Improving Analgesia in Emergency Departments: Optimising Use of Pethidine

A Multi-centre DUE Project

Coordinated by NSW Therapeutic Assessment Group
Funded by National Institute for Clinical Studies
Evidence-based Guidelines:

Pethidine is not the strong analgesic of choice in Emergency Departments.
NHMRC: 

Acute Pain Management: scientific evidence (1999)

Emergency medicine

- Morphine and fentanyl preferred
- Pethidine provides no advantages and many disadvantages
- Early analgesia does not reduce detection rate of serious pathology
NHMRC:

Acute Pain Management: scientific evidence (1999)

Renal colic

- Parenteral NSAIDs better than opioids
- Rectal NSAIDs as effective as parenteral NSAIDs
Therapeutic Guidelines:


Biliary colic, pancreatitis

- NSAIDs effective in biliary colic
- Use morphine iv or NSAID (pr or im)
- Consider smooth muscle relaxants eg hyoscine-n-butylbromide
- No evidence for preferential use of pethidine
NSW TAG Pain Guidelines:

Chronic or recurrent pain (2002)

General principles

- Consider non-opioids first
- If opioids required for chronic pain: use oral route
- Only use injectable opioids for severe acute pain unrelated to existing chronic pain eg fracture, MI. Morphine preferred
- Don’t withhold analgesia if clinically indicated
- Consider pain management plan with patient
- Communicate with GP / pain team
- Treat pain effectively – don’t underdose
NSW TAG Pain Guidelines: *Chronic or recurrent pain (2002)*

**Low back pain**

- Stepwise approach to **short-term analgesia**:
  - *Paracetamol or aspirin*
  - *NSAIDs (oral / rectal / im)*
  - *Weak opioids (codeine, tramadol)*
- If strong opioids required, use oral route
- Investigate appropriately (not excessively)
- Encourage early return to normal activity
- Explain condition and promote self-management with non-pharmacological approaches
- Communicate with GP
NSW TAG Pain Guidelines:

Chronic or recurrent pain (2002)

Migraine

- Treat **early** with previously effective anti-migraine therapy:
  - *Paracetamol or aspirin*
  - *NSAIDs (oral / rectal / im)*
  - *Triptans, ergotamine*
- Consider chlorpromazine & rehydration in ED
- If treated early, strong opioids not required
- Treatment failures: morphine iv
- Encourage patient self-management for future
- Promote use of pain diary / pain management plan
- Communicate with GP
Dependence, tolerance, addiction

**Physical dependence**
- Altered physiological state whereby repeated dosing necessary to prevent withdrawal
- Related to tolerance with opioids

**Tolerance**
- After repeated doses, larger doses are required to obtain same effect
- May occur with as little as 1 week therapy

**Addiction**
- Behavioural pattern characterised by cyclical craving for and overwhelming involvement with drug use and procurement, with a high tendency to recidivism
- Not a problem with correct use of opioids
Is there any place for pethidine?

“Morphine allergy”
- True allergy is rare
- Pretreat with metoclopramide to prevent morphine induced vomiting
- Use fentanyl or give slow I.V. morphine and monitor

“Nothing else works”
- Accurate pain history vital
- Consider parenteral NSAIDs, morphine, fentanyl and/or adjuvants (depending on circumstances)
- Use effective dose of alternative analgesic(s)
Is there any place for pethidine?

“My doctor says I should have pethidine”

- Explain ED policy
- Offer to contact usual doctor to discuss
- Review any existing management plan and discuss with prescriber
- If pethidine is inappropriate, discuss with usual doctor
- Use effective dose of alternative analgesic(s)

Demanding / threatening patient

- Explain ED policy
- Use effective dose of alternative analgesic(s)
Is there **any place for pethidine?**

"The surgical registrar said ...."  
- Hospital teams need an agreed approach  
  eg  If patient admitted under another team which requests administration of pethidine, a prescriber from that team must come to ED and write the order

"Specialist pain service advice not available"  
- Discuss with local pain expert, eg anaesthetist
Is there any place for pethidine?

Patient presents written management plan from their specialist

- If a management plan calling for pethidine has been drawn up with an appropriate specialist:
  - follow the plan
  - then refer patient for follow up
Case 1

A 36 year old female bank manager attends the emergency department with a severe, pounding headache which she has had for the past 2 hours. She has a history of intermittent migraine occurring once or twice each month. Her current headache is of similar character to her usual migraine and was heralded by visual blurring and photophobia, nausea and vomiting. She has taken paracetamol with codeine without effect. She reports that an injection generally settles her headache quickly. On examination her pulse is 90 bpm, BP is 140/89, she is afebrile, nauseated and vomiting. She has no neck stiffness, and her neurological exam is normal.

What therapy would be appropriate?
Case 2

A 50 year old man with long history of renal colic presents with pain typical of his previous attacks. He complains of left loin pain and tenderness with radiation of the pain to his left groin and testicle. He is complaining of severe pain in the loin, with vomiting, claminess and he is distressed. On examination his pulse is 100 bpm, BP is 150/90, he is afebrile. His abdomen is soft without masses or organomegaly. Urinalysis is positive for blood. He is requesting a pethidine injection as he says this is the only thing that works when he comes to hospital. Paracetamol and codeine have been ineffective. He reports that he is allergic to morphine.

How should he be managed?
A 45 year old man presents following an MVA with left sided rib fractures, fractured left tibia and left wrist. He is haemodynamically stable. He has a background of chronic back pain requiring regular morphine SR and NSAIDs for the past 2 months.

What issues need to be considered when prescribing his analgesia?