SUBSTANCE-RELATED AND ADDICTIVE DISORDERS

Other Hallucinogen Use Disorder

DSM-5-TR 304.50/305.30 | ICD-10-CM F16.10, F16.20

Compulsive use of LSD, psilocybin, MDMA, or related agents; no withdrawal syndrome, but persisting perceptual disturbance can follow.

12-MONTH PREVALENCE	TYPICAL ONSET	SEX RATIO	COURSE
~0.1% adults; ~0.5% teens	Adolescence to early 20s	Male predominant	Often self-limited; rarely chronic

CLINICAL PICTURE

- Use is typically episodic and social rather than daily, and tolerance to perceptual effects builds within days but resolves after a short break.
- Acute intoxication brings visual illusions, synesthesia, depersonalization, altered time sense, and labile affect with orientation preserved.
- Bad trips present as panic, paranoia, and derealization lasting hours, with mydriasis, tachycardia, hypertension, and hyperthermia on exam.
- No clinically meaningful withdrawal syndrome occurs, so criteria are met through impaired control, risky use, and social or role consequences.
- Hallucinogen persisting perception disorder brings trails, halos, afterimages, and visual snow that are ego-dystonic and fully reality-tested.
- MDMA users present with bruxism, trismus, hyponatremia from excessive water intake, and a midweek dysphoric crash after weekend dosing.

DIAGNOSTIC CRITERIA AT A GLANCE

- Requires at least 2 of 11 problematic use indicators within 12 months, the same criterion set applied across the substance use disorders.
- Withdrawal is explicitly excluded from the hallucinogen criterion set, because no reliable withdrawal syndrome has been established.
- Severity is graded by symptom count: mild 2-3, moderate 4-5, and severe 6 or more, with early and sustained remission specifiers available.
- Phencyclidine use disorder is coded separately from other hallucinogen use disorder despite substantial overlap in clinical presentation.
- Related diagnoses include hallucinogen intoxication, hallucinogen persisting perception disorder, and the hallucinogen-induced mental disorders.

NEUROBIOLOGY & PHYSIOLOGY

- Classic psychedelics are **5-HT2A** receptor agonists acting on layer V cortical pyramidal neurons, disrupting thalamocortical sensory filtering.
- MDMA acts primarily as a **serotonin** releaser through transporter reversal, with oxytocin release producing the prosocial entactogenic effect.
- Rapid tachyphylaxis follows 5-HT2A receptor downregulation, so daily dosing loses effect within roughly 3 days and cross-tolerance is common.
- Physiologic dependence is minimal, since classic hallucinogens do not directly drive mesolimbic **dopamine** release the way stimulants and opioids do.
- HPPD is hypothesized to reflect disinhibition of visual processing after loss of GABAergic interneuron control in occipital and visual association cortex.
- Heavy MDMA exposure is linked to reduced SERT binding and verbal memory deficits, plus serotonin syndrome risk when combined with serotonergic drugs.

PSYCHOLOGICAL MECHANISMS

- Set and setting powerfully shape the experience; expectancy, mood, and environment predict euphoria versus panic more reliably than dose alone.
- Use is often driven by curiosity, spiritual seeking, and peer context rather than by craving, which limits classic compulsive addiction patterns.
- Repeated bad trips condition anticipatory anxiety, and HPPD distress is amplified by health anxiety and hypervigilant monitoring of the visual field.
- Ego dissolution can destabilize patients with fragile identity, precipitating prolonged derealization or a first frank psychotic episode.
- Reassurance and normalization reduce HPPD impairment, since catastrophic interpretation of benign visual noise is what sustains the distress.

DIFFERENTIAL & COMORBIDITY

- Differentiate from primary psychosis by preserved insight, visual rather than auditory dominance, and a clear temporal link to ingestion.
- Exclude **PCP** intoxication with nystagmus, violence, and analgesia, anticholinergic delirium, and stimulant or cannabis-induced psychosis.
- Comorbid cannabis, alcohol, stimulant, and tobacco use disorders are common, and polysubstance use frequently muddies the presentation.
- HPPD affects only a small minority of users and must be separated from migraine aura, visual snow syndrome, and occipital lobe seizures.
- Screen for schizophrenia spectrum vulnerability, since hallucinogen use can precipitate earlier onset in genetically at-risk individuals.

Treatment EVIDENCE-BASED MANAGEMENT

PHARMACOLOGIC

- No pharmacotherapy is approved for the use disorder itself; management is supportive and directed at comorbidity and at acute episodes.
- Bad trips respond to a quiet low-stimulus room, calm reassurance, and **lorazepam 1-2 mg** as needed for severe agitation or panic.
- Avoid **antipsychotics** where possible in classic hallucinogen intoxication, since they may prolong dysphoria; reserve them for true psychosis.
- HPPD case reports support **lamotrigine** and **clonazepam 1-2 mg/day**, along with avoiding cannabis and stimulants, which reliably worsen symptoms.
- MDMA toxicity requires aggressive cooling, benzodiazepines for agitation, and close sodium monitoring for life-threatening hyponatremia.

PSYCHOTHERAPY

- **Motivational interviewing** addresses ambivalence directly, since many users regard the substance as beneficial rather than as harmful.
- **CBT** with relapse prevention targets contexts, festival and rave settings, and polysubstance patterns rather than physiologic craving.
- **Contingency management** improves abstinence in polysubstance-using young adults, particularly where stimulants are also involved.
- Psychoeducation and reassurance are the first-line intervention for HPPD, often reducing distress without any medication at all.
- Family and peer network interventions help adolescents, whose use is shaped far more by social group norms than by pharmacology.

ADJUNCT & SUPPORTIVE

- Harm reduction includes drug checking for fentanyl and NBOMe adulterants, hydration guidance, and never using alone or in unsafe settings.
- Warn explicitly about serotonin syndrome when MDMA is combined with **SSRIs**, MAOIs, linezolid, or tramadol.
- Distinguish supervised **psilocybin** and MDMA research protocols from recreational use; trial safety data do not generalize to street supply.
- Screen for hyponatremia, hyperthermia, rhabdomyolysis, and hepatic injury after any MDMA-related emergency department presentation.
- Use **ASAM** criteria to set level of care, though most patients are managed outpatient given the absence of physiologic withdrawal.

CLINICAL PEARLS

- No withdrawal syndrome; that criterion is excluded for hallucinogen use disorder.
- HPPD flashbacks are ego-dystonic with intact reality testing, unlike psychosis.
- Tolerance to LSD builds in ~3 days and reverses after a few days off.

References

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NOTE

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