Brighton and Sussex University Hospitals NHS Trust

MULTIMODAL OPIOID SPARING ANAESTHESIA

1 gram = 4 mmols	
Body weight (kg)	Magnesium (grams)
40-49	1-2
50-59	1.5-2.5
60-69	2-3
70-79	2-3.5
>80	2.5-4

Regional anaesthesia

Magnesium
30-50 mg/kg slow IV intraop

Local infiltration

Paracetamol
Oral preop

Ketamine
Up to 0.35 mg/kg IV after induction

Multimodal analgesia

NSAIDS
Oral preop

Clonidine
15-30 micrograms IV bolus intraop up to max 3 micrograms/kg

Gabapentinoids
100-300 mg oral preop

IV Lidocaine
Slow IV bolus 1-2 mg/kg (max 100 mg) +/- Infusion

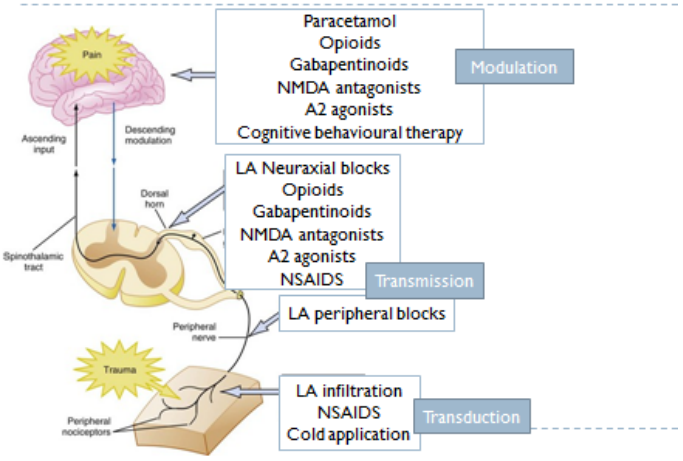
Dexamethasone
0.1 mg/kg IV intraop

Propofol TIVA

Opioids

Risk of **LA toxicity** if LA given by any other route – additive effects

Pain pathways pharmacological targets



Multimodals - Indications

Major surgery with expected severe postoperative pain

Patients **at risk of opioid-related respiratory depression**:

- Obstructive sleep apnoea (OSA)
- Severe renal impairment
- Elderly
- Frail
- Severe COPD

Opioid tolerant or opioid dependent surgical patients

Patients at higher risk for severe postoperative pain:

- Tobacco use
- Alcohol and substance abuse disorders
- Mood disorders
- Anxiety
- Catastrophising behaviour
- Chronic pain
- Pre-admission opioid use

Remifentanil is related to **acute opioid tolerance** (AOT) and/or **opioid induced hyperalgesia** (OIH)

Prevention strategies:

1) Combine with Multimodals, especially **NMDA receptor antagonists**
2) **Avoid high infusion rates** to provide 'hypnotic-sparing anaesthesia'
3) If need for remifentanil TCI Cpt > 5 nanograms/ml to manage autonomic responses, then **give appropriate long lasting analgesia** (e.g epidural bolus, morphine, etc.) instead of increasing rate
4) Combine with **Propofol TCI** vs inhalational agents
5) Use **TCI vs ml/hr**
6) **'Bridge' to postoperative analgesia** either during, or at completion of, surgery, **before the infusion is terminated**.

1 in 3 patients on **long term opioids** were **first prescribed opioids after surgery**
1 in 10 adults are on **prescribed opioids** for chronic non-cancer pain
Opioid related deaths increase to the highest ever rate

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