“JUST-IN-CASE” & SYRINGE DRIVER PRESCRIBING
Cheap, faulty and pumping death straight into the veins
Case Study

- Out-of-hours visit on Sunday afternoon
- 79 yr old man with pancreatic cancer
- GP very involved – had visited on Friday
- DNACPR form in house and clearly recorded PPD of home.
- Over last 2 days had become drowsy, not eating or drinking, unable to get out of bed, not managing his oral medications
- For last 3 hours appeared distressed and agitated, upper airway respiratory secretions.
- Wife, son and daughter at home with him, all increasingly anxious and distressed.
- No meds in house: GP had noted “to consider JIC next week”
Management

- 2.5mg morphine SC stat, repeated after 20 mins
- Prescribed a syringe driver on community MAR chart
- Hand-written FP10s for syringe driver medications
- District Nurses called urgently to set up driver
- Son drove into Cambridge to collect medications
- Pharmacy did not stock strength of midazolam prescribed: OOH doctor called to pharmacy to alter prescription
- District Nurses arrived at house, no meds available yet
- Syringe driver eventually set up 4 hours later
- Settled on driver and died late Sunday night
Background

• Many terminally ill patients wish to die at home, but hospital admissions in the final days of life are common

• Patients have unpredictable and often rapidly progressing symptoms in the final days and hours of life

• Availability of palliative care medicines in the community, especially OOH, has the potential to reduce hospital admissions and optimise symptom control
Just-in-case bag process

Identify need | Issue prescription | Dispense medication | Regular Reviews | Ongoing care and audit

GP
DN
Mac
Hospice
Hospital

GP reviews prescription monthly

JIC bag in home

DN checks contents weekly

Bag used

• GP informed
• Ongoing prescription started if appropriate

Not used

• Medicines disposed of appropriately
Clinical Tips

• Prescribe early: the meds have a long shelf life
• Don’t worry about cost: approx. £25
• Prescribe for all indications: pain, nausea, agitation, respiratory secretions
• Prescribe enough: at least 5 prn doses of each medication, or enough for 2x24h syringe drivers
• Don’t forget patients with dementia and in care homes
• No “standard prescription”
• Personalise the prescription to patient, drugs and doses
• Write the community MAR chart at the same time as issuing the FP10s and liaise with DN team
• Avoid starting Fentanyl patches in final days of life
• Don’t stop Fentanyl patches and try to convert to SD opioid
• If in doubt seek specialist advice
Example One

- Prescribe JIC injectable opiate medication for:
  - A 73 year old man with metastatic prostate cancer
  - Normal renal function
  - Increasing difficulty taking oral meds
  - Currently taking:
    - MST 30mg b.d. regularly
    - 5ml of 10mg/5ml Oramorph prn, 1 to 2 times a day
Example Two

• Prescribe JIC injectable opiate medication for:
  • A 55 yr. old lady with metastatic ovarian cancer leading to obstructive renal failure (Creatinine 190, eGFR 45)
  • Finding oral meds difficult
  • Currently on:
    regular paracetamol 1000mg qds
    fentanyl patch 50mcg/hr
JIC initial doses to consider and personalise

- **Morphine**: 2.5mg to 5mg SC 2-hourly prn for pain
  - Supply 5 (five) x 10mg/1ml amps

- **Midazolam**: 2.5 to 5mg SC 2-hourly prn for agitation
  - Supply 5 (five) x 10mg/2ml amps

- **Haloperidol**: 0.5 to 1.5 mg SC 4-hourly prn nausea/vomiting
  - Supply 5 x 5mg/1ml amps

- **Glycopyrronium**: 200mcg SC 4-hourly prn for secretions
  - Supply 5 x 600mcg/3ml amps

- **Lorazepam**: 0.5 to 1.0mg s/l 4-hourly prn for anxiety / SOB
  - Supply 14 x 1mg tabs
SYRINGE DRIVERS
When to Use a Syringe Driver?

- Dysphagia / difficulty swallowing
- Nausea and vomiting
- Intestinal obstruction
- Malabsorption
- Weakness / dying / unconscious
What to put in a Syringe Driver?

<table>
<thead>
<tr>
<th>Indication</th>
<th>Commonly Used Drugs</th>
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</thead>
<tbody>
<tr>
<td>Pain</td>
<td>Morphine, Oxycodone</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Midazolam, Haloperidol</td>
</tr>
<tr>
<td>Terminal Agitation</td>
<td>Midazolam, Levomepromazine</td>
</tr>
<tr>
<td>Nausea/Vomiting</td>
<td>Haloperidol, Cyclizine, Metoclopramide, Levomepromazine</td>
</tr>
<tr>
<td>Bronchial secretions</td>
<td>Glycopyrronium, Hyoscine butylbromide</td>
</tr>
<tr>
<td>Intestinal colic</td>
<td>Hyoscine butylbromide</td>
</tr>
</tbody>
</table>

**Six Questions to Consider**

1. What are they taking by other routes already?
2. How well are symptoms currently controlled?
3. Are all the proposed drugs compatible?
4. What diluent am I going to use?
5. Will all the drugs fit in one driver?
6. Are they on a transdermal patch?
Example 3

- 78yr old lady with colorectal cancer and liver metastases
- 40mg MST b.d.
- 2 to 3 prn doses of 10mg Oramorph a day
- Haloperidol 1.5 mg nocte
- No other meds
- Now drowsy and difficulty swallowing, intermittently agitated and early death rattle
- What would you prescribe for her syringe driver?
  - Dose ranges?
  - PRN doses?
Example 4

- 84 year old man with advanced heart failure
- Deteriorated over last two days, increasingly breathless, drowsy, minimal fluid intake, intermittently agitated
- On paracetamol 1 gram qds for arthritic hip pain
- Taking 0.5mg lorazepam s/l prn for SOB, 4 doses in last 24h
- Also takes bumetanide 2mg b.d, lisinopril 10mg o.d., bisoprolol 2.5mg o.d., aspirin 75mg o.d., omeprazole 20mg

What would you put in his syringe driver?
• http://book.pallcare.info/index.php
  • syringe drivers
  • palliative care guidelines
    • Opioid dose conversions
    • Syringe driver compatibilities
Opioid Dose Calculator

NB Conversion values may be updated at intervals; see below for values used in this calculator.

Select Conversion Values:
- "Traditional"
- "Progressive"

Convert From:
Enter total opioid intake in last 24h:
- Regular opioid - mg/24h
- Stat. doses - mg/24h
- Transdermal Patch - µg/h

To:
- Regular opioid - mg/24h
- 4-hour PRN: mg q4h
- OR
- Transdermal Patch - µg/h

Consider reducing doses by up to 25-50% to account for incomplete cross-tolerance

All calculations must be confirmed before use. The authors make no claims of the accuracy of the information contained herein; and these suggested doses are not a substitute for clinical judgement.

Please review the importance of correcting for incomplete cross-tolerance. Equianalgesic conversions should not be considered a simple straightforward calculation. Significant ‘inter/intra’ patient variability exists depending on the selected opioid, dosage level, and expected response.

Incomplete cross-tolerance

Incomplete cross-tolerance relates to tolerance to a currently administered opioid that does not extend completely to other opioids. This will tend to lower the required dose of the second opioid. This incomplete cross-tolerance exists between all of the opioids and the estimated difference between any two opioids could vary widely. This points out the inherent dangers of using an equianalgesic table and the importance of viewing the tabulated data as approximations. Many experts recommend - depending on age and prior side effects - reducing the dose of the new opioid by up to 33-50% to account for the incomplete cross-tolerance. (Example: a patient is receiving 20mg of oral morphine daily (chronic dosing), however, because of side effects a switch is made to oral hydromorphone 25-35mg daily (this represents a 33-50% reduction in dose compared to the calculated 50mg conversion dose produced via the equianalgesic calculator). This new regimen can then be re-titrated to patient response. In all cases, repeated comprehensive assessments of pain are necessary in order to successfully control the pain while minimizing side-effects.

Conversion values
See the topic on Opioid Conversion for more details.

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