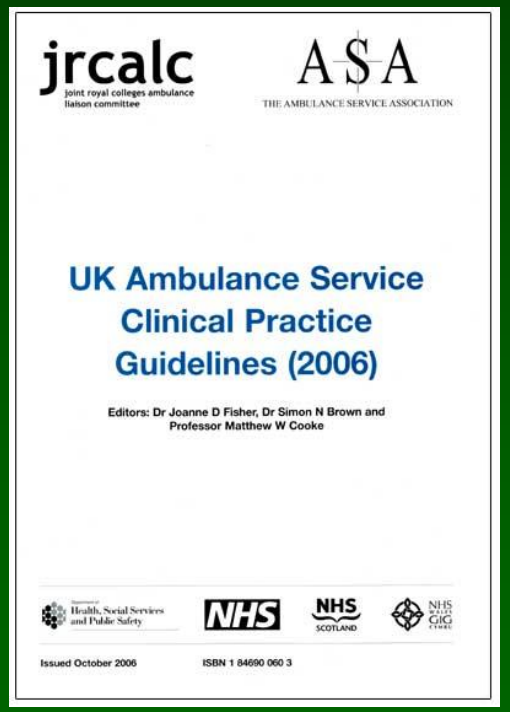
Children

"Paediatric patients seldom need medication for the relief of pain. They tolerate discomfort well."

Swafford L, Allen D (1968)

JRCALC Guidelines

- Pain control in pre-hospital care inadequate
- Early pain control does not affect diagnostic efficacy
- Multi-dimensional construct
- Suitable expertise should be sought
  - Paracetamol
  - Ibuprofen
  - Nitrous oxide
  - Morphine
- Pre-hospital paediatric pain scales not validated



Case study

- 16y old male
- Rugby injury
  - pedal pulse

Pain control; a multi-dimensional construct

- Fear
- Direct causes
- Structural damage
- Structural instability
- Movement & transport

- Underlying condition
- Haemodynamic status
- Immediate treatment needs
- Time to travel
- Mode of travel
- Potential complications
- Team capabilities

Pre-hospital analgesia

"The relief of pain is an essential component of prehospital care and, when required is usually administered on completion of the primary survey. For simple analgesia morphine sulphate titrated to the clinical response and preceded by an antiemetic is usually effective, for example, in the relief of pain in chest trauma or myocardial infarction. For patients with multiple injuries and for those patients requiring manipulation and splintage of fractures and for entrapments and difficult extrications ketamine is a safe and effective option, which avoids the potential decrease in blood pressure and respiratory depression that is associated with opioid analgesia."

Porter K (2005)

Ketamine

- Proven and versitile pre-hospital choice
  - Anaesthesia
  - Procedural sedation
  - Analgesia
- London HEMS Study Bredmose P, Lockey D, Grier, G et al (2009)
  - Analgesia & procedural sedation
  - 1030 adult patients (16 - 94y, mean age 34y), 75% male
  - 265 (26%) trapped
  - mean dose 45mg
  - No airway compromise
    - 6 (0,7%) SpO2 lowered - not critical & related to other causes

- First synthesized in 1962
  - Ketamine is structurally similar to phencyclidine.
- blocks the excitatory neurotransmltter glutamate at N-methyl-D-aspartate receptors.
  - Clinically, ketamine disconnects the thalamus from the neocortex
  - Induces a "dissociative" state, in which patients cannot see, hear, or feel any sensations
- Combined with simultaneous depression of the cortex
  - Trance-like state in which patients have profound analgesia, sedation, and amnesia.

Once dissociated, a patient will not respond to pain regardless of the procedure performed. A provider can perform an arm amputation or a simple laceration repair

Guldner, GT, Petinaux, B, Clemens, P et al (2006)

Back to the drawing board?

- Male, 22y
- M/C vs car
  - Reduction of femur
  - 15m onward travel by helicopter

Case study

- 52y Male
- M/C vs car
  - no pedal pulses
  - foot disarticulated

Burns

- 62y Male
- Farmer
  - explosion
  - Upper body +++

Thank you . . .

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