Treatment of Common Analgesic Side Effects

Constipation

1. Assure adequate water intake/hydration
2. Correct electrolyte abnormalities
3. Stool Softener: ducosate Na (Colace®) 100 mg, or docusate Ca (Surfak®) 240 mg, po daily-bid
4. Cathartic: bisacodyl (Ducolax®) 10 mg po/pr qhs, or senna 2 tabs po qhs-bid.
5. Osmotic agent: Lactulose 30-60 ml, or sorbitol 30 ml, po daily-bid prn
6. Enema: oil retention (mineral oil) 120 ml, or sodium biphosphate (Fleet's®), pr daily prn
7. Peripheral opioid antagonist: methylnaltrexone (Relistor®)* 12 mg (0.6 ml) subq daily prn, or naloxone (Narcan®) 0.4 mg in 8oz H20 daily prn

Nausea

1. Correct constipation
2. 5HT3 antagonists: ondansetron (Zofran®) 8 mg po/iv q12h prn n/v
3. Dopamine antagonism: prochlorperazine (Compazine®) 10 mg po/pr q6h prn n/v
4. Antihistamine: promethazine (Phenergan®) po/im or hydroxyzine (Atarax®) iv/po, 25 mg q8h prn n/v
5. Prokinesis: Metoclopramide (Reglan®) 10 mg po tid prn n/v
6. Anticholinergic: scopolamine (Transderm Scop®)* 0.5 mg q3d

Pruritis

1. Diphenhydramine (Benadryl®) or hydroxyzine (Atarax®) 25-50 mg iv/po, q4h prn
2. Nalbuphine (Nubain®)*5-10 mg q3-4h im/iv prn

Respiratory Depression

1. Naloxone (Narcan®) 0.2-1 mg iv q2-3 min prn

*Non-formulary or restricted on Shands formulary

Sample PCA Orders - Adult

1. Med and [conc]: morphine [1mg/ml]
2. Loading dose: morphine 2-4 mg every 5 min until patient is comfortable or max 12 mg
3. Demand dose: morphine 1.5 mg
4. Lock out interval: 8 minutes
5. Basal Rate: 1mg/h for first post-op night only, or patients on chronic opioid therapy.
6. 4 Hr-Limit: 30mg
7. Monitor pain on NRS every 4 h. If pain consistently rate >4/10, increase demand dose by 0.2 mg q4h x3 prn. If pain still is not controlled, consult team.
8. Monitor RR every 2 h for 8 hours, then every 4 h.
   For RR < 10/min: stop PCA and call team
   For RR < 8/min: stimulate patient, start O2 @ 6L/min
   For RR < 6/min: Narcan 2 mcg/kg, (0.2mg in adults).
9. For pruritis: Benadryl 25-50 mg IV/IM every 4 to 6 h prn. If ineffective, Nubain 2.5-5 mg iv every 4 h prn
10. For Nausea: ondansetron 8 mg po/iv q12h, or Metoclopramide 10 mg IV every 4-6 h, prn nausea.
11. Do not administer any other opioid analgesics unless specifically approved by physician.

Disclaimer: Though the medications and dosages are within ranges found in scientific literature, these guidelines are those of the author, should be independently confirmed by prescriber, and are not official recommendations of Shands or the University of Florida.

For more pain management guidelines, consults:
http://intrashands1.umc.ufl.edu/dept/painmanagement/painmgmt.asp

Pain Management Guidelines©
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May 2009

PAIN MANAGEMENT GUIDELINES©

Principles of Pain Management

- Pain control improves outcome
- Control to acceptable level is goal
- Pre-emptive control is optimal
- Pain must be reassessed at regular intervals
- Certain patients require individual attention.
- Involve family members when appropriate.
- Consider available treatment options
  - Cognitive-behavioral methods
  - Systemic pharmacotherapy
  - Interventional techniques
  - Physical modalities
  - Neuromodulation
  - Surgery
- Systemic pharmacotherapy is basis of acute & cancer pain management
- Unexpected pain requires reevaluation
- Revise management plan as necessary

Pharmacotherapeutic Principles

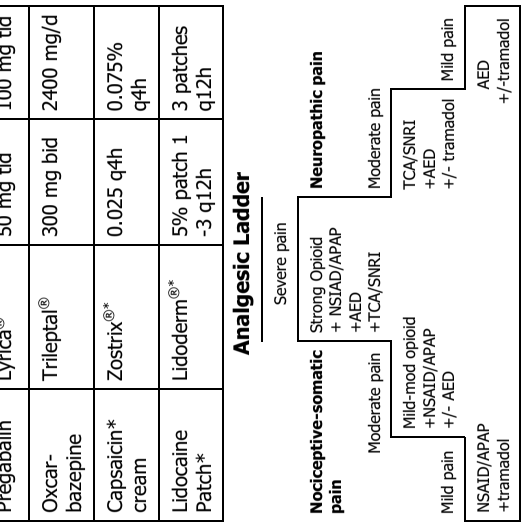
- Treat mild-moderate ***somatic-nociceptive**** pain with acetaminophen or NSAID unless specific contraindication
- Add opioid for moderate-severe pain
- Add adjuvant to treat side effects or increase analgesia
- A-T-C or ER dosing for continuous pain
- Short acting opioid for breakthrough pain
- Begin treatment of mild-mod ***neuropathic**** pain with TCA or SNRI and an antiepileptic
- Add opioid for mod-severe *neuropathic* pain

*__Somatic-nociceptive pain__: Associated with tissue damage. Aching, sharp. (e.g., post-op, traumatic)
*__Neuropathic pain__: Altered nerve transmission. Burning, tingling, numbing (e.g., neuropathies)

Pain assessment:Numerical Rating Scale(NRS)0-10
0 (no pain) - - - - - - - - -10 (worse possible pain)

Opioid Prescribing Guidelines and Equianalgesic Chart						
Medication	**Approximate Equianalgesic Dose**		**Recommended starting dose ADULTS**		**Recommended starting dose CHILDREN**	
	Oral/transderm	**Parenteral**	**Oral/transderm**	**Parenteral**	**Oral**	**Parenteral**
Morphine ER=MSContin	30 mg po q4h	10 mg q4h	15-30 mg po q4h ER 30 mg q12	5-10 mg q4h	0.3 mg/kg po q4h	0.1 mg/kg q4h
Codeine (T3 has 30 mg)	200 mg po q4h	120 mg q4h	60 mg po q4h	60 mg q4h	1 mg/kg po q4r	Not recom-mended
Hydromorphone (Dilaudid®)	7.5 mg po q4h	1.5 mg q4h	4 mg po q4h	1.5 mg q4h	0.06 mg/kg po q4h	0.015 mg/kg q4h
Hydrocodone (Lorcet,Lortab,Vicodin®)	30 mg po q4h	Not available	5-10 mg po q6h	Not available	0.2 mg/kg po q4h	Not available
Fentanyl (Duragesic®) transdermal	100 mcg/hr patch = morphine 180 mg po/24h	100 mcg/hr	25 mcg/h q72h transdermal	50 mcg iv q1-2h		
Methadone (Dolophine®)	20 mg po q 6-8 h	10 mg q 6-8 h	5-10 mg po q 8-12 h	10 mg q 6-8 h	0.2 mg/kg po q6h	0.1 mg/kg q6h
Oxycodone (Roxicodone®, Tylox Percocet, Oxycontin	20 mg po q4h	Not available	5-10 mg q6h ER 20 mg q12h	Not available	0.2 mg/kg po q4h	Not available

Anti-Neuropathic Medications			
Medication	Trade name	Beginning Max dose	Max dose
TCAs: Amitriptyline Nortriptyline Desipramine	Elavil® Pamelor® Norpramin®	25 mg qhs	200 mg/d 150 mg/d 200 mg/d
SRNIs: Venlafaxine Doluxetine*	Effexor XR® Cymbalta®*	37.5 mg/d 60 mg/d	225 mg/d 120 mg/d
Gabapentin	Neurontin®	300 mg qhs -tid	3600 mg/d
Pregabalin	Lyrica®	50 mg tid	100 mg tid
Oxcar-bazepine	Trileptal®	300 mg bid	2400 mg/d
Capsaicin* cream	Zostrix®*	0.025 q4h	0.075% q4h
Lidocaine Patch*	Lidoderm®*	5% patch 1 -3 q12h	3 patches q12h



APAP= acetaminophen, , AED=anti-epileptic drug, TCA=tricyclic antidepressant, SRNI=serotonin/norepinephrine uptake inhibitor, NSAID=nonsteroidal anti-inflammatory drug

NSAID and Non-Opioid Analgesics			
Generic	Tradename	Adult	Pediatric
Acetamino-phen APAP	Tylenol®	325-650 mg po q4h max:4 g/d	10-15 mg/kg po q4h max:75 mg/kg/(up to 2.g g)/d
Acetylsalicylic acid, ASA	Aspirin	325-650 mg po q4h max:4g/d	Not generally used. (Reye,'s syndrome)
Celecoxib*	Cele-brex™*	100-200 mg po q12-24h max:400 mg/d	N/A
Choline Magnesium Trisalicylate	Trilisate®	500-1500 mg po q8-12h max:3g/d	25 mg/kg po q12h prn
Ibuprofen	Motrin®	400mg q6h 800mg q8h max:3200 mg/d	4-10 mg/kg po Q6-8h max:40 mg/kg/d
Indometha-cin	Indocin®	25-50 mg po Q6-12h prn max:200 mg/d	1-2 mg/kg po q6-12h prn max: 4 mg/kg/d
Naproxen	Naprosyn®	250-500 mg q12h max:1500 mg/d	5 mg/kg po q12h prn max:1000 mg/d
Piroxicam	Feldene®	10-20 mg po q daily max:20mg/d	0.2-0.3 mg/kg po qd prn max: 5mg/d
Salsalate	Salsitab®	500-1000 mg po q4-8h max: 3 g/d	N/A
Sulindac	Clinoril®	150-200 mg po q12h max: 400 mg/d	N/A
Ketorolac	Toradol®	30 mg iv q6h x8 max: 120 mg/d	0.5 mg/kg iv q6h max: 2 mg/kg/d
Tramadol	Ultram, * Ultracette	50-100 mg q6h prn pain max:400mg/d	N/A

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