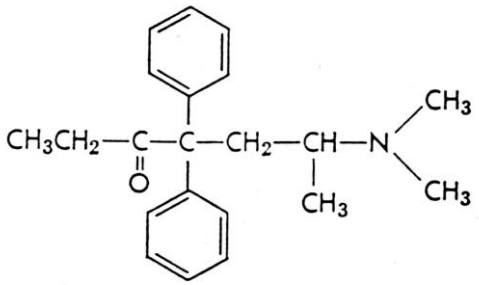
State of the Art Medications for Opioid Use Disorder: Current,Future Use of Methadone in the Fentanyl Era



Methadone

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Objectives:

1. Appreciate History of methadone
2. Differentiate Methadone Mechanism of Action vs Buprenorphine
3. Understand Methadone risks and side effects.
4. Be able to identify Methadone initiation and duration of treatment in the era of fentanyl
5. Identify Methadone management models outside the USA and Future treatment models

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Methadone History

- Developed: 1937 Germany
- Initially used to treat OUD: 1966 Dole, Nyswander, and Kreek
- Approved for OUD in 1972 FDA
- Opioid Treatment Programs (OTP) created through Narcotic Addict Treatment Act 1974
- Current Use: Dispensed at OTP.
  - Not prescribed, can't be seen through PMP.
- Currently 1800 OTPs in US dispensing to 400,000 million annually.
- 6.1 Million people in the US meet criteria for OUD 2022

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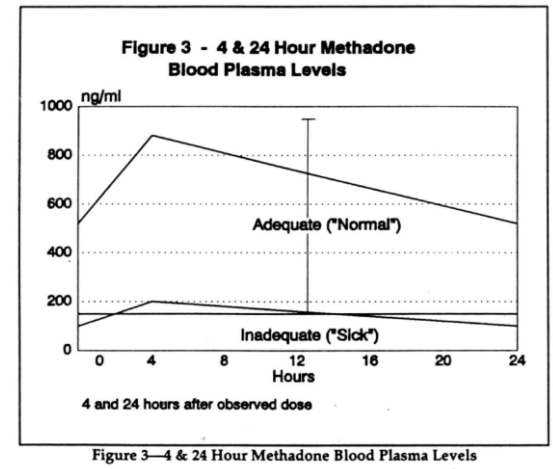
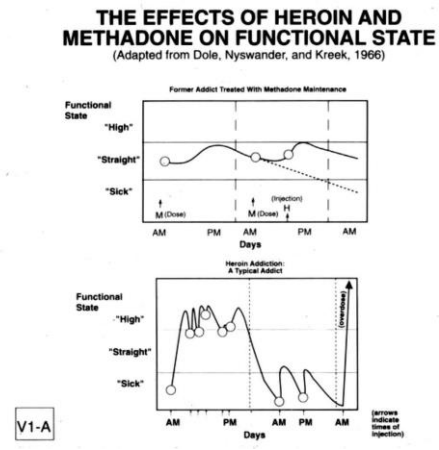


Figure 3—4 & 24 Hour Methadone Blood Plasma Levels



V1-A

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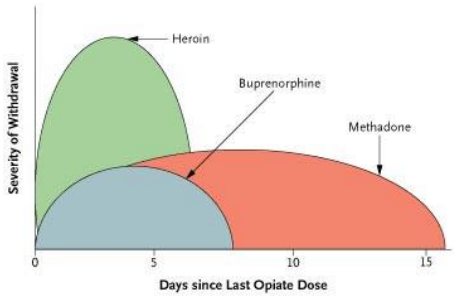
Methadone Mechanism of Action

- Full mu opioid agonist
  - Partly blocks euphoric effect of opioids, stops craving, overdose protection
- Rapidly Absorbed, 80-95% Bioavailable
- Half-life 30 hours (13-58 hours)
- Time to Peak Concentration 2-4 Hours
- Detectable in plasma after 30 mins



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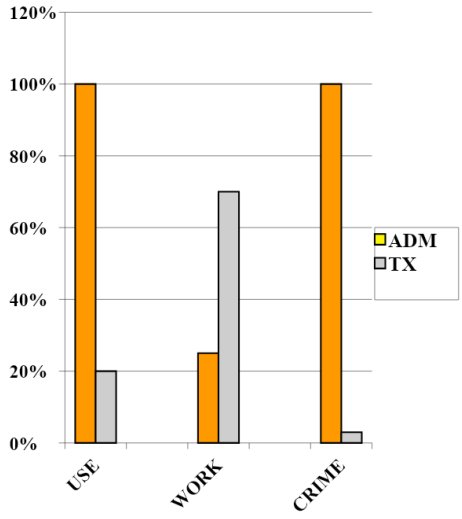
Outcomes of Methadone Patients



- Narcotic use decreases from daily use at admission to < 20% of patients testing positive in a given month.
- Employment increase from 25% on admission to 70% during treatment.
- Crime is reduced by 90% during treatment
- Mortality decreased 50% or more (NNT = 2)

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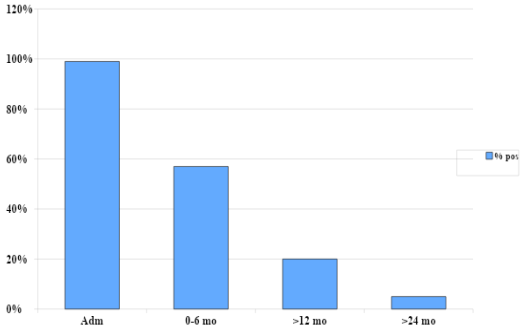
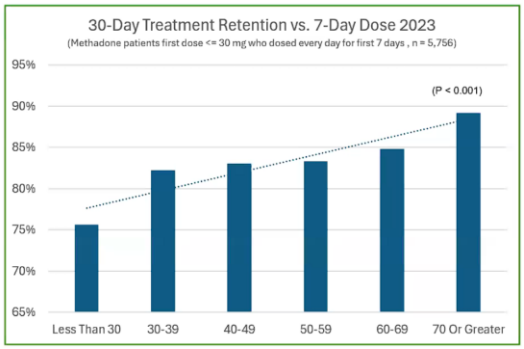
Methadone Duration of Treatment: Use and Retention





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Who's Appropriate for Methadone?

- Patient who have high tolerance with fentanyl
- Not tolerated buprenorphine in the past
- Patients who need increased structure, follow up for accountability
- Hx of tolerating higher methadone doses
- Appropriate Social support/transportation access
- Not on sedatives, (Benzodiazepines, alcohol,) eg.
- If patient is pregnant, may need higher doses in 3rd trimester
- Consider EKG if hx of previous cardiac disease, long QT, on significant QT prolonging medication, otherwise unnecessary.
  - Acceptable QT generally <500 msec

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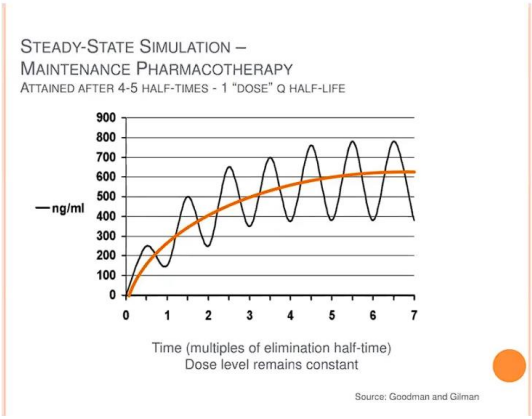
Methadone Hospital Induction

Note protocols are hospital/provider specific

- New Patient:
  - Start 30 mg daily (historically 10 or 20 mg)
  - Increase 10 mg daily until 60 mg total daily dose.
  - Increase by 5 mg daily or Q48 hours afterwards. Titrate to reduction in cravings/sedation.
  - Provide prn medications for withdrawal comfort.
  - Would need to establish with an OTP prior to discharge.
- Average Methadone dose 2023: 112 mg daily
- Previous Patient
  - Confirm last time of use and location of clinic
  - Pharm D confirms dose via Methasoft or with clinic
  - Can be ordered in hospital by any licensed provider



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Outpatient Methadone Induction

- Induction: 30 mg or less depending on amount of abstinence prior to induction
- Dose adjustment: every 3-5 days
- Must arrive 6 days a week with 1 day take outs on Saturday. Take out policy is clinic dependant.
  - Challenge for Rural patients

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Methadone outside of the US

- Canada:
  - Start 30 mg methadone increase 10 mg every 3-5 days, typically not enough in the era of Fentanyl.
- Europe:
  - Given more take aways at time of first visit and do not need to participate in other programming.
  - Harm reduction/consumption rooms
- Asia:
  - suboptimal methadone dosages international guidelines (median dose 30 mg/day). Poor adherence to international guidelines for opioid agonist therapies, aggressive law enforcement, and a lack of methadone in prisons resulted in low retention

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Recent and Upcoming work in Methadone

March 2020: Substance Abuse and Mental Health Services Administration (SAMHSA) allowed more take home doses, Up to monthly. No increases in overdoses were found in this population.

April 2024: SAMHSA 42 Code of Federal Regulations (CFR) Part 8 revision allows for initial dose 50 mg, no restrictions on subsequent doses, no restrictions on split dosing.

- Locally: Hennepin Healthcare prescribe “72-hour rule methadone” at discharge if going to an OTP
- Active NIDA trial of office-based methadone vs buprenorphine ongoing at Hennepin Healthcare Research Institute through our Addiction Medicine clinic. EMBOSS.

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Case Provided by Dr. Sheila Specker

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