Procedural Pain Management

Acute Pain Management Service
2010

Introduction
- Wounds come in a variety of forms; vary from acute wounds e.g. burns to chronic wounds e.g. venous leg ulcers
- Insufficient attention is still given to comprehensive acute pain assessment & management.
- Evidence patients don’t “get used to pain”, rather procedural anxiety increases over time, increasing the patients pain (Summer et al 2007)
- Unrelieved pain contributes to chronic pain and psychological distress and are more likely to develop post-traumatic stress disorder (Summer et al 2007) (RAC’S 2005)
- Pain in chronic wounds may interfere with every aspect of elderly quality of life & function, disturbing sleep, self care & can cause anxiety & depression (Benbow 2009).
- Specific groups are particularly high risk; infants, children, elderly, chronically ill, cognitively impaired, unconscious (McCaffery 1999,)

Effect of Pain on Wound Healing
- Pain adversely affects wound healing as it causes vasoconstriction which reduces blood flow which over time will impede healing (Benbow 2009)
- Psychological stress may slow wound healing and alter immune function (Kiecolt-Glaser 1995)

Recognition of procedural pain
- Staff prioritise medical rather than psychosocial aspect of care (Fagerhaugh & Strauss 1974)
- Acceptance of pain to optimise wound healing (Madjar 1998)
- Knowledge & resources to deliver pain relief but many studies show that this does not occur (Berry & Dahl 2000)
- Beginning to move away from warning patient “this will hurt” to more empathetic & conservative approach to wound management (Benbow 2009)

Current beliefs & misconceptions
- There is not enough time available to provide analgesia before procedures. Most procedures are over before the analgesia can take effect
- If the procedure is brief, the pain will be brief & tolerable
- Caregivers know the procedure is painful & do all they can to relieve the pain (Pasero & McCaffery 1999)

Is procedural pain inevitable or acceptable?
- Poor pain management unethical, clinically unsound, economically wasteful. (Phillips 2000)
- Adequate local and/or parental analgesia should be provided during any noxious procedure (Acute Pain Management: Scientific Evidence, 2005)
- Guidelines now available (Wound Union of Wound Healing Societies Initiative, 2008)
Barriers to Adequate Analgesia

- Not enough research about the degree of pain associated with procedures.
- Desensitization of health professionals to frequently performed procedures.
- Lack of awareness of the patient’s pain and distress of these procedures.

Features of Wound Pain

- Complex & can be difficult to assess as it affects individuals in different ways.
- Pain is an experience generated within the brain by different combinations of physical & psychological factors.
- Descending nerve pathways can modulate incoming pain signals but anxiety & depression can inhibit this action (Benbow 2009).

Types of Pain

- **Nociceptive** – an appropriate physiological response to a painful stimulus.
  - Descriptors – Gnawing, Aching, Throbbing, Tender
  - (WUWHSI 2008)

- **Neuropathic pain** – an inappropriate response caused by a primary lesion or dysfunction in the nervous system –most frequently nerve damage, eg diabetic ulcer.
  - Descriptors – Burning, Stinging, Shooting, Stabbing.
  - Adjunctive therapies maybe helpful eg antidepressants & anticonvulsants (WUWHSI 2008)

An individual’s response to their next procedure is defined by the previous experience of that procedure.

Anxiety and anticipation of pain more than psychological.

- Activation of cholecystokinin (crucial role in pain transmission).
- Brain cortex activation as identified by neuro-imaging studies.
- Anxiety reduces descending inhibition signals allowing pain access through gate control mechanism.
Pre-empting Wound Pain

- The majority of patients feel that pain is most intense during dressing change (WUWHSI 2008).
- Woo et al examined pain, anxiety, anticipatory pain in 96 chronic wound patients.
  - Cleansing and dressing removal were most painful.
  - Higher the anxiety pre dressing change, higher anticipatory pain and more intense pain expressed.
- Inadequate analgesia for initial procedures in young children may diminish the effect of adequate analgesia in subsequent procedures (Weisman et al 1998).
- Control any background pain and consider what additional analgesia will be needed to cover procedural pain.

Assessment should always involve the patient.

- Greater patience and understanding is required when dealing with non-communicative young children, the frail elderly or cognitively impaired.
- Age, culture and differences in the interpretation of pain or words used to describe it make it difficult to empathise with patients, especially if the pain reported appears to be out of proportion to the perceived stimuli.
- At the very least, the patient’s feelings should be believed and respected.

An unacceptable level of background pain or uncontrolled pain during or after dressing changes may necessitate a change in management.

Individual pain score goals set with patient...

- Pain rated as ‘moderate’ or scores above 4 (on a scale of 1–10).
  - "time out" breaks, top-up and/or improved maintenance analgesia.
  - Review of the current dressing or procedural technique used.
- Pain rated below 4 (or below 40% of the range) may indicate a level of discomfort that is acceptable, with no lingering pain.
Pre – procedure Preparation (RAC's 2005)

- Adopt a patient centred rather than procedure centred approach “get it over and done with”
- Talk about their pain and concerns with procedure.
- Allow active participation rather passive ie patient sit up if possible, take own dressing off, call Time outs.
- Is this procedure necessary/is it urgent?
- Staff need to be aware of own unresolved tensions related to pain & ensure not projected onto patient.
- Need to effectively coach patients with coping behaviours

Helpful coping behaviours

- Positive non – procedural talk eg favourite place, activities
- Distraction methods – music, TV
- Breathing techniques
- Factual information of what is going to happen and sensory information of what sensations they will feel eg pulling, tugging, stinging like a bee.

Unhelpful staff behaviours that ↓ patient coping (RAC's 2005)

- Reassuring comments - It’ll be alright, just relax
- Empathetic comments – I know it’s hard
- Apologising – I’m sorry you have to go thru this
- Criticizing – other people seem to cope with this
- Bargaining – I’ll get you a play station if …..
- Catastrophising & becoming agitated

All these behaviours focus attention on the threatening & painful aspects of the procedure, increasing patient distress.

Analgesia Options to consider

- Ideally rapid onset, rapid offset
- Analgesia/sedation needed to be matched with level of available monitoring
- WHO analgesic ladder
- Local Anaesthetics
- Entonox
- IV increments/ PCA
- Sedation eg midazolam
- Oral Ketamine & midazolam
- Sucrose

THE WHO ANALGESIC PAIN LADDER

- **STEP 1**: Non-opioid ± adjuvant eg panadol, brufen
- **STEP 2**: Opioid for mild to moderate pain (± non-opioid/adjuvant) e.g Tramadol, codeine
- **STEP 3**: Opioid for moderate to severe pain (± non-opioid/adjuvant) e.g Morphine, Tramadol.
- Depending on the pain assessment it may be appropriate to start at a higher step.

Local Anaesthetics

- Soak dressing or gauze with 10mls of 1-2% Lignocaine or 0.5% Marcain (plain)
- Allow to soak 20 to 30 minutes
- May be repeated up to 2-3 times/day
  (Verbal communication Hamish Horton, Anaesthetist, Acute Pain Management Service Chch Hospital Oct 2008).
**entonox**

Odourless colourless gas 50:50 oxygen nitrous mix. Rapid onset - offset. Prescribed and used in clinical areas with emergency equipment available. Staff trained to administer. Contraindications apply.

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**IV Increments & PCA**

- Useful if patient can preload prior to procedure
- +/- Concurrent oral sedation
- Limited as usually lock out of 5mins
- Procedural prescription may be useful, ie adding ketamine, reducing lockout.
- Longer half-life than nitrous

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**Sedative Agents & Ketamine**

- **Midazolam**: benzodiazepine. Oral or I.V.
  - PAEDS: 0.1-0.2mg/kg/IV. Or 0.3-0.5/mg/kg/oral max15mg.
  - ADULTS: 1-2.5mg I.V (caution in elderly) Oral 5-7.5mg.
  - Short-acting, sedative, amnesic, anxiolotic effect.
  - Reversal agent: flumazenil (anexate).
- **Ketamine**: NMDA receptor antagonist. Initially developed as a dissociative anaesthesia.
  - PAEDS: 5-10mg/kg oral or 2mg/im.
  - ADULTS: IV or added to PCA 1mg/1ml opioid (opioid sparing effect).
  - 10-20mg titrated IV. (less in the elderly).
  - Combined with midazolam and quiet environment, helps reduce side effects (nightmares /hallucinations/agitation).

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**sucrose**

- Useful for short procedures on infants under 3months.
  - Maximum 2ml. (0.5ml, for infants below 1500 grams) administered orally for each procedure.
  - Two minutes prior to a painful procedure, administer a small amount (around 0.25ml) of sucrose onto the infant's tongue. Offer a dummy if this is part of the infants care.
  - Continue giving remainder of sucrose slowly during the procedure for a total dose of 2ml, until the procedure is completed. (Royal Children's Hospital Melbourne)
  - Usually prescribed.

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**WUWHSI 2008 Consensus Statements**

- Identify & treat cause of the wound & address concerns of the patient and family.
- Evaluate and document pain intensity & characteristics (before, during & after dressings)
- Cleanse wound gently and avoid the use of abrasive wipes & cold solutions
- Select most appropriate method of wound debridement
- Choose dressings that minimise trauma/pain during application & removal

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**Consensus Statement**

- Treat local factors that may induce wound related pain and inhibit healing
- Evaluate individuals need for pharmacological & non-pharmacological analgesic interventions
- Involve and empower patients to optimise pain management
Summary

- Healthcare providers should ensure procedure related pain control for every patient
  - Acknowledge patient
  - Individual desire to improve patients pain
  - Part of every day practice
  - Ask/Report/Act
  - Monitor response
  - Work as a team
  - Some procedures require GA

Institutional Accountability

- Presence of analgesic policies improves patient outcomes (Sheridan 1997)
- Development of learning packages for staff (Martin-Herz 2003)
- Ongoing audit identifies analgesic policy strengths/weaknesses.

References