# UNC Health Care Guideline

*University of North Carolina Hospitals*
*Pharmacy & Therapeutics Committee*

## Opiate Equianalgesic Dosing Chart

| Dosing Table for Opioids | | | | | | |
|---|---|---|---|---|---|---|
| **Drug** | **Oral to Parenteral (IM, SQ, IV) Ratio** | **Approximate equianalgesic dose** | **ADULTS** Recommended starting dose (adults more than 50 kg body weight) | | **PEDIATRICS** Recommended starting dose (children and adults less than 50 kg body weight)[1] NOTE: when assessing doses in larger children, note usual initial adult dose | |
| | | | **oral** | **parenteral** | **oral** | **parenteral** |
| **Opioid Agonist** | | | | | | |
| **Morphine** | 3 mg oral to 1 mg parenteral | 10 mg PARENTERAL | 10-20 mg every 4 hours | 3-5 mg every 4 hours | 0.3-0.5 mg/kg/dose every 6 hours | 0.05-0.2 mg/kg/dose every 4 hours (MAX 2-4 mg) |
| **Codeine**[2,3] (as Tylenol #3: 30 mg codeine/300 mg APAP) | 1.7 mg oral to 1 mg parenteral | Use of parenteral codeine is not recommended. | 30-60 mg Every 4 hours | N/A | 0.5-1.5 mg/kg/dose every 6 hours | N/A |
| **Fentanyl** | N/A | Fentanyl 100 mcg (0.1 mg) PARENTERAL = Morphine 10 mg PARENTERAL (see next Table for conversion from fentanyl patches to parenteral morphine) | Actiq™, Fentora™ are not available at UNC. | 50 mcg every 2 hours | N/A | 1 – 2 mcg/kg/dose every 4 hours |
| **Hydrocodone**[3] (as Norco: 5 mg hydrocodone/325 mg APAP) | N/A | Hydrocodone 1 mg ORAL is equal to Morphine 1 mg ORAL | 5-10 mg every 4 hours | N/A | 0.05-0.2 mg/kg/dose every 4 hours | N/A |
| **Hydromorphone (Dilaudid)** | 5 mg oral to 1 mg parenteral | Hydromorphone 2 mg PARENTERAL is equal to Morphine 10 mg PARENTERAL | 2 mg every 4 hours | 1 mg every 4 hours | 0.03-0.08 mg/kg/dose every 4 hours | 0.015 mg/kg/dose every 4 hours |
| **Meperidine** | 4 mg oral to 1 mg parenteral | Meperidine 75 mg PARENTERAL is equal to Morphine 10 mg PARENTERAL | NOT RECOMMENDED AS AN ANALGESIC (FOR TREATMENT OF RIGORS ONLY) | | | |
| **Methadone**[4] | Caution is advised when converting to methadone due to variability in patient response and delayed peak effects. Reliable equianalgesic conversion for repeated dosing is not available. Parenteral methadone is not available at UNC. | | 5 mg every 8 hours | N/A | 0.1 mg/kg/dose every 8 hours | N/A |
| **Oxycodone**[3] (as Percocet: 5 mg oxycodone/325 mg APAP) | N/A | Oxycodone 1 mg ORAL is equal to Morphine 1.5 mg ORAL | 5 -10 mg every 4 hours | N/A | 0.05-0.2 mg/kg/dose every 6 hrs | N/A |
| **Opioid Agonist-Antagonist and Partial Agonist** | | | | | | |
| **Butorphanol** | N/A | Butorphanol 2 mg PARENTERAL is equal to Morphine 10 mg PARENTERAL | N/A | 2 mg every 4 hours | N/A | 10-20 mcg/kg/dose every 4hours |
| **Nalbuphine** | N/A | Nalbuphine 10 mg PARENTERAL is equal to Morphine 10 mg PARENTERAL | N/A | 10 mg every 4 hours | N/A | 0.1 mg/kg/dose every 4 hours |

Note: Published tables vary in the suggested doses that are equianalgesic to morphine. Clinical response is the criterion that must be applied for each patient; titration to clinical response is necessary. Due to cross-tolerance, when switching from one opioid to another, the starting dose of the new opiod should be 50% to 67% of the equianalgesic dose except when switching to methadone. When switching to methadone, the starting dose should be 10% to 25% of the equianalgesic dose. Opioid dose should then be titrated and individualized to clinical situation and patient response. When using higher total doses, decrease total dose incrementally by 30% per day.

[1]**Caution**: Doses listed for patients with body weight less than 50kg cannot be used as initial starting doses in babies less than 6 months of age.
[2]**Caution**: Codeine doses above 65 mg often are not appropriate due to diminishing incremental analgesia with increasing doses but continually increasing side effects.
[3]**Caution**: Doses of aspirin and acetaminophen in combination opioid/NSAID preparations must also be adjusted to the patient's body weight.
[4]**Caution**: Methadone is appropriate for chronic stable pain in an opioid-tolerant patient, but is usually avoided in opiate-naïve patients. Convert & titrate slowly (over 3-6 days) due to long biphasic half-life; beware of cumulative effects in first 3-10 days.

**Updated: December 2009.**

# UNC Health Care Guideline



## Opiate Equianalgesic Dosing Chart

| Morphine to Transdermal Fentanyl Equivalency | |
|---|---|
| **Parenteral Morphine Dose (mg/24 hours)** | **Fentanyl Patch dose (mcg/hr)** |
| 4-11 | 12 |
| 8-22 | 25 |
| 23-37 | 50 |
| 38-52 | 75 |
| 53-67 | 100 |
| 68-82 | 125 |
| 83-97 | 150 |
| 98-112 | 175 |
| 113-127 | 200 |

NOTE: Do NOT cut patch.

[1]**Caution**: Doses listed for patients with body weight less than 50kg cannot be used as initial starting doses in babies less than 6 months of age.
[2]**Caution**: Codeine doses above 65 mg often are not appropriate due to diminishing incremental analgesia with increasing doses but continually increasing side effects.
[3]**Caution**: Doses of aspirin and acetaminophen in combination opioid/NSAID preparations must also be adjusted to the patient's body weight.
[4]**Caution**: Methadone is appropriate for chronic stable pain in an opioid-tolerant patient, but is usually avoided in opiate-naïve patients. Convert & titrate slowly (over 3-6 days) due to long biphasic half-life; beware of cumulative effects in first 3-10 days.

**Updated: December 2009.**