Managing hospitalized methadone–maintained patients

William Jangro, DO, and Robin Hanson, DO

Methadone maintenance therapy is widely used for helping patients recover from an opioid use disorder. When these patients develop an acute medical problem that requires hospitalization, there often is confusion among providers regarding methadone pharmacology, regulations, and general safety issues. We have observed that the lack of awareness of these practices can lead to poor medical and surgical outcomes, increased length of stay, and diminished patient satisfaction.

Consider the following common pitfalls—all of which we have encountered on our psychiatry consult service—and ways to avoid them when treating methadone-maintained patients.

Don't **give a full methadone maintenance dosage without verifying the dosage and the date when it was last administered.** Methadone typically has a long, but variable, half-life, with ranges of 4 to 130 hours being reported.[1] Do not rush to give the full dose without verification from the patient's methadone maintenance treatment program (MMTP). Small doses—not to exceed 40 mg in 24 hours—can be administered until you verify the dosage. Multiple days of missed dosing result in decreased tolerance and will require a dosage reduction.

Consult with the MMTP when restarting methadone in a patient who has missed any days of outpatient dosing. Because methadone can take days to reach a serum steady state, it can cause oversedation or obtundation after it's restarted in a person who has lost tolerance due to multiple consecutive days of missed doses.

Don't **automatically give the full, verified dose if the patient appears sedated.** A variety of other substances (benzodiazepines, heroin, tricyclic antidepressants) can increase the effects of methadone. Even the verified methadone maintenance dosage may need to be reduced or held until these other substances are cleared from the patient's system.

Don't **be afraid to adjust the methadone dosage if medically indicated.** Medically hospitalized patients might be placed on medications that can alter methadone metabolism. The primary enzyme responsible for methadone metabolism is cytochrome P450 3A4, which can create significant drug-drug interactions with rifampin, carbamazepine, phenytoin, and barbiturates, among others.[2]

Don't **taper methadone just because the patient does not want to be on it any longer.** A patient's methadone dosage should be adjusted in the hospital only if there is an acute medical indication to do so. Otherwise, all dosage changes must be made on an outpatient basis at the MMTP.

Don't **be afraid to give opioids to treat acute pain.** Methadone maintenance does not treat acute pain. In fact, compared with the general population, these patients likely will need a higher-than-expected opioid dosage to treat acute pain.[3]

Don't **initiate methadone maintenance in the hospital.** Methadone maintenance can be initiated only at an MMTP that has been certified by appropriate federal and

Dr. Jangro is Instructor, and Dr. Hanson is Psychosomatic Medicine Fellow, Department of Psychiatry and Human Behavior, Thomas Jefferson University, Philadelphia, Pennsylvania.

Disclosures
The authors report no financial relationships with any company whose products are mentioned in this article or with manufacturers of competing products.

state agencies.[4] Small doses of methadone can be given to treat or prevent opioid withdrawal in patients admitted to the hospital for conditions other than an opioid use disorder. An exception: A pregnant woman with an opioid use disorder who seeks methadone initiation in the hospital.

Don't **forget to monitor the QTc interval.** Methadone can prolong the QTc interval. Although the overall rate of cardiac toxicity is low, it is reasonable to obtain an electrocardiogram in patients with heart disease, those predisposed to prolonged QTc, or those taking another QT-prolonging agent.[5]

Don't **let negative countertransference prevent you from giving quality care.** Patients with a drug addiction can be challenging. They can elicit anger among members of their treatment team because of their character pathology or a provider's discomfort and unfamiliarity. One might be tempted to spend less time with so-called "difficult" patients, but keep in mind that methadone-maintained patients often carry chaotic medical and social issues that require a thoughtful and thorough approach to treatment.

A variety of other substances—benzodiazepines, heroin, tricyclic antidepressants—can increase the effects of methadone

References

1. Eap CB, Buclin T, Baumann P. Interindividual variability of the clinical pharmacokinetics of methadone: implications for the treatment of opioid dependence. Clin Pharmacokinet. 2002;41(14):1153-1193.
2. Davis MP, Walsh D. Methadone for relief of cancer pain: a review of pharmacokinetics, pharmacodynamics, drug interactions and protocols of administration. Support Care Cancer. 2001;9(2):73-83.
3. Athanasos P, Smith CS, White JM, et al. Methadone maintenance patients are cross-tolerant to the antinociceptive effects of very high plasma morphine concentrations. Pain. 2006;120(3):267-275.
4. Heit HA, Covington E, Good PM. Dear DEA. Pain Med. 2004;5(3):303-308.
5. Martin JA, Campbell A, Killip T, et al; Substance Abuse and Mental Health Services Administration. QT interval screening in methadone maintenance treatment: report of a SAMHSA expert panel. J Addict Dis. 2011;30(4):283-306.

Discuss this article at www.facebook.com/CurrentPsychiatry