



System Medical Advisory June 29th, 2021

Kratom

Kratom (*Mitragyna speciosa*) is a tropical evergreen plant indigenous to Southeast Asia and has gained increasing popularity in the US and is emerging as a drug of abuse. It is being used in the US to treat pain, ease anxiety, stave off fatigue and mitigate opioid withdrawal symptoms¹. Kratom leaves are, most commonly, ingested or inhaled. Leaves can be chewed, made into capsules, tablets or extract, or boiled into a tea. Leaves can also be dried and smoked².

The full pharmacological properties of kratom are unknown. Two of its active ingredients, mitragynine and 7-hydroxymitragynine (7-HMG), act on opioid receptors, serotonergic pathways and noradrenergic pathways³. Mitragynine is classified as a kappa-opioid receptor agonist and is roughly 13 times more potent than morphine². Fentanyl is 80-100 x more potent than morphine.

Kratom elicits both stimulant and sedative effects. At lower doses, stimulant effects predominate. At higher doses, CNS and depressant effects predominate. No significant ECG abnormalities have been associated with kratom use.

Low Dose ²	High Dose ²	Chronic Use ²
<ul style="list-style-type: none"> • Increased energy • Heightened alertness • Talkativeness • Social behavior • Agitation • Tachycardia 	<ul style="list-style-type: none"> • Sedation • Respiratory depression • Seizures • Psychosis (paranoia, hallucinations, delusions) • Confusion 	<ul style="list-style-type: none"> • Liver injury • Anorexia • Insomnia • Dry mouth • Constipation

The dose dependent clinical effects of kratom make this drug highly unpredictable should raise high concern when mixed with drugs such as alcohol, benzodiazepines and narcotics.

Most common signs and symptoms of overdose include²:

- Opioid effects
- Seizure
- Tachycardia
- Hypertension
- Agitation or irritability

Patients suspected of kratom overdose exhibiting significant clinical symptoms should be managed per appropriate Clinical Operating Guidelines.

Respiratory depression should be managed with mechanical ventilation and naloxone.

Seizures should be managed with Versed. Agitation should be managed with Versed, Haldol or Ketamine as indicated by their RASS score.

Withdrawal symptoms (similar to opioid withdrawal)³:

- Muscle aches/cramps
- Insomnia
- Irritability/anxiety
- Hostility/Aggression
- Runny nose
- Tremors
- Diaphoresis
- Nausea/Vomiting/Diarrhea
- Mydriasis (dilated pupils)

Kratom withdrawal can be treated similarly to opioid withdrawal with buprenorphine. Consideration should be given to contacting CHP 100 for evaluation by a Community Health Paramedic and eligibility for the buprenorphine program.

References:

1. <https://www.drugs.com/illicit/kratom.html>
2. <https://drugabuse.com/drugs/kratom/overdose/>
3. <https://link.springer.com/article/10.1007/s40122-020-00151-x>



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