Opioid Conversion Table

Chronic Pain Management Toolkit

Calculating total daily doses of opioids is important to appropriately and effectively prescribe, manage, and taper opioid medications. There are a number of conversion charts available, so caution is needed when performing calculations. As with all medications, consulting the package insert for dose titration instructions and safety information is recommended. Treatment should be individualized and begin with lower doses and gradual increases to manage pain.

Once the dose is calculated, the new opioid should not be prescribed at the equivalent dose. The starting dose should be reduced by 25-50% to avoid unintentional overdose due to incomplete cross-tolerance and individual variations in opioid pharmacokinetics. This dose can then be gradually increased as needed.

To calculate the total daily dose:

1. Determine the total daily doses of current opioid medications (consult patient history, electronic health record, and PDMP as necessary).
2. Convert each dose into MMEs by multiplying the dose by the conversion factor.
3. If more than one opioid medication, add together.
4. Determine equivalent daily dose of new opioid by dividing the calculated MMEs of current opioid by new opioid's conversion factor. Reduce this amount by 25-50% and then divide into appropriate intervals.

Calculating Morphine Milligram Equivalents (MME)*			
Opioid	**Conversion Factor** (convert to MMEs)	**Duration (hours)**	**Dose Equivalent Morphine Sulfate (30mg)**
Codeine	0.15	4-6	200 mg
Fentanyl (MCG/hr)	2.4		12.5 mcg/hr**
Hydrocodone	1	3-6	30 mg
Hydromorphone	4	4-5	7.5 mg
Morphine	1	3-6	30 mg
Oxycodone	1.5	4-6	20 mg
Oxymorphone	3	3-6	10 mg
Methadone†			
1-20 mg/d	4		7.5 mg
21-40 mg/d	8		3.75 mg
41-60 mg/d	10		3 mg
≥61 mg/d	12		2.5 mg

**The dose conversions listed above are an estimate and cannot account for an individual patient's genetics and pharmacokinetics.*

***Fentanyl is dosed in mcg/hr instead of mg/day, and absorption is affected by heat and other factors.*

†Methadone conversion factors increase with increasing dose.

Sample Case

Your patient is a 45-year-old man who is taking oxymorphone 10 mg 4 times a day for chronic pain. You have determined he is an appropriate candidate for a long-acting regimen and decide to convert him to extended release oxycodone.

1. Total daily dose of oxymorphone → 10 mg X 4 times /d = 40 mg/d
2. Convert to MMEs (oxymorphone conversion factor = 3) →40 X 3 = 120 MME
3. Determine MMEs of oxycodone (oxycodone conversion factor = 1.5) → 120/1.5 = 80 mg/d
4. Decrease dose by 25% → 25% of 80 = 20 → 80 – 20 = 60
5. Divide by interval (q 12 hours) → 60/2 = 30

The starting dose of extended release oxycodone is 30 mg q 12h.

Additional Resources

CDC Opioid Conversion Guide

https://www.cdc.gov/drugoverdose/pdf/calculating_total_daily_dose-a.pdf