SUBSTANCE-RELATED AND ADDICTIVE DISORDERS

Opioid Use Disorder

OUD

DSM-5-TR 304.00/305.50 | ICD-10-CM F11.10, F11.20

Compulsive opioid use driven by potent negative reinforcement, carrying high overdose lethality and highly effective medication treatment.

12-MONTH PREVALENCE	TYPICAL ONSET	OVERDOSE MORTALITY	COURSE
~2% (US adults)	Late teens to 20s	~80,000 US deaths/yr	Chronic; MOUD halves deaths

CLINICAL PICTURE

- Use escalates from prescribed or recreational opioids to daily dosing that prevents withdrawal, with most of the day spent obtaining and using.
- Intoxication brings miosis, sedation, slurred speech, and constipation, while overdose adds respiratory depression, cyanosis, and pinpoint pupils.
- Withdrawal begins 8 to 12 hours after short-acting opioids with lacrimation, rhinorrhea, yawning, myalgias, diarrhea, piloerection, and dysphoria.
- Withdrawal is rarely life-threatening but is intensely aversive, and fear of it sustains use more powerfully than the pursuit of euphoria.
- Injection use brings abscesses, cellulitis, endocarditis, hepatitis C, and HIV, so look for track marks and unexplained fevers or murmurs.
- Presentation often follows a crisis such as nonfatal overdose, incarceration, pregnancy, or an infection requiring hospital admission.

DIAGNOSTIC CRITERIA AT A GLANCE

- Requires at least 2 of 11 criteria in a 12-month period across impaired control, social impairment, risky use, and pharmacologic features.
- Severity is graded mild 2-3, moderate 4-5, or severe 6 or more, and most patients presenting to treatment meet the severe threshold.
- Tolerance and withdrawal are excluded from the count when opioids are taken as prescribed under appropriate medical supervision for pain.
- Craving is an explicit criterion and a practical treatment target that should be measured by self-report during induction and stabilization.
- Remission specifiers apply while a patient is on maintenance medication, since taking **buprenorphine** or **methadone** is not itself a criterion.

NEUROBIOLOGY & PHYSIOLOGY

- Mu-opioid receptor agonism in the ventral tegmental area disinhibits dopaminergic projections to the nucleus accumbens, producing reinforcement.
- Locus coeruleus noradrenergic rebound after chronic mu suppression generates the autonomic storm that characterizes opioid withdrawal.
- Neuroadaptation includes receptor desensitization, upregulated cAMP signaling, and blunted endogenous endorphin and enkephalin tone.
- Prefrontal hypofunction with amygdala and habenula hyperreactivity sustains compulsive use despite intact knowledge of the harms involved.
- Heritability approaches 50%, and **OPRM1** A118G and stress-axis variants modestly shift risk, analgesic response, and dose requirements.
- Loss of tolerance after abstinence, combined with illicit **fentanyl** contamination, drives the sharp overdose spike after jail release or detox.

PSYCHOLOGICAL MECHANISMS

- Negative reinforcement predominates: use terminates withdrawal, physical pain, and emotional distress, which powerfully strengthens the behavior.
- Early adversity and chronic pain are frequent antecedents, with opioids serving as an affect-regulation strategy when alternatives are absent.
- Delay discounting is steep, so immediate relief consistently outweighs the delayed cost of overdose, lost custody, or lost relationships.
- Identity, social network, and daily structure become organized around use, so recovery means rebuilding roles rather than only stopping the drug.
- Internalized stigma, including stigma about medication treatment itself, is a leading driver of premature discontinuation and dropout.

DIFFERENTIAL & COMORBIDITY

- Distinguish physical dependence from opioid use disorder, since dependence alone in an appropriately treated pain patient is not a diagnosis.
- Screen for stimulant, benzodiazepine, and alcohol co-use, all of which sharply increase respiratory depression and fatal overdose risk.
- Comorbidity with depression, PTSD, ADHD, chronic pain, and personality pathology is high, so treat concurrently rather than sequentially.
- Hepatitis C, HIV, infective endocarditis, and skin and soft tissue infections require routine screening and integrated medical care.
- Suicide risk is markedly elevated and overdose intent is often ambiguous, so assess intent directly and repeatedly at every visit.

Treatment EVIDENCE-BASED MANAGEMENT

PHARMACOLOGIC

- **Buprenorphine 8-24 mg/day** is first-line partial agonist therapy with a ceiling on respiratory depression, and no special waiver is required.
- Induce at moderate withdrawal (**COWS** 8-12) to avoid precipitated withdrawal, or use a low-dose cross-taper when fentanyl exposure is likely.
- **Methadone 60-120 mg/day** through an opioid treatment program has the strongest retention data; monitor QTc and CYP3A4 interactions.
- **Naltrexone XR 380 mg IM monthly** requires 7 to 10 opioid-free days, and induction failure substantially limits its real-world uptake.
- Prescribe take-home **naloxone** to every patient and household, and counsel that medication reduces all-cause mortality by roughly 50%.

PSYCHOTHERAPY

- **Contingency management** with escalating incentives has the strongest behavioral evidence for reducing use and improving retention.
- **CBT** with relapse prevention adds benefit to medication but does not substitute for it, since medication alone outperforms therapy alone.
- **Motivational interviewing** resolves ambivalence about starting medication and addresses internalized treatment stigma directly.
- Counseling should be offered and made accessible but never mandated as a condition of receiving **buprenorphine** or **methadone**.
- Family work and **community reinforcement and family training (CRAFT)** improve engagement of reluctant or ambivalent patients.

ADJUNCT & SUPPORTIVE

- Syringe services, fentanyl test strips, and never-use-alone lines reduce infection and overdose deaths without increasing drug use.
- Recovery housing, peer recovery coaches, and mutual-help groups that accept medication, such as Medication-Assisted Recovery Anonymous, aid retention.
- Apply **ASAM** criteria for level of care, and use hospital bridge programs to start medication before discharge from acute care.
- Monitor with urine drug testing that includes **fentanyl** and xylazine, used therapeutically to guide care rather than punitively.
- In pregnancy, **buprenorphine** or **methadone** are standard; do not attempt withdrawal, and plan for neonatal opioid withdrawal syndrome.

CLINICAL PEARLS

- Buprenorphine and methadone cut mortality by about half; withholding them is riskiest.
- Never taper a pregnant patient off buprenorphine or methadone; maintain the dose.
- Overdose risk spikes after jail release or detox because tolerance is lost.

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NOTE

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