

Comparison Chart of Heroin Dependence and Agonist Therapies

<i>Topic</i>	<i>Heroin</i>	<i>Methadone</i>	<i>LAAM</i>	<i>Buprenorphine¹</i>
Onset of action	A few seconds	30 minutes	2 or more hours	30 to 40 minutes
Duration of action	4 to 6 hours	24 to 36 hours	48 to 72 hours	About 24 – 48 hours
Route of Administration	Injection, snorting, smoking	Oral	Oral	Sublingual
Frequency of administration	Several times a day	Daily ² or more frequently as needed	2 – 3 days per week	Every day or every other day
Effective dose	Ever increasing	Blocking dose ³ , Usually 80 to 120 mg	Blocking dose, 60 to 140 mg/day	2 to 32 mg ⁴
Tolerance	Increasing Tolerance	Tolerance is stable	Tolerance is stable	Tolerance is stable
Euphoric effects	Euphoria for up to 2 hours	No euphoria when stabilized	No euphoria when stabilized	No euphoria when stabilized

Overdose Potential	High ⁵ and increased	Rare ^{5,6} – Potential if mixed with other depressants	Rare – Potential if mixed with other depressants	Very rare
Overall Safety	Potentially lethal	Very safe ⁷ – Possibly Associates with rare Cardiac irregularities – Treatment choice in Pregnancy	Overall good – Associated with rare cardiac irregularities – Not recommended for us in pregnancy or breast feeding	Overall good profile - Suboxone injection will cause serious withdrawal symptoms in dependent persons – Not recommended for use in pregnancy or breast feeding – Caution with liver disease – Currently under study
Withdrawal	Within 3 or 4 Hours after last dose	Within 24 to 36 hours after last dose	Within 48 to 72 hours after last dose	Within 36 – 48 hours after last dose
Craving	Recurring cravings	Eliminated with adequate Dose	Eliminated with adequate dose	Craving may not be totally eliminated due to ceiling effect

Pregnancy and nursing	Heroin dependence poses grave risks for mother and fetus	Safe during pregnancy ⁸	Not indicated	Not indicated, however study underway
Experience of pain and emotions	Blunted	Normal pain and full range of emotions	Normal pain and full range of emotions	Normal pain, but opioid analgesics may not be effective – May need to switch to methadone – Full range of emotions
Mood	Constant mood swings	Normal ⁹	Normal	Normal
Physical reaction time and intellectual functioning	Impaired	Reaction time normal Intellectual functioning unimpaired on stable dose ¹⁰	Reaction time presumed to be normal like methadone	Reaction time presumed to be normal like methadone. FDA cautions driving and operating heavy machinery in the beginning of treatment
HIV & hepatitis C transmission	High rate with needle use and unprotected sex	Reduced/eliminated ¹¹	Reduced/eliminated	Reduced/eliminated

Immune system for HIV positive persons	Rapid progression to AIDS	Progression slowed with methadone	Progression presumed same as methadone - DATA not available for LAAM	Progression presumed same as methadone – Data not available for buprenorphine
Immune/endocrine system functioning	Impaired	Normalized during treatment ¹²	Presumed normalized during treatment. Data not available	Presumed normalized during treatment. Data not available
Stress response	Suppressed	Normalized during Treatment	Normalized during treatment	Normalized during treatment
Criminal activity	High level	Reduced/Eliminated	Reduced/Eliminated	Reduced/eliminated
Personal Relationships	Disrupted	Potential for restoration, improvement with counseling	Potential for restoration, improvement with counseling	Potential for restoration, improvement with counseling
Employment	Deteriorating Performance, loss of employment	Full functioning	Full functioning	Full functioning ¹³

Community Impact	Destructive impact; High crime, high death rate, transmission of disease	Contributes to public safety, low mortality, increased health	Contributes to public safety, low mortality, increased health	Contributes to public safety, low mortality, increased health
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¹ Two forms of buprenorphine: Subutex (pure buprenorphine) used for withdrawal and at treatment induction and Suboxone (buprenorphine with naloxone) used after initial treatment phase for longer-term maintenance to address addiction. Suboxone is recommended for all prescription and all out-of-clinic doses.

² Rapid metabolizers and pregnant women may require dosing twice per day.

³ The dose at which heroin is ineffective and overdose potential practically eliminated.

⁴ The highest doses are equivalent to about 50 mg of methadone. A ceiling limit exists for buprenorphine's therapeutic effects.

⁵ Overdose potential is increased if mixed with other depressant drugs such as alcohol or benzodiazepines (anti-anxiety medications).

⁶ Overdose is rare with opioid-tolerant individuals in opioid treatment.

⁷ No serious side effects have been found in opioid-tolerant patients who have been in treatment for over 20 years. Long-term studies show no liver toxicity.

Patients with hepatitis C and AIDS can be treated safely with methadone although changes in dose may be necessary

⁸ Neonate who shows signs of withdrawal can be treated successfully with paregoric or tincture of opium. HIV-positive/AIDS mothers should not nurse.

Mothers with hepatitis C can nurse with caution.

⁹ Mood remains normal if no other psychiatric or emotional conditions exist.

¹⁰ Methadone patients over the last 30 years have worked in all types of jobs and professions, including work with complicated machinery and computers and professional work requiring advanced degrees.

¹¹ In conjunction with proper education/counseling, these medications stop the use of heroin, but not injection of other drugs nor unsafe sexual practices.

¹² Appears to improve immune response when compared to heroin.

¹³ FDA label warning cautions against heavy machinery use or driving during initial phase of treatment.