Pethidine: Gap Between Evidence and Practice

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## Practice

Pethidine continues to be prescribed for analgesia in Emergency Departments

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Pethidine units issued to ED</th>
<th>Pethidine units issued overall</th>
<th>Percentage ED/total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>950</td>
<td>5,813</td>
<td>16.3%</td>
</tr>
<tr>
<td>B</td>
<td>0</td>
<td>320</td>
<td>0.0%</td>
</tr>
<tr>
<td>C</td>
<td>121</td>
<td>2,149</td>
<td>5.6%</td>
</tr>
<tr>
<td>D</td>
<td>140</td>
<td>445</td>
<td>31.5%</td>
</tr>
<tr>
<td>E</td>
<td>3,304</td>
<td>8,660</td>
<td>38.2%</td>
</tr>
<tr>
<td>F</td>
<td>290</td>
<td>2,933</td>
<td>10.0%</td>
</tr>
<tr>
<td>G</td>
<td>340</td>
<td>2,693</td>
<td>12.6%</td>
</tr>
<tr>
<td>H</td>
<td>460</td>
<td>3,260</td>
<td>14.0%</td>
</tr>
<tr>
<td>I</td>
<td>400</td>
<td>2,641</td>
<td>15.1%</td>
</tr>
<tr>
<td>J</td>
<td>640</td>
<td>2,690</td>
<td>24.0%</td>
</tr>
<tr>
<td>K</td>
<td>255</td>
<td>2,865</td>
<td>8.9%</td>
</tr>
<tr>
<td>L</td>
<td>502</td>
<td>4,330</td>
<td>11.6%</td>
</tr>
<tr>
<td>M</td>
<td>370</td>
<td>1,080</td>
<td>34.0%</td>
</tr>
<tr>
<td>N</td>
<td>137</td>
<td>2,764</td>
<td>5.0%</td>
</tr>
<tr>
<td>O</td>
<td>105</td>
<td>1,345</td>
<td>7.8%</td>
</tr>
<tr>
<td>P</td>
<td>115</td>
<td>905</td>
<td>12.7%</td>
</tr>
<tr>
<td>Q</td>
<td>200</td>
<td>2,190</td>
<td>9.0%</td>
</tr>
<tr>
<td>R</td>
<td>389</td>
<td>2,224</td>
<td>17.5%</td>
</tr>
</tbody>
</table>

**Average:** 15.2%

*Pethidine prescribing: July–September 2001*
Evidence

Pethidine is not the strong analgesic of choice in Emergency Departments
In emergency medicine

Pethidine:

- has a shorter duration of action but no additional analgesic benefit over morphine
- has just as many side-effects as morphine including increased biliary pressure
- is metabolised to norpethidine with potential toxic effects (e.g., convulsions), especially in patients with renal dysfunction
In **emergency medicine**

Pethidine:
- is associated with potentially serious drug interactions
- is the drug most commonly requested by patients seeking opioids
- is the drug most commonly abused by health professionals.
Evidence-based Guidelines

National Health and Medical Research Council
Acute Pain Management: scientific evidence (1999)

In renal colic
- Parenteral NSAIDs better than opioids for renal colic
- Rectal NSAIDs as effective as parenteral NSAIDs in renal colic

Note: Early analgesia does not reduce detection rate of serious pathology, eg acute abdomen
In renal colic / biliary colic or acute pancreatitis

- No evidence for preferential use of pethidine
- NSAIDs effective in biliary colic
- NSAIDs more effective than opioids in renal colic
- Use morphine iv or NSAID (pr or im)
- Consider smooth muscle relaxants in renal / biliary colic (eg hyoscine-n-butylbromide)
Evidence-based Guidelines

NSW Therapeutic Assessment Group (NSW TAG)

- 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

Notes:
- Don’t withhold analgesia if clinically indicated
- Consider pain management plan with patient
- Communicate with GP / pain team
- Treat pain effectively – don’t underdose
Dependence, Tolerance and Addiction

- **Physical Dependence**
  - Altered physiological state whereby repeated dosing is 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
Evidence-based Guidelines

NSW Therapeutic Assessment Group (NSW TAG)

- In low back pain
  - Stepwise approach to short-term analgesia:
    - Paracetamol or aspirin
    - NSAIDs (oral / rectal / im)
    - Weak opioids (codeine, tramadol)
  - If strong opioids required, aim for oral route
  - Note:
    - Investigate appropriately
    - Encourage early return to normal activity
    - Explain condition and promote patient self-management with non-pharmacological approaches
Evidence-based Guidelines

NSW Therapeutic Assessment Group (NSW TAG)

- **In 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 should not be required. For treatment failures: morphine iv
  - Encourage patient self-management for future
  - Promote use of pain diary and pain management plan
  - Communicate with GP
EDs can survive without pethidine:
- Central Coast (Gosford Hospital)
- St Vincent’s Public
- Orange Base
- St George
- Tweed Heads

have all implemented
“no pethidine in ED” rule