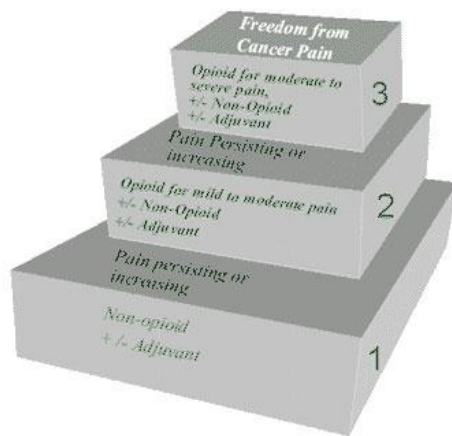


Pharmacotherapy of Opioid Analgesics

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First – does my patient need an opioid?

WHO's Pain Relief Ladder



- Have you tried?
 - Non-pharmacologic (RICE, CBT, hot/cold)
 - Scheduled Tylenol
 - Tramadol
 - NSAIDs (only in younger patients!!!)

Duration of Action

- *Short-acting opioids:*
 - Morphine IR
 - Oxycodone IR
 - Hydrocodone (Vicodin, Lortab)
 - Hydromorphone (Dilaudid)
 - Codeine (Tylenol #3/4; Robitussin AC)
- *Long-acting opioids: ONLY USE IN OPIOID TOLERANT PATIENTS!*
 - MS Contin
 - Fentanyl patches
 - Oxycontin
- *Characteristics of both:* Methadone (not "extended release" but has a long and variable half-life)

Opioid Equivalency Chart:

Drug	Route	Equianalgesic Dose (mg)	Duration (h)	Plasma Half-Life (h)
Morphine	IM	10	4	2-3.5
Morphine	PO	30	4	4
Codeine	IM	130	4	3
Codeine	PO	300	4	
Oxycodone	IM	-		
Oxycodone	PO	30	3-4	4
Hydromorphone (Dilaudid)	IM	1.5	4	2-3
Hydromorphone (Dilaudid)	PO	7.5	4	
Meperidine	IM	75	3-4	2
Meperidine	PO	300	3-4	normeperidine
Methadone	IM	10*	6-8†	12-24
Methadone	PO	20*	6-8†	20-200
Fentanyl	IV	0.1		
Hydrocodone	IM	-		
Hydrocodone	PO	30	3-4	4

Opioid Tolerant: Has taken 60mg of morphine equivalent for at least a week.

QUICK QUIZ!!

RC receives Tylenol 650mg TID with no relief. The doctor then decides to start hydrocodone/APAP 5/500 (ii PO q4hr prn pain) and the patient needs about four doses a day (8 tabs). Is the patient opioid-tolerant or opioid-naïve?

Medication errors involving long-acting opioids

- A 77-year old woman was prescribed Vicodin 5/500 four times/day for sciatica and used it for a week. She was still complaining of pain so MD prescribed fentanyl 50mcg/hr patch. She also used a heating pad. She was found dead in her apartment two days after picking the medication up.
- A 2-year old boy died after ingesting a fentanyl patch he got while visiting his grandmother in the nursing home (happened Nov 2011).
- A hospital **gives one dose** of OxyContin to the incorrect patient in 2005. He **died 12 hours later**.



Blake, 2 years old, died from ingesting a fentanyl patch

Long-acting opioids should NEVER be used in opioid-naïve patients!!!!

Adverse effects of ALL opioids

- Respiratory depression (can be fatal)
- Constipation
- Nausea
- Itching
- Drowsiness/dizziness/confusion (increase the risk for falls)

Options for NPO opioid-naïve patients that need opioids

- Roxanol (morphine) sublingually
- Oxycodone liquid sublingually
- Morphine IV or SCut
- Compounding pharmacy – can compound a variety of dosage forms (suppositories, lollipops, creams)

Opioid Safety Tips

- **Roxanol** – always write the dose in MILLIGRAMS rather than volume
- **Unapproved abbreviations** – MSO4; Oxy IR; SC (use “SCut”); QD, QID, or QOD.
- Make sure we **have ALL orders**, regardless of who is providing it (i.e. family, compounding pharmacy, etc) so we can properly screen for drug interactions, dose, etc.
- In particular, **if opioids don’t scan let me know!!!!**

Remember – virtually all opioids are controls so we will need to get a prescription. Request them several days before they are due for a refill so we have time to communicate with the doctor!!

References

1. <http://www.fda.gov/Drugs/DrugSafety/InformationbyDrugClass/ucm309742.htm>
2. http://www.acpinternist.org/archives/2008/01/extra/pain_charts.pdf
3. “Tragic events with concentrated opiate oral solutions” *Institute for safe medication practices*. Accessed online September 24, 2012 at <http://www.ismp.org/newsletters/ambulatory/archives/200807-1.asp>
4. Grissinger M. Fentanyl transdermal patches: more protection needed for patients and their families. *P and T* 2009 Jul; 34(7): 343, 390. Accessed online September 24, 2012 at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2799102/>
5. List of error-prone abbreviations, symbols, and dose designations. *Institute for safe medication practices*. Accessed online September 24, 2012 at <http://www.ismp.org/tools/errorproneabbreviations.pdf>.
6. “WHO’s pain ladder” *The World Health Organization*. Accessed online September 24, 2012 at <http://www.who.int/cancer/palliative/painladder/en/>
7. Lehman D. “Jury orders hospital to pay in wrongful death lawsuit.” *Post Star* Nov 10, 2012. Accessed online September 24, 2012 at http://poststar.com/news/local/jury-orders-hospital-to-pay-in-wrongful-death-lawsuit/article_d2b060fe-e6be-11df-a23f-001cc4c03286.html
8. “Proper disposal of fentanyl patches is critical to prevent accidental exposure” *National Alert Network*. Accessed online September 24, 2012 at <http://www.ismp.org/nan/files/nan-20120425.pdf>