

HOW TO CALCULATE DAILY MORPHINE MILLIEQUIVALENTS (MME)

Online tool: <http://www.agencymeddirectors.wa.gov/Calculator/DoseCalculator.htm>

Opioid Dose Calculator

[← Back to AMDG Home](#)

Instructions: Fill in the mg per day* for whichever opioids your patient is taking. The web page will automatically calculate the total morphine equivalents per day.

Patient's Name:
 Today's Date:

Opioid (oral or transdermal):	mg per day:*	Morphine equivalents:
Codeine	<input type="text"/>	0
Fentanyl transdermal (in mcg/hr)	<input type="text"/>	0
Hydrocodone	40	40
Hydromorphone	<input type="text"/>	0
Methadone†	30	240
Morphine	<input type="text"/>	0
Oxycodone	<input type="text"/>	0
Oxymorphone	<input type="text"/>	0
Tapentadol	<input type="text"/>	0
Tramadol	<input type="text"/>	0
Total		280

Enter the total daily dose of each opioid the patient is taking.

Then, click anywhere on the screen to calculate

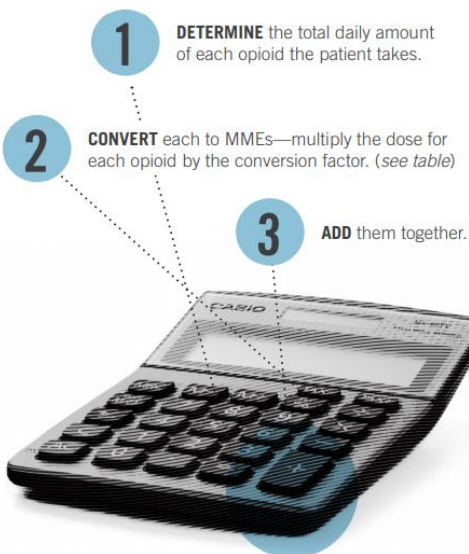
This value is **greater than 120mg MED**. Please follow Part II of the AMDG Interagency Guideline on Opioid Dosing for Chronic Non-cancer Pain. See: [AMDG 2015 Guideline](#)

*NOTE: All doses expressed in mg per day with exception of fentanyl transdermal, which is expressed in mcg per hour

CAUTION: This calculator should NOT be used to determine doses when converting a patient from one opioid to another. This is especially important for fentanyl and methadone conversions. Equianalgesic dose ratios are only approximations and do not account for genetic factors, incomplete cross-tolerance, and pharmacokinetics.

CDC Calculation Table for Common Opioids

HOW SHOULD THE TOTAL DAILY DOSE OF OPIOIDS BE CALCULATED?



Calculating morphine milligram equivalents (MME)

OPIOID (doses in mg/day except where noted)	CONVERSION FACTOR
Codeine	0.15
Fentanyl transdermal (in mcg/hr)	2.4
Hydrocodone	1
Hydromorphone	4
Methadone	
1-20 mg/day	4
21-40 mg/day	8
41-60 mg/day	10
≥ 61-80 mg/day	12
Morphine	1
Oxycodone	1.5
Oxymorphone	3

These dose conversions are estimated and cannot account for all individual differences in genetics and pharmacokinetics.

This CDC handout, and additional information, can be found at <https://www.cdc.gov/drugoverdose/prescribing/clinical-tools.html>

CAUTION:

- Do not use the calculated dose in MMEs to determine dosage for converting one opioid to another—the new opioid should be lower to avoid unintentional overdose caused by incomplete cross-tolerance and individual differences in opioid pharmacokinetics. Consult the medication label.

USE EXTRA CAUTION:

- **Methadone:** the conversion factor increases at higher doses
- **Fentanyl:** dosed in mcg/hr instead of mg/day, and absorption is affected by heat and other factors