

# Kratom

*Mitragyna speciosa*

*A tropical tree native to Southeast Asia*

with leaves that can have psychotropic properties. Kratom is mostly used as a pill or capsule, while some chew the leaves, smoke the leaves, brew the dried or powdered leaves as a tea, or eat in food. Kratom is not currently illegal at the federal level but some states have banned the possession and use of kratom. The FDA has not approved kratom for any medical use, as a dietary supplement or food additive.

## All in the compounds

Two compounds in kratom leaves, **mitragynine** and **7- $\alpha$ -hydroxymitragynine**, interact with opioid receptors in the brain, producing sedation, pleasure, and decreased pain, especially when users consume large amounts of the plant. When kratom is taken in small amounts, users report increased energy, sociability, and alertness instead of sedation. However, kratom use can cause uncomfortable and sometimes dangerous side effects including:

- Nausea, itching, sweating, dry mouth, constipation, increased urination, loss of appetite, seizures, and hallucinations.
- More serious adverse effects include: hypothyroidism, hypogonadism, kratom-induced hepatotoxicity, CNS effects causing seizure and coma or posterior reversible encephalopathy syndrome, acute respiratory distress syndrome, overdose, psychosis, and death.

In Florida, there was a **24% rise in deaths linked to kratom** from 2020 to 2021, totaling 305 incidents. Among these deaths, kratom was the cause for 187, marking a **13% increase compared to the previous year**. The FDA has warned the public not to consume kratom products due to these serious and potentially life-threatening effects. Products have also found to contain harmful contaminants like the bacteria Salmonella and heavy metals.

## Policy Recommendations/Considerations

- Ban kratom and kratom-based products. List mitragynine and 7-hydroxymitragynine as controlled substances in FS 893.03 Schedule 1 (<https://m.flsenate.gov/statutes/893.03>)
- Or, establish legislation to (1) regulate preparation, distribution, and sale of kratom-based products that contain the alkaloids mitragynine and/or 7-hydroxymitragynine); require permit from the Dept. of Agriculture (2) establish a standard serving size and limit of total mitragynine in each package (3) establish warning labels (4) prohibit products that are attractive to children; prohibit flavors and marketing of kratom to minors, (5) prohibit health claims not verified by science/research, (6) establish corrective actions/penalties for actors/agencies that would violate such legislation, (7) require an annual review of deaths associated with kratom in the FDLE Florida Medical Examiners Drugs in Deceased Persons report as well as kratom exposures reported by FL Poison Control Centers (8) Allow localities to ban kratom sales

### Sources:

<sup>1</sup>Sara Post, Henry A. Spiller, Thitphalak Chounthirath & Gary A. Smith (2019) Kratom exposures reported to United States poison control centers: 2011–2017, *Clinical Toxicology*, 57:10, 847-854 <sup>2</sup>Alsarraf, E., Myers, J., Culbreth, S. et al. (2019) Kratom from Head to Toe—Case Reviews of Adverse Events and Toxicities. *Curr Emerg Hosp Med Rep* 7, 141–168 <sup>3</sup>National Institute on Drug Abuse. Kratom Drug Facts. Accessed from: <https://www.drugabuse.gov/publications/drugfacts/kratom> <sup>4</sup>Whitney BE et al. Neonatal Abstinence Syndrome Due to Maternal Kratom Use. *Pediatrics* Dec 2018, 142 (6)

## Kratom and addiction

Some users have reported becoming severely addicted to kratom. Like other drugs with opioid-like effects, kratom can cause dependence, which means users will feel physical withdrawal symptoms when they stop taking the drug:

- Physical withdrawal symptoms arising from kratom addiction include muscle aches, insomnia, irritability, hostility, aggression, emotional changes, runny nose, and jerky movements.
- Kratom-associated neonatal abstinence syndrome (KANAS) has been reported among infants exposed to kratom in utero. Symptoms of KANAS include tremors, irritability, excessive high-pitched crying, and muscle stiffness.
- While there are no specific medical treatments for kratom addiction, some people seeking treatment have found behavioral therapy to be helpful. Scientists need more research to determine how effective this treatment option is.
- In recent years, some people have used kratom as an herbal alternative to medical treatment in attempts to control withdrawal symptoms and cravings caused by addiction to opioids or to other addictive substances such as alcohol. There is no scientific evidence that kratom is effective or safe for this purpose.

