

Kratom Toolkit

Michigan Opioid Collaborative

What is kratom?

- Kratom is a tropical evergreen tree native to the Southeast Asia.
- It is a traditional folk medicine that has been used to treat several conditions for centuries, most notably musculoskeletal pain, anxiety, and depression.
- Kratom has opioid properties and stimulant-like effects.
- May be chewed, smoked, or transformed to powder that can be used as a tea or consumed as a capsule.
- Can be obtained from the internet and “legal high” shops.
- It contains over 40 alkaloids. Its main active ingredients are mitragynine and 7-hydroxymitragynine (both act as agonists at mu-opioid receptor and antagonist at the kappa and delta opioid receptors in vitro).
- Other Alkaloids have a broad infinity and can be linked to stimulant effects:
 - Agonism of Alpha2 (possible Alpha1) receptors
 - Agonism of 5-HT_{2A} receptors (and 5-HT_{1A}?) receptors

Why do people use it?

- Current users report using kratom [to manage drug withdrawal symptoms and cravings \(especially related to opioid use\), pain, fatigue and mental health problems.](#)
- Exhibits dose dependent effects
 - Mild stimulant at low doses < 5 g
 - Opioid-like effects at 5-15 g
 - Sedation at doses >15 g

Is it legal?

- Yes, it is currently legal in Michigan, although legislation and debate are ongoing
- Not controlled under the Controlled Substances Act, but state specific regulations exist
- FDA has not approved kratom for any medical use
- DEA has listed kratom as a drug and chemical of concern

How many people use kratom?

- Estimates vary widely:
 - [National Survey on Drug Use and Health \(2020\) estimates past-year rate of 0.8% \(2.1 million\)](#)
 - [Covvey et al. \(2020\)](#) estimate 6.1% of the general population have tried Kratom
 - American Kratom Association estimates around 15 million users

Can I diagnose patients with a “kratom use disorder”?

- There is no diagnosis of “kratom use disorder”

What are its side effects/toxicity?

- Side effects: nausea, vomiting, abdominal pain, chills/sweats, dizziness, confusion
- Toxicity – [Seizures](#), hepatotoxicity, coma, [deaths](#)
- Often combined with other drugs
 - Kratom is unregulated putting people who use it at risk for adulterated product
- Pharmacological Factors
 - Respiratory: As it acts on mu-opioid receptors, it has the potential to cause respiratory depression
 - Cardiotoxicity: Theorized QTc prolongation (limited data and certainty)
 - [Drug interactions: kratom inhibits CYP2D6 and CYP3A which are involved with metabolism of several drugs \(including opioids and benzodiazepines\); there is a theoretical potential for toxicity.](#)

Can kratom cause an overdose?

- [In 2018, FDA issued a warning that kratom has a similar structure to opioids and identified 44 deaths related to kratom use.](#)
- Majority of overdose deaths reported identifying kratom show multidrug ingestion.
- Limited data and reports of death due to kratom/mitragynine only
- Will Naloxone work to reverse an overdose involving kratom?
 - In theory: [case report of successful resuscitation of opioid toxidrome attributed to sole kratom use](#)
 - Prescribe naloxone to all patients using kratom!

What are treatment options?

- Acute kratom intoxication is primarily a clinical diagnosis and treatment is supportive
 - Consider monitoring liver, cardiac and respiratory function
 - Toxicology for other substances
- Treat with buprenorphine
 - [Treatment of Kratom Withdrawal and Addiction with Buprenorphine](#)
 - [Treatment of Kratom Dependence with Buprenorphine-Naloxone Maintenance](#)
- Treat with supportive medications like [clonidine and hydroxyzine](#)