Perioperative opioid deprescribing

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THE PREOPERATIVE ASSOCIATION NATIONAL CONFERENCE | 4TH MARCH 2024
Declarations of interest

- No financial interests

- Professional interest:
  - I run a clinic for patients with chronic pain and prescribed opioid dependence
  - and have a BRC grant to investigate best support for their opioid weaning
Opioid deprescribing

- **After surgery**
  - *for all patients* as pain decreases and to protect against opioid complications:
    - OIVI
    - PPOU
    - Diversion
    - Overdose

- **Before surgery**
  - *for patients on pre-op opioids* to reduce the incidence of surgical complications
Deprescribing opioids after surgery
An international multidisciplinary consensus statement on the prevention of opioid-related harm in adult surgical patients

N. Levy, J. Quinlan, K. El-Boghdady, W. J. Fawcett, V. Agarwal, R. B. Bastable ... See all authors

Surgery and Opioids: Best Practice Guidelines 2021
Opioid stewardship

Co-ordinated interventions designed to improve, monitor, and evaluate the use of opioids in order to support and protect human health.

Components include:
1. Recognising the risk of opioid-related harms
2. Educating patients and healthcare providers
3. Creating realistic patient expectations
4. Use of multimodal analgesia
5. Controlled prescribing
6. Early referral to pain specialists

Risks of peri-operative opioids

- Persistent postoperative opioid use (PPOU) - approx 10% @ 6 months
  - patients taking any opioids prescribed for postoperative pain for longer than 90 days after surgery
  - Risk factors include pre-op opioids, anxiety, long-acting opioids

- Opioid-induced ventilatory impairment (OIVI)
  - type-2 respiratory failure associated with opioid administration and high arterial partial pressures of carbon dioxide with or without hypoxaemia
  - Risk factors include long-acting opioids, co-preservation with sedatives

- Opioid diversion
  - To family, friends, others

- Drug driving
Pre-operative clinic

Patient education

- Realistic expectations around pain after surgery
- Information about multimodal analgesia (including non-pharm techniques), the physiology of pain and risks and side effects of opioids
- How to wean analgesia, and how to safely store and dispose of opioids

Identification of high-risk groups for PPOU

- Pre-op opioids
- anxiety
- depression
Immediate post-operative period

- Subjective and functional pain scoring
- Multimodal analgesia with opioid-sparing
- Focus on functional recovery with strong opioids used as immediate-release only to facilitate physio etc
Pain assessment

- **Verbal descriptors**
  
  At rest: measure of comfort
  - None = 0
  - Mild = 1
  - Moderate = 2
  - Severe = 3

  On movement: measure of function
  - No action needed
  - Paracetamol / NSAID
  - Weak opioid / oramorph
  - Oramorph / iv morphine

- **Functional pain score**

<table>
<thead>
<tr>
<th>Functional activity scores</th>
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<tbody>
<tr>
<td>FAS A: no functional limitation due to pain</td>
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<tr>
<td>FAS B: patient able to deep breathe but with moderate to severe pain</td>
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<tr>
<td>FAS C: patient unable to deep breathe due to pain</td>
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</table>
NSAIDs: reduce prostaglandins in inflammatory soup

Paracetamol: Central action on prostaglandins, anandamide, TRPA1

Tramadol: Action on opioid receptors and 5-HT pathways

Clonidine: Enhances descending NA pathways

Local anaesthetic blocks: Block Na+ channels preventing neuronal transmission

Opioids: Act on mu and other opioid receptors in spinal cord and brain stem

Ketamine: Block spinal NMDA receptors and reducing Ca²⁺ influx

Multimodal analgesia
Mean pain score in the first 3 post op days after THR and TKA on movement and at rest

Variations in acute pain

- Pain at rest
- Pain on movement

Drugs:
- Paracetamol
- NSAID
- Weak opioid

Time
Immediate-release opioids in acute pain
Modified-release opioids in acute pain

Not enough for peaks of pain

Risk of OIVI when peak over

Weak opioid

NSAID

Paracetamol

PAIN

Plasma drug concentration

MODIFIED RELEASE OPIOID

time
Modified-release opioids post-op

- Increase risk of PPOU 5 to 10-fold
- Preclude rapid titration up or down to address intermittent pain and later weaning
- Increase risk of OIVI
- Do not improve pain scores
- Are not recommended by international organisations in Australia, US and UK


Multimodal analgesia and deprescribing advice

- Days 1-3: STRONG OPIOID, WEAK OPIOID, NSAID, PARACETAMOL
- Days 4-7: WEAK OPIOID, NSAID, PARACETAMOL
- Days 7-10: NSAID, PARACETAMOL
Managing pain after your surgery

This leaflet explains what you can do to prepare for going home after surgery and to help your recovery. It describes the medicines used to reduce pain, and how to use them safely while you recover.

https://www.britishpainsociety.org/managing-pain-after-your-surgery-publication/
Discharge prescribing
One pill is equivalent to oxycodone 5mg

Frequency of opioid pills prescribed (A): 0 – 100 and taken (B): 0 – 45 after 208 laparoscopic cholecystectomies

Total for 48 patients contacted by phone:
- Pills prescribed 1450
- Pills taken 474 (32.7%)
- Pills left over 976 (67.3%)
Patient-specific opioid prescribing

- Patients discharged on POD 1: 15 pills
- Patients discharged on POD 2 or later:
  - No pills taken the day before discharge: none
  - 1-3 pills taken the day before discharge: 15
  - 4 or more pills taken the day before discharge: 30

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Patient “outliers” taking more pills than expected:
- 18% using pills to sleep
- 14% no pain but taking pills to “finish the prescription”
- 7% for fear of pain
- 7% indigestion
- 7% non-surgery related pain

Pilot collection of normative data in Oxford

Median OME used and leftover (mg)

- OME used
- OME remaining

- C-section
- Craniotomy
- Laparoscopic...
- Nephrectomy
- Thyroidectomy
- Open Inguinal hernia...
- Laparoscopic...
- Incision and drainage...
- WLE of breast tumour
- Mastectomy
Need for opioids beyond that expected

- Need review (not just repeat prescription) to exclude:
  - Surgical complication - e.g. infection
  - Neuropathic pain or development of chronic post-surgical pain
  - Worrying opioid use
Discharge opioids

- Culture-specific
- Procedure-specific
- Patient-specific

<table>
<thead>
<tr>
<th>IMPORTANT: OPIOID SAFETY</th>
<th>(for drugs such as codeine, morphine, tramadol, and oxycodone)</th>
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<tbody>
<tr>
<td>🚗</td>
<td>Do not drive until you have stopped your post-operative opioids</td>
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<tr>
<td>⛔</td>
<td>Store opioids safely and keep them away from children</td>
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<tr>
<td>🚫</td>
<td>Stop taking opioids as soon as the pain starts getting better</td>
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<tr>
<td>🗑️</td>
<td>Dispose of unused opioids by taking them to a local pharmacy: DO NOT keep leftover drugs at home</td>
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<tr>
<td>🚑</td>
<td>Your carers should call 999 if they can’t wake you up or if your breathing is very slow</td>
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Deprescribing long-term opioids before surgery
Pre-operative opioid use

- Complex postop pain management
- Increased risk of PPOU and OIVI

- Increased rates of
  - Surgical infection
  - Revision surgery after hip and knee arthroplasty
  - Readmission
- Longer lengths of stay
- Higher medical costs after surgery

Pre-op opioids and discharge, readmission, infection and revision rates

- 34,792 patients for hip, knee or shoulder arthroplasties 2014-2015
- 6,043 (17.4%) used opioids preop
- Median MEDD 32mg
- Preop opioid users:
  - Non-home discharge  OR 1.10
  - 30 day readmission  OR 1.43
  - Surgical site infection  OR 1.35

Opioid reduction before surgery (1)

- Modifiable risk factor, sim to smoking, obesity, diabetic control etc with likely benefit of reduction and cessation

- Pre-op assessment clinics often only a matter of weeks before surgery

- Prob better to be identified by surgeon at time of discussing and booking op: preparation list, not waiting list

- Use reduced opioid use target as you would a BMI target

- Who is responsible for opioid reduction and patient support?
Opioid reduction before surgery (2)

- BUT...

- How low to go?
  - 120 mg MED / 60mg MED / lower?

- If done badly, risk of:
  - Pain and quality of life deterioration
  - Suicide
  - Illicit drug use
Take home messages

- Opioids are effective and important in post-operative pain as part of multimodal analgesia
- Patients need education about how to use them wisely and reduce and stop them as pain lessens
- Junior doctors need better guidance about TTO prescribing
  - Procedure-specific
  - Patient-specific
- Opioid reduction before surgery has patient and outcome benefits but needs to be done with care
Patient engagement: OUH opioids