

PAIN MANAGEMENT GUIDELINES

1. Use a multi-modal drug approach. Combine opioids with non-opioids and adjuvant analgesics as indicated.
2. Base administration schedule on the analgesic's duration of effect. Best to use sustained release opioids for scheduled dosing and always use immediate release opioids for rescue or breakthrough dosing. Do not crush or chew extended-release preparations.
3. In opioid naïve patients start with low dose, short acting opioids and titrate for effect.
4. Avoid meperidine (Demerol[®]) and the mixed agonist-antagonist opioids [e.g. butorphanol tartarate (Stadol[®]), nalbuphine hydrochloride (Nubain[®]), and pentazocine hydrochloride and naloxone hydrochloride (Talwin[®])].
5. Acetaminophen (APAP): Do not exceed 3000-4000 mg q 24 hours for adults; and for older adults do not exceed 2000 mg q 24 hrs. Use lower doses or omit APAP if liver disease, review prescribed combination products as well as over the counter (OTC) medications.
6. Non-invasive routes preferred. For severe pain or rapidly escalating pain, it may be necessary to provide intravenous analgesics until the pain is managed. If oral, rectal, or transdermal dosing is no longer practical or appropriate, continuous subcutaneous or intravenous infusions are indicated.
7. **Mild Pain** [rating 1-3] Start with simple analgesics; acetaminophen (APAP) or NSAIDs, with adjuvant analgesics as appropriate [for neuropathic pain].
8. **Moderate to Severe Pain** [rating 4-10] When pain does not respond to non-opioid analgesics and adjuvants, consider adding an opioid. Drugs with APAP, ASA or NSAIDs in combination with opioids limit flexibility of dosing and should be used for mild to moderate pain only.
9. **Titration:** Increase by 25 to 50% for moderate pain; increase by 50 to 100% for severe pain. Calculate amount of opioid taken in last 24 hours [add breakthrough + maintenance doses] and administer as new 24-hour maintenance dose; calculate new breakthrough dose.
10. **Breakthrough Pain Dosing:** Scheduled dosing will maintain stable serum drug levels and provide consistent relief. Patients on long acting opioids or continuous parenteral infusions must have an order for breakthrough pain medication. Frequent [generally more than 4 doses/24 hours] breakthrough dosing requires a change in the scheduled sustained release drug dose. Oral breakthrough dose is ≈ 10-20% of the oral 24 hour baseline dose. Peak effect of immediate-release opioid is ≈ one hour; may repeat dose every one hour if patient is not overly sedated. IV/SQ breakthrough dose is ≈ 50 to 100% of the hourly IV/SQ rate. Peak effect of IV opioids is ≈ 10-15 minutes; may repeat dose every 15 minutes if patient not overly sedated. Peak effect of SQ opioids is ≈ 30 minutes; may repeat dose every 30 minutes if patient not overly sedated. IM dosing not recommended.
11. **Opioid rotation** may be warranted when escalating doses are ineffective in relieving pain or when adverse effects persist despite aggressive management. When **changing drug or route of administration**, use equianalgesic doses. See drug chart on other side. If changing from one drug to another, the new drug may be more effective, because of differences in potency or drug bioavailability. Start at 50-75% of the amount calculated using the equianalgesic tables. Make sure breakthrough medication is available and titrate dose according to individual patient response. Consult pain or palliative specialist when switching to and from methadone.
12. Prevent and manage **opioid side effects** aggressively. Patients never become tolerant to the constipating effects of opioids. Always start stimulant laxative/softener combination with opioids.
13. To discontinue opioids taper gradually to patient response to avoid withdrawal symptoms.
14. Always **educate patients and caregivers** about pain medications, side effect management and safe storage/disposal.

PAIN SOURCES	PAIN CHARACTER	DRUG CLASS/EXAMPLES
Myofascial Somatic Pain	Constant and well localized.	— Acetaminophen/NSAIDs — Opioids
Visceral Pain	Injury to sympathetically innervated organs. Pain is vague in quality. Deep, dull, aching. Referred pain.	— NSAIDs — Corticosteroids — Opioids
Bone Pain	Axial skeleton with thoracic and lumbar spine most common.	— NSAIDs — Corticosteroids — Bisphosphonates — Radiation Therapy, Radionuclides — Opioids
Neuropathic Pain Nerve Damage Dysesthesia	Results from damage to peripheral or central nervous system or both. Dysesthesia, burning, tingling, numbing, shooting electrical pain. May require higher doses of opioids.	Adjuvants — Anticonvulsants: Gabapentin (Neurontin [®]), Pregabalin (Lyrica [®]) — Tricyclic Antidepressants: Nortriptyline (Pamelor [®]), Desipramine (Norpramin [®]) — SNRI Antidepressants: Duloxetine (Cymbalta [®]), Venlafaxine (Effexor [®]) — Corticosteroids — Topical Anesthetic, Lidocaine Patch 5% (Lidoderm [®]) — Opioids

SIDE EFFECT	OPIOID SIDE EFFECT MANAGEMENT (See NRE Symptom Card)
Constipation	Tolerance to opioid related constipation does not occur. Start with combined senna as stimulant and docusate (Colace [®]) as softener. May increase to 4 tabs bid. If no BM in 2 days add a laxative [bisacodyl, lactulose, magnesium hydroxide (Milk of Magnesia [®]), polyethylene glycol]. Methylnaltrexone (Relistor [®]) SQ q 48 hours if other measures ineffective [only for opioid-induced constipation].
Nausea/ Vomiting	Rule out reversible causes, e.g. constipation. Prochlorperazine (Compazine [®]) 10 mg PO q 6 hr PRN or 25 mg suppository PR q 6 hr PRN. May add lorazepam (Ativan [®]) 0.5 mg q 6 hr PO/SL, PRN or metoclopramide (Reglan [®]) (also helpful for early satiety and constipation) 10 mg PO QID. Scopolamine TD (Transderm-Scop [®]) patch 1.5 mg q 3 days is effective for movement related nausea q 72 hrs. Haloperidol (Haldol [®]) 0.5 - 4 mg PO or IV/SQ q 6 hrs.
Respiratory Depression	Rare in opioid tolerant people as tolerance develops to sedation/drowsiness- closely monitor in opioid-naïve patients. Increased risk with obstructive sleep apnea, obesity, on benzodiazepines, or in those with respiratory compromise.

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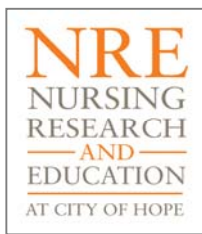
For additional resources, refer to the
City of Hope Pain & Palliative Care Resource Center at <http://prc.coh.org>

OPIOID EQUIANALGESIC TABLE

DRUG	DOSAGE FORM/STRENGTHS	APPROXIMATE EQUIVALENCE	
		IV/SQ	ORAL
Codeine (a pro-drug dependent on CYP2D6 – significant percentage of people are poor metabolizers and cannot obtain relief)	Tablets: Codeine - 15, 30, 60 mg Codeine/Acetaminophen Tablets ♦ — Generic – 15/300 mg — Tylenol® #3 and generics – 30/300 mg — Tylenol® #4 and generics – 60/300 mg Codeine/Acetaminophen Liquid ♦ — Solution – 12/120 mg per 5 mL (Also available with guaifenesin, butalbital, caffeine and other agents)		200 mg
Fentanyl Parenteral		100 mcg	
Fentanyl Transdermal Long acting; Not for opioid naïve patients	Fentanyl Transdermal Duragesic® and generic - 12, 25, 50, 75, 100 mcg/hr — Not for post op/acute pain — 12-24 hours for full onset — 12-24 hours to leave system		100 mcg patch q 2-3 days ≈ 200 mg oral Morphine q 24 hrs
Fentanyl Transmucosal Immediate Release Fentanyl (TIRF) Not for opioid naïve patients Requires TIRF-REMS compliance https://www.tirfremssaccess.com/TirfUL/remss/home.action	Transmucosal-Buccal Oral Lozenge — Actiq® and generic – 200, 400, 600, 800, 1200, 1600 mcg — Fentora® – 100, 200, 400, 600, 800 mcg Fentanyl Buccal Strip: Onsolis® – 200, 400, 600, 800, 1200 mcg Sublingual Tablet — Abstral® Fentanyl SL –100, 200, 300, 400, 600, 800 mcg Sublingual Spray: Subsys® – 100, 200, 400, 600, 800 mcg spray Fentanyl Nasal Spray: Lazanda® –100, 200, 400 mcg	---	See package inserts
Hydrocodone	Hydrocodone/Acetaminophen ♦ Tablets — Examples: Vicodin® – 5/300 mg; Vicodin® ES – 7.5/300 mg, Lorcet® or Vicodin® HP – 10 mg/300 mg — Lortab® – 2.5/500 mg, 5/500 mg 7.5/500 mg, 10/500 mg — Norco® – 5/325 mg, 7.5/325 mg, 10/325 mg Liquid ♦: Hycet® – 7.5/325/15 mL Hydrocodone/Ibuprofen Tablets — Vicoprofen® and generic – 7.5/200 mg	---	20-30 mg
Hydromorphone	Tablets — Hydromorphone (Dilaudid® and generic) – 2, 4, 8 mg Liquid: Hydromorphone (Dilaudid®) – 1 mg/ml Injection – 1, 2, 4 mg/ml — Dilaudid® HP – 10 mg/ml Suppository: Hydromorphone – 3 mg Extended Release (Exalgo®*) – 8, 12, 16, 32 mg q 24 hrs	1.5 mg	7.5 mg
Methadone	Equivalency ratios for methadone are complex because of its long half-life, potency, and individual variations in pharmacokinetics.	---	Consult with Pain/Palliative Care Specialist
Morphine	Immediate Release Tablets — Morphine Sulfate Immediate Release - 15, 30 mg Sustained Release Tablet: — Generic – 15, 20, 30, 50, 60, 80, 100, 200 mg q 12 hrs — MS Contin® – 15, 30, 60, 100, 200 mg q 8 or 12 hrs — Avinza® – 30, 45, 60, 75, 90, 120 mg q 24 hrs — Kadian® –10, 20, 30, 40, 50, 60, 70, 80, 100, 130, 150, 200 mg q 12-24 hrs Generics Oral Liquid — Morphine Sulfate Immediate Release Solution – 2 mg/ml, 4 mg/ml, 20 mg/ml Suppository: Rectal Morphine Sulfate (RMS) – 5, 10, 20, 30 mg	10 mg	30 mg
Oxycodone	Immediate Release Tablets — Oxycodone IR – 5, 10, 15, 20, 30 mg — Roxicodone® – 5, 15, 30 mg Oxycodone/Acetaminophen Tablets ♦ — Percocet® – 2.5/325, 5/325, 7.5/325, 7.5/500, 10/325 mg — Roxicet® – 5/325, 5/500 mg, 10/650 Sustained Release Tablets — OxyContin® – 10, 15, 20, 30, 40, 60, 80 mg Liquid: Oxycodone – 20 mg/ml	---	20 mg
Oxymorphone	Tablets — Opana® – 5, 10 mg — Generic IR – 5, 10 mg — Opana® ER – 5, 7.5, 10, 15, 20, 30, 40 mg q 12 hrs — Generic ER – 7.5, 15 mg	1 mg	10 mg
Tramadol Dual Action Analgesics (opioid and SNRI reuptake inhibitor)	Tramadol Hydrochloride** Tablets — Ultram® and generic – 50 mg — Ultracet® and generic– 37.5/325 mg acetaminophen♦ Tramadol® ODT: Rybix® ODT – 50 mg Extended Release — Ultram® ER and generic – 100, 200, 300 mg q 24 hrs — Ryzolt® –100, 200, 300 mg q 24 hrs	---	300 mg
Tapentadol (Dual action-opioid and norepinephrine reuptake inhibitor)	Tapentadol Tablets*** — Nucynta® – 50, 75, 100 mg — Nucynta®ER– 50, 100, 150, 200, 250 mg q 12		150 mg

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Legend:

- ♦ See recommendations regarding acetaminophen on previous page
- * Consult drug insert for conversion
- ** Maximum dose 400 mg q 24 hrs; age > 75 is 300 mg q 24 hrs; avoid in seizure disorder
- *** Maximum dose 500 mg/24 hrs