Methadone Dose Conversion Guidelines

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Abbreviated version of initial guidelines created by Nicole Kuderer M.D. and Timothy Quill M.D.

Advantages: potency, infrequent dosing, effect on neuropathic pain, usable in renal failure; low cost
Disadvantages: variable t ½, can accumulate with high doses, difficult equianalgesic conversion, drug interactions

Conversion from morphine to methadone: caution is necessary with conversion from another opioid to methadone, as conversion ratio varies depending on previous opioid dose (varying equianalgesic dose); important to use an established conversion protocol when converting from a different opioid to methadone

Conversion table from morphine to methadone (most commonly used in the USA)

24 hour total dose of oral morphine	Conversion ratio (oral morphine: oral methadone)
<30mg	2:1 (2mg morphine to 1mg methadone)
31-99mg	4:1
100-299mg	8:1
300-499mg	12:1
500-999mg	15:1
1000-1200mg	20:1
>1200mg	Consider consult with palliative care or pain specialist

A. Immediate conversion – "Stop and Go":
Step 1: Calculate the methadone dose with the conversion table above
Step 2: Lower the calculated amount by 30% to account for incomplete cross tolerance
Step 3: Divide the calculated amount into three equal doses and give tid
Step 4: Always write "hold for sedation"; use caution in total starting doses over 30 - 40 mg per day.
In our opinion, this is the preferred method.

B. Stepwise conversion method:
Step 1: Calculate total methadone dose with conversion table from above
Step 2: Lower the calculated amount by 30% to account for incomplete cross tolerance
Step 3: Convert stepwise from other opioid to methadone over 3-6 days
- Day 1: 1/3 of methadone in q 12 hrs or q 8 hrs dosing + 2/3 of original opioid
- Day 2: 2/3 of methadone in q 12 hrs or 8 hrs dosing + 1/3 of original opioid
- Day 3: Complete switch to methadone

N.B Because of long half-life and tendency to accumulate, do not use methadone for prn dosing. Consider using short acting opioid as back up.

Methadone to morphine conversion: minimal data; often difficult given the multiple receptors that methadone affects; start with 1:1 (methadone: morphine) and be prepared to increase the dose rapidly

Drug Interactions: Hepatic elimination – cytochrome P450 3A4, 1A2, 2D6
- drugs decreasing methadone level: anti-retrovirals, phenytoin, carbamazepine, rifampin, steroids, chronic ETOH, cigarettes, St. John's Wort
- drugs increasing methadone level: tricyclic antidepressants, SSRI, metronidazole, fluconazole, erythromycin, grapefruit juice, acute ETOH
- synergistic toxicity: e.g. benzodiazepines significantly increase respiratory depression and sedation
- synergistic analgesia: ibuprofen and diclofenac found to have methadone-sparing effect
- do not use in combination with MAOI

Practical facts:
Pills 5, 10mg; Liquid 1mg/cc, 2mg/cc, 10mg/cc; Parenteral 10mg/cc; Parenteral to Oral ratio (1:2)
Pills are reasonably well absorbed rectally and can be given in this mode when NPO for short periods
Cost of methadone: 1/10 morphine sulfate ER, 1/50 Oxycontin, 1/10 of transdermal fentanyl.
Any physician with a Schedule II DEA license can prescribe methadone for pain. A special license is only required when using for the treatment of addiction. **(N.B. must write "for pain" on the prescription when used for pain)**
Get help if converting from large doses of other opioids, converting to IV, or if inexperienced

Additional Resources:
1. Manfredi P et al. Prescribing Methadone, a Unique Analgesic. J of Supportive Onco. Sept/Oct 2003;1(3):216-20.
2. Bruera E et al. Methadone Use in Cancer Patients with Pain: a Review. J of Palliative Medicine. Feb 2002;5(1):127-38.

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