

Commonly Used Analgesics in Hand Surgery

1. Paracetamol 500mg (Acetaminophen)

- Effective for mild to moderate pain.
- Antipyretic properties (reduces fever).
- Generally well-tolerated with few side effects.
- Safe for most patients, including those with renal issues.
- Often more effective if taken regularly eg 2 tabs 4 times / day

Risks:

Liver toxicity in overdose or with chronic high doses.

Limited anti-inflammatory effects.

Caution in patients with liver disease.

3. Panadeine Forte (Paracetamol 500mg + Codeine 30mg)

- Effective for moderate to severe pain.
- Combination of paracetamol and codeine provides synergistic pain relief.

Risks:

- Potential for dependence and abuse (codeine is an opioid).
- Common **side effects include constipation, nausea, and dizziness.**
- Eat lots of fibre and fluids and stop the medication as soon as possible
- Risk of hepatotoxicity from paracetamol component if taken in excess.

Genetic variability in codeine metabolism can lead to differences in efficacy and risk of overdose.

- Poor Metabolizers do not convert codeine to morphine effectively and thus experience little to no analgesic effect from codeine.
- This group represents approximately 5-10% of Caucasians, 1-2% of East Asians, and 1-10% of African Americans and Africans.

4. Endone (Oxycodone)

- Effective for moderate to severe pain.
- Can be used in both acute and chronic pain settings.

Risks:

- High potential for dependence and abuse.
- Common **side effects include nausea, vomiting, constipation, dizziness, and drowsiness.**
- Risk of respiratory depression, especially with higher doses or in combination with other CNS depressants.

5. Targin (Oxycodone + Naloxone)

- Effective for moderate to severe pain.
- Combination with naloxone reduces opioid-induced constipation.
- Naloxone component has minimal systemic absorption when taken orally.

Risks:

- Similar to those of oxycodone: dependence, nausea, constipation (though reduced), dizziness, and drowsiness.
- Risk of withdrawal symptoms if used in patients with opioid dependence.
- Naloxone can precipitate withdrawal in opioid-dependent patients if crushed and injected.

6. Tramadol

- Effective for moderate to moderately severe pain.
- Dual mechanism of action: opioid receptor agonist and reuptake inhibitor of serotonin and norepinephrine.
- Lower risk of respiratory depression compared to stronger opioids.

Risks:

- Potential for dependence and abuse.
- Side effects include nausea, vomiting, dizziness, constipation, and headache.
- Risk of **serotonin syndrome**, especially when combined with other serotonergic drugs.
- Seizure risk, particularly at higher doses or in patients with a seizure disorder.

7. Morphine

- Effective for severe pain.
- Gold standard for opioid analgesia.
- can be administered orally, intravenously, intramuscularly, or subcutaneously.

Risks:

- High potential for dependence and abuse.
- Common **side effects include nausea, vomiting, constipation, dizziness, and drowsiness.**
- Risk of respiratory depression, especially with higher doses or in combination with other CNS depressants.

Histamine release can cause **itching and hypotension.**

8. Pethidine

- Effective for moderate to severe pain.

- Rapid onset of action.

Risks:

- High potential for dependence and abuse.
- Common side effects include nausea, vomiting, dizziness, constipation, and drowsiness.

Risk of respiratory depression.

Can cause **serotonin syndrome** when combined with other serotonergic drugs.

Accumulation of its metabolite, normeperidine, can lead to seizures, especially with repeated dosing or in patients with renal impairment.

9. Fentanyl

- is a very potent opioid, approximately 50-100 times more potent than morphine.
- highly effective for managing severe post-operative pain.
- rapid onset of action, providing quick pain relief. eg Recovery Ward
- Short Duration of Action allows for precise titration and easy adjustment of dosages, making it suitable for managing acute pain and for use in patient-controlled analgesia (PCA) systems.
- causes minimal histamine release compared to other opioids like morphine, resulting in fewer side effects such as itching and hypotension.

Summary

Analgesics used in orthopaedic surgery range from non-opioid medications like paracetamol and NSAIDs to various opioids with differing potency and risk profiles.

The choice of analgesic should be individualized based on the patient's pain severity, medical history, and potential risks.

Always consider a multimodal approach to pain management, combining different classes of analgesics to enhance pain relief while minimizing side effects.