

# Symptom Management at End Of Life

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## Outline

- Pain
- Secretions
- Seizures
- Agitation
- Bowel Obstruction
- Palliative Care Emergencies.



## Continuous Subcutaneous Infusions

- Indications to start
  - No longer able to swallow and no alternative route
  - Vomiting
  - Evidence of poor absorption



## Pain



## Step 2: Strong Opioids

- Morphine
- Oxycodone
- Fentanyl
- Buprenorphine
- Diamorphine
- Methadone



## Morphine

- Good evidence for effectiveness in adults and children
- Inexpensive
- Available widely but not worldwide
- Tolerance to side-effects develop quickly
- Good variety of formulations
  - Oral : parenteral- 2:1



## Routes

- Enteral
- Transdermal
- Subcutaneous
- Transmucosal
  - Nasally
  - Buccal
  - Lozenge
- Avoid IM
- Pt controlled analgesia by proxy/NCA



## Opiate Side-effects

- Constipation
- Nausea and vomiting
- Drowsiness
- Itching
- Urinary retention
- Respiratory depression
- High doses: metabolites = nausea, dysphoria, muscle jerks, nightmares



## Opiate Prescription

- Initiation
- Titration
- Maintenance



## Opiate prescription

- Use WHO pain ladder to select analgesic
- Around-the-clock, q. 3-4 hr.
- Assess frequently, adjust dose
- Initial dose approx 1mg/kg/day or on basis of previous script
- Add up total opioid taken q. 24hr.



- Select long-acting opioid q. 12 hr.
- Use short-acting opioid for breakthrough pain prn.
- WHO recommend that major opioids should not be prescribed solely as PRN



## Example

- Pt. on 2 mg Morphine 4 hourly
- That = 12 mg daily
- That = 6 BID
- Select long-acting opioid BID equivalent to 6 mg morphine. MST 6mg BD
- Use short acting for breakthrough @ 1/6 the 24 hr. dose. E.G. 2 mg morphine



## Subcutaneous Infusion

- Calculate total daily dose (TDD)
- Enteral:subcutaneous = 2:1
- 1/6 TDD as breakthrough dose.



**Table 1: Morphine equivalents for oral opioid analgesics\***

Opioid	Ratio (opioid to morphine)
Codeine	1:0.15
Oxycodone	1:1.5
Hydromorphone	1:5
Meperidine	1:0.1
Transdermal fentanyl	
25 µg/h	1:97
50 µg/h	1:202
75 µg/h	1:292
100 µg/h	1:382

\*Data source: National Opioid Use Guideline Group, *Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain*.<sup>21</sup> Appendix B-8.1, Table 1 (equivalence to oral morphine) and Table 2 (equivalence between oral morphine and transdermal fentanyl). The midpoint of the fentanyl ranges was used in our conversions.



## How Fast Can I Titrate?

- Some lack of consensus–
- **Short acting** oral opioids can be titrated quickly- dose by dose.
- **Sustained release oral** opioids can be dose-escalated every 24-72 hrs.
- Max increase 50% over 24 hours



## Tolerance, withdrawal and dependence

- Tolerance
  - Body accustomed to certain dose and increased dose needed to achieve same effect
- Dependence
  - Strong desire to take drug
  - Despite harmful consequences
  - Higher priority to drug than other activities
- Withdrawal
  - Tachypnoea, tachycardia , diarrhoea, sweating
- Wean slowly speed depends on duration of therapy



## Patients with Hepatic or Renal Disease?

- Opioids 90-95% renally cleared
- Renal Disease
  - *Morphine* - 2 metabolites: M6G is **active** and has a **longer half-life** than morphine. As a result– **decrease the dose, widen the interval, use PRN or not at all.**
  - Safer to use fentanyl but still consider starting w/ half the usual dose and/or increasing the interval.
- Less of an issue w/ liver disease but with severe hepatic dysfunction increase the dosing interval or decrease the dose.



## Opiate switching

- Practice of changing between different opiates to prevent side-effects and limit dose escalation
- If inadequate pain relief and intolerable side effects
- Not recommended routinely



## Adjuvants

- Not classical analgesics
- Depends on careful consideration of source and type of pain



## RESPIRATORY SYMPTOMS



## Secretions

- Common at end of life
- Reflect patients low conscious level
- Gentle suction
- Reduce fluid intake
- Medications
  - Glycopyrronium Bromide
  - Hyoscine buytlybromide
  - Hyoscine hydrobromide

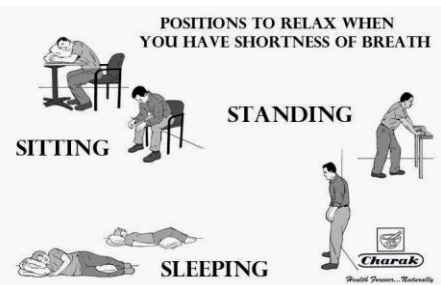


## Breathlessness

- Psychological
- Pharmacological
- Mechanical



## Breathlessness



## Pharmacological

- Opiates
- Benzodiazepines
- Furosemide



## SEIZURES



## Seizures



### Remember:

- Not all seizures are Generalised tonic clonic seizures
- Not all seizures require treatment
- Seizures very frightening for parents and carers



### Reversible causes of seizures

- Electrolyte imbalance ( Ca<sup>+</sup>, Na<sup>+</sup>)
- Infection
- Renal failure
- Hepatic failure
- Low glucose
- Raised intracranial pressure



### Causes metabolic/neurodegenerative conditions

- Progression of underlying condition
- Non-therapeutic level of anti-epileptic medications
- Reduced seizure threshold
  - Fever
  - Electrolyte imbalance
- Medication side-effect



### Frequency

- >50% of children with neurodegenerative / metabolic disorders at end of life



## Choice of drugs

- Consider type of seizure
- Life-expectancy
- Method of administration
- Side-effects



## Terminal Seizures

- Consider goal of treatment
- Small, self-limiting seizures may not require treatment
- If problematic
  - Phenobarbitone
  - Midazolam
- If child has been on multiple anticonvulsants midazolam may not be helpful in the terminal phase phenobarbitone more helpful.



## Midazolam

- Short acting benzodiazepine
  - $t_{1/2}$  life 1-4 hours
  - Water soluble
- Buccally – epistatus or buccolam
  - Drug in blood within 1 min, peak levels 10-15 min
- Orally
  - Poorly absorbed
- Subcutaneous infusion



## Clonazepam

- Alternative to midazolam in SCI
- Orally useful to gain control over problematic seizures while awaiting drug increase



## Phenobarbitone

- Very effective anti-epileptic
- Anxiolytic and sedating
- Requires loading dose 20mg/kg- ideally enterally
- Long half life
  - 2-6 days adults
  - 1-3 days children
- Cannot be combined with other drugs in driver
- Can cause skin irritation
  - Alkaline preparation



## AGITATION



## Agitation

- Benzodiazepines
- Levomepromazine



## BOWEL OBSTRUCTION



## Bowel Obstruction

- Treat reversible causes
  - Constipation
  - Always consider if surgical intervention appropriate
  - PEG/NG tube free drainage



## Pharmacological

- Pain relief



## PALLIATIVE CARE EMERGENCIES



## Bleeding

- Preparation
  - Rare
  - Reassure
- Actions during the event
  - A- assurance
  - B- Be there
  - C- comfort and calm
- After
  - Ongoing support , practical and emotional



## Emergency Pack

- Dark towels
- Gloves
- Medications
  - Morphine and Midazolam



Thank  
You...

Any  
Questions?

