Methadone

What's the practice?

Methadone is an FDA-approved medication used to treat opioid use disorder (OUD) and can also be used for pain management purposes. Methadone is used to treat those with a confirmed diagnosis of OUD and can only be dispensed through a SAMHSA-certified opioid treatment program (OTP). Methadone, a long-acting opioid agonist, reduces opioid craving and withdrawal and blunts or blocks the effects of opioids. It is available in liquid, powder and diskettes forms, and is required to be taken daily (1).

Methadone is one component of a comprehensive treatment plan, which includes counseling and other behavioral health therapies,

Who does it work for?

The medication has been shown to work for individuals with opioid use disorder (often with symptoms of physical dependence), including pregnant individuals. Those under 18 years of age may be admitted to maintenance treatment if a parent, legal guardian, or responsible adult designated by the relevant State authority consents to the treatment. (Fed guidelines doc)

What have the outcomes been?

The primary outcomes have been related to the effects of medication-based treatment on treatment retention and use of opioids.

Treatment retention: Methadone-based treatment is more effective in retaining individuals in treatment for OUD compared to placebo in an outpatient clinical setting. The option of 'take-home doses' when adherence to OTP requirements is consistently met also may help with treatment retention. One barrier to treatment mentioned in multiple studies is the limited accessibility to methadone, as it is only available in OTPs, compared to buprenorphine, which can be accessed through OTPs and primary care settings. (9)

Opioid use: Methadone-based treatment is more effective in reducing opioid use, opioid use-associated transmission of infectious disease, and crime when compared to placebo with psychosocial treatment (2-8). One review found that patients on methadone had 33 percent fewer opioid-positive drug tests (2). Methadone in reducing illicit opioid use is similar to that of buprenorphine.

Outcomes in pregnancy: Pregnant women with OUD have a higher frequency of additional risk factors for adverse pregnancy outcomes than pregnant women who do not use opioids. MOUDs such as methadone are shown to have improved fetal outcomes in pregnancy compared to no treatment. (11)

Outcomes for pain management:

- Cravings: Studies have consistently reported that when methadone is provided at adequate dose levels (above 60mg), it is more effective than no medication treatment/placebo in retaining patients in treatment and reducing illicit opioid use. (12)
- Quality of life: Research findings regarding the impact of methadone maintenance treatment on many secondary outcomes, such as mortality, drug-related HIV risk behaviors, and criminal activity, are less conclusive but suggest positive trends.

Neurocognitive **functioning**. Those on methadone show better neurocognitive function compared to those in active opioid use and abstinent individuals not on methadone but buprenorphine is associated with better executive functioning, attention/working memory, and learning/memory than methadone. (10)

Where is the evidence from?

The evidence for methadone has been documented in at least **[X]** systematic reviews. Most evidence comes from randomized controlled trials and observational studies. Research suggests that the availability and utilization of OAT (Opioid Agonist Therapy) treatment varies significantly among ethno-racial groups. (13)

Who is delivering it?

OTPs that have current valid accreditation status, SAMHSA certification, and Drug Enforcement Administration (DEA) registration are able to administer or dispense opioid drugs for the treatment of opioid addiction. Methadone can only be delivered by providers at one of these OTPs. Restriction of methadone dispensing to OTPs reduces access to methadone treatment, especially since methadone requires daily dosing and there are strict guidelines around take-home doses. Office-based methadone treatment (also referred to as "methadone medical maintenance") for stable patients can occur with SAMHSA-approved exceptions if the physician's office is affiliated with an OTP. (14)

When does it work? (e.g., after an overdose, during recovery, etc.)

Methadone is initially administered during active withdrawal.

How is it delivered?

Forms include liquid, dissolvable tablets and tablets.

How much? (quantity/dosing)

The average effective dose of methadone is 60–120 mg. The initial daily dose of methadone is generally around 20 mg-30 mg. Once patients are taking methadone without intoxication or significant withdrawal symptoms, the aim is to titrate the methadone dose to its most effective level. The daily dose of methadone should then be increased by 5–10 mg every few days, as needed, to reduce cravings for opioids, and illicit opioid use. The dose should not be increased by more than 20 mg per week.

How often? (frequency)

Methadone is required to be taken daily. In approximately 30% of patients, methadone does not produce effects that are evenly sustained over 24 hours, in which case it taken be taken 2x daily.

How long? (duration)

Methadone is intended as a long-term medication to treat OUD. Research is lacking in factors predicting successful withdrawal from methadone.

Any training or intervention manuals?

By law, only a SAMHSA-certified Opioid Treatment Program (OTP) can dispense methadone for the treatment of Opioid Use Disorder.

Any fidelity measures?

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Has this been studied in combination with other treatments?

Methadone is often paired with adjunctive psychosocial therapy or counseling.

What are the goals?

The goals of methadone are to reduce opioid use, treat pain and reduce other substance use, retain individuals in treatment, and reduce mortality risk associated with opioid use.

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