METHADONE

Long-acting, synthetic opioid

Mu agonist (primary), Delta and Kappa agonists

Potent analgesic
Potent antitussive

N-methyl-D-aspartate receptor (NMDA) antagonist

Reduce opioid tolerance
Enhances opioid effects
Treats neuropathic pain

Serotonin and Norephinephrine reuptake inhibitor

Treats neuropathic pain

"Methadone is not for everyone." Due to the unique properties of methadone, which has a long and variable half-life and a large volume of distribution, there is a risk of accumulation leading to sedation, respiratory depression and even death. The initiation of or switch to methadone for the management of pain (cancer pain, chronic pain) should be restricted to authorized and experienced physicians to avoid inadvertent over or under dosing. Consultation with the NH-Palliative Consultation Team is recommended because of the complexities of methadone use (CPSBC, NH-PCSG).

Side Effects	Risk factors	Patient Monitoring
Sedation	Concurrent use of CNS depressants; e.g., sedatives, anxiolytics, neuroleptics, hypnotics, other opioids, including alcohol or illicit drugs.	Monitor for sedation, lethargy, confusion and respiratory depression q6h for 3 to 6 days after initiation or dose change, then daily until at least day 10.
Respiratory Depression	Respiratory depression, especially patients with COPD, significant sleep apnea, or in patients who are elderly, cachectic or debilitated.	Risk for respiratory depression is greatest from day 4-6. (initiation/titration)
Cardiac Arrhythmias	Preexisting cardiac disease, metabolic concerns or the use of drugs known to cause QTc prolongation.	Obtain baseline ECG prior or during therapy, if doses in excess of > 150 mg/day, risk factors for cardiac arrhythmia, or the use of drugs known to cause QTc prolongation.
Drug Interactions	Inducers or inhibitors of the cytochrome P450 3A4 can reduce or raise methadone levels. Substrates compete for metabolism with methadone and may or may not also inhibit or induce P-450 3A4 impacting methadone metabolism.	Always consult current sources when initiating and converting to methadone from other opioids . Refer to CPSBC (2015) Appendix G for a list of drugs that interacts with methadone. If drug interactions are suspected methadone dosing may need to be altered.

References:
- CPSBC (2015): Recommendations for the use of methadone for pain. College of Physicians and Surgeons of British Columbia.
  App E: Morphine to Methadone Equiananalgesic Conversion Guide
  App F: Equianalgesic potency of opioids for chronic pain
  App G: Medications metabolized by Cytochrome P450 3A4
  App H: Drugs associated with QTc Prolongation
- NH-PC Physician-on-call: Available 24/7. Tel: UHNBC Switchboard 1(250) 565-2000.
- NH-PCSG (2008) Appendix B: Methadone. Northern Health Palliative Symptom Guide, p149-196.

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