

What is *Kratom*? (*Mitragyna Speciose*)



Participants will be able to:

- Understand some of the key effects that Kratom may have on one's health.
- Recognize how Kratom use has changed over time in the United States, and who is more likely to use the substance
- Examine how and where Kratom is marketed and sold
- Examine the stance of government agencies on the substance
- Appraise ways in which community level action can be taken

Kratom: Overview

- *Mitragyna Speciose*
- Native to Thailand, Indonesia, Malaysia, Myanmar, and Papua New Guinea
- Traditionally used by manual laborers as a stimulant and pain reliever
- Bitter Taste



Mitragyna speciosa, via Wikimedia Commons

Kratom: Preparation and Consumption

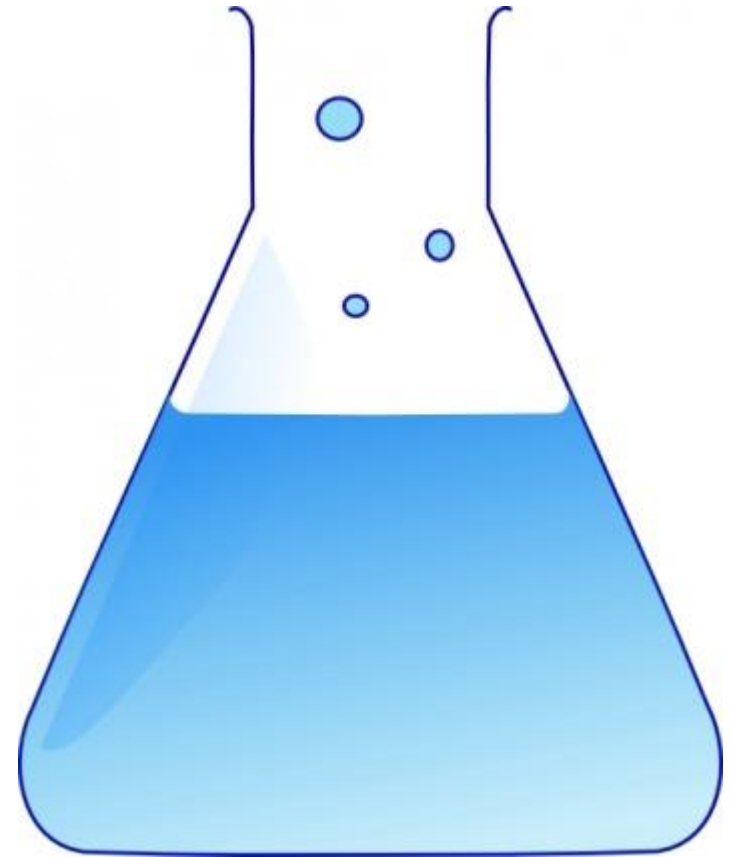
- Powder
 - Mixed in liquid with sweetener
- Capsules
- Liquid concentrates
- Edibles



Kratom on display at Puff Smoke Shop on McMillan

Kratom: How it works

- Opioid Pain Reliever
- Lower doses – stimulant effect
- Higher doses – opioid-like effects
- Respiratory depression absent
- Dozens of active chemicals
 - Mitragynine
 - 7-hydroxymitragynine



Kratom: Biological Effects

- Stimulates opioid receptors
 - Pain relief
 - Constipation
 - Altered consciousness
 - Withdrawal symptoms



Kratom: Biological Effects

- Stimulates “Alpha-2” receptors
 - Relieves physical symptoms of opioid withdrawal
 - Sedation
 - Pain relief
- What other drugs do this?
 - Clonidine
 - Treats hypertension, ADHD, Tourette syndrome, pain
 - Used off-label to manage withdrawal from opioids, benzodiazepines, and alcohol



Kratom: Biological Effects

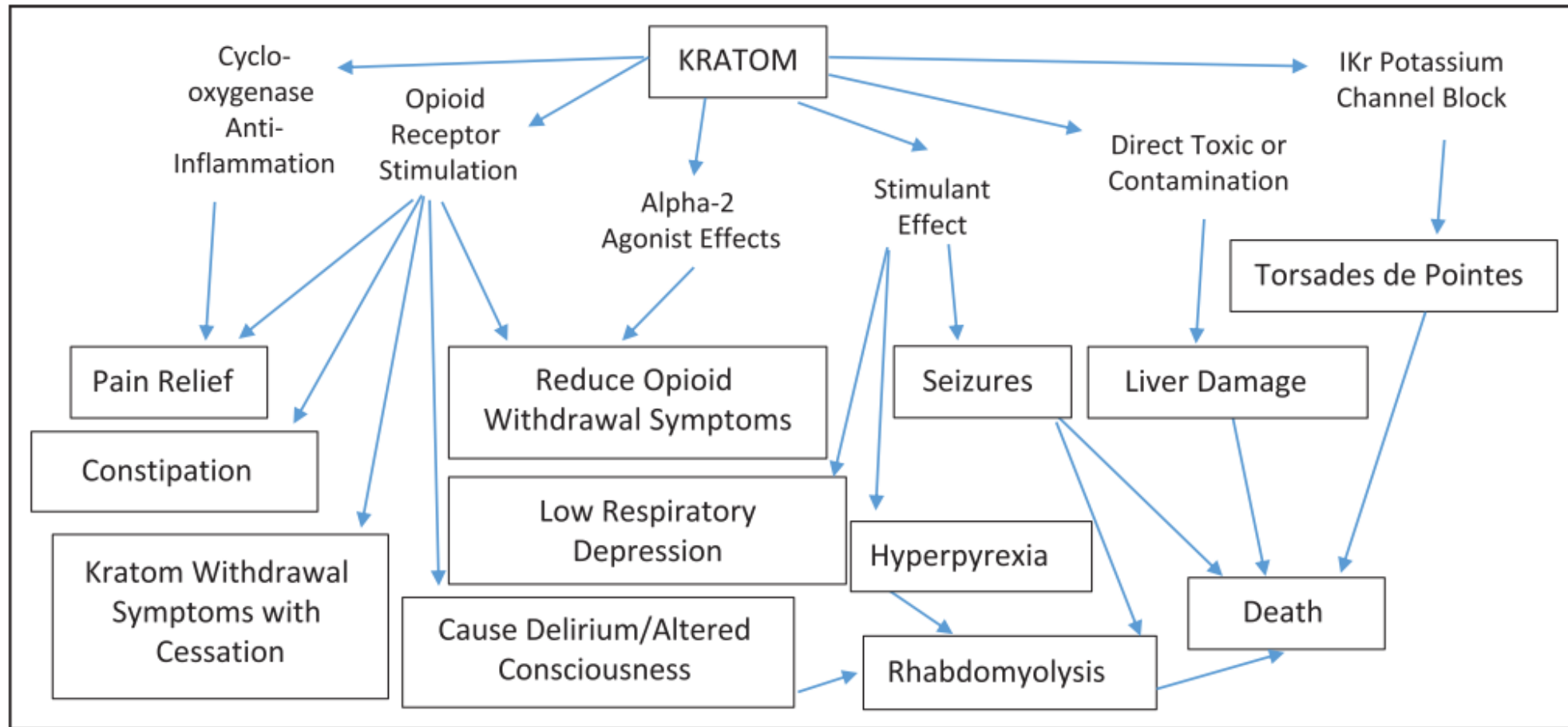
- Stimulant effect
 - Reduces respiratory depression
 - Seizures
 - Increased body temperature



Kratom: Reported Adverse Effects

- Changes in skin pigmentation
- Weight loss
- Constipation
- Insomnia
- Dry mouth
- Decreased libido
- Liver damage
- Kidney damage
- Nausea
- Vomiting
- Hallucinations
- Hair loss
- Tremor
- Seizures
- Agitation
- Drowsiness
- Abnormal heart rate
- Tolerance and withdrawal

Kratom: Biological Overview



White, C. M. (2019). Pharmacologic and clinical assessment of kratom: An update. *American Journal of Health-System Pharmacy*, 76(23), 1915–1925.

Kratom: Use Demographics

- 1,842 people responded to an online survey about demographics and Kratom use that used “quota-based sampling” to represent the US population: Users are...
 - Male
 - Middle-aged
 - Employed
- Another online survey (NMURx) of 59,714 people on drug use and demographics finds users to be:
 - Male
 - Students and health-care professionals

Kratom: Use Prevalence

The NMURx survey also reveals:

- Past-year kratom use of 0.8%
- Lifetime prevalence of 1.3%
- Among those with past-year use:
 - 36.7% non-medically used prescription opioids
 - 21.7% used illicit opioids
 - 54.4% used another illicit drug
 - 67.1% used cannabis

Kratom: Use patterns and reasons

An anonymous online survey conducted in 2017 asked 2,798 people what they use Kratom for:

- Pain
- Anxiety
- Depression
- To decrease opioid use, withdrawal, cravings

Anecdotal uses (Erowid):

- Enhanced productivity
- Pre-workout supplement
- Recreational purposes
- Evading drug tests



"Miracle Kratom" advertisement

BUY KRATOM ▾

WHOLESALE

ABOUT

QUIZ

BY EFFECT ▾

ENERGY

BY REGION ▾

MOOD

BY STRAIN ▾

PAIN

BY TYPE ▾

RELAX

BY VEIN ▾



Miracle kratom
Premium Powders

KRATOM

(MITRAGYNA SPECIOSA)

Kratom, also known by its botanical name *Mitragyna speciosa*, is a tropical tree native to Southeast Asia. The Kratom plant is in the same family as the coffee tree (Rubiaceae), which is one of the reasons Kratom is known to be a stimulant. Although the Kratom leaf can be eaten raw, it is most often crushed into a powder. There are no added chemicals or preservatives in the powder. Kratom and its effects are all natural. Whether Kratom provides a stimulating or sedative effect depends upon the way the leaf is harvested and the amount someone takes.



REPORTED BENEFITS



Promotes an Overall
Sense of Well Being



Focused Energy
Similar to Coffee



Reduces Stress
and Anxiety



Helps Alleviate
Inflammation and Pain

VEIN COLOR CHARACTERISTICS



RED FOR PAIN AND STRESS

- Calming, Relaxing
- Help with Resting and Sleepiness
- Ease Physical Exhaustion or Strain



GREEN FOR FOCUS

- Better Concentration
- Mood Lifting
- Gentle Stimulation
- Focused Energy



WHITE FOR ENERGY

- Stimulating
- High Energy
- Better Productivity
- Increased Awareness
- Brain Boosting Effects

www.buykratompowders.com

www.facebook.com/miraclekratombellevue

Kratom: Poison Center Calls

- Calls to US poison control centers:
 - 2011 – 13
 - 2017 – 682
- 50-fold increase
- 52% reporting serious health outcomes
- 5 cases of neonates exposed in-utero exhibiting withdrawal



Kratom: Characteristics of Deaths Related to Use

- Most Kratom-related deaths are associated with other potent substances
- Reports of Kratom laced with other ingredients causing death
- Overdose risk of morphine-like opioids is 1000x greater



Opioid Potentiators

- Antihistamines
 - Benadryl
 - Promethazine
- Cimetidine (Tagamet)
- Grapefruit Juice
- Muscle Relaxants
- Quinine
- Opiate receptor agents
 - Loperamide (Imodium)
 - DXM (Robitussin)
 - Codeine
- Other CNS Medications
 - Clonidine
 - Benzodiazepines
 - Barbiturates
 - Stimulants
 - Hypnotics
 - Gabapentinoids
- Antipsychotics
 - Quetiapene (Seroquel)



Kratom: Addiction and Withdrawal

Physical symptoms:

- Jitteriness
- Diarrhea
- Vomiting
- Hyperventilation
- Runny nose
- Watery eyes
- Muscle aches
- Anorexia

Psychological symptoms:

- Anxiety
- Anhedonia
- Restlessness
- Anger
- Tension



Kratom: Where is it sold?

- Tobacco shops
- Retail outlets selling cannabis paraphernalia (Head Shops)
- Specialized Kratom retailers
- Gas stations
- Internet markets



Local storefronts of Kratom Retailers

Kratom: Community Scans

- 21 retail locations in Hamilton County and northern Kentucky
- Head shops (19), Gas stations (1), and Kratom Dispensaries (1)
- Only one visited head shop did not sell Kratom
- 17 within 1000 feet of a church, playground, daycare, or school



Local storefronts of Kratom Retailers

Kratom: Policy

National

- Legal to sell, possess, and use without prescription
- Federal scheduling under investigation

Ohio

- Proposed legislation to ban in 2019
- Delayed due to volume of public testimony and complaints

Indiana

- Banned and classified as Schedule I drug in 2014

Kentucky

- No restrictions

Kratom: Federal Statements

- “Some researchers have even claimed that kratom can protect you against cancer!”
- “Kratom is used for energy, to increase attention/focus, to relax, and also to treat pain and addiction. Here is just some of what our customers have used kratom to treat . . . Chronic Pain, Migraines, Opiate Addiction, ADHD/ADD, Anxiety, Depression, Arthritis, Insomnia and much more!”

- The DEA lists Kratom as a drug of concern.
- FDA concerns:
 - Lack of information about safety and effects
 - Heavy metals in certain products
 - Marketing unproven medical claims
 - Abuse potential
- There are no FDA approved uses, investigation is underway
- The FDA has asserted that consumers should not use any Kratom products

Kratom: NIDA Funded Research

- \$3.5 million grant awarded to the University of Florida College of Pharmacy in 2018
 - To investigate how each individual chemical in the plant is metabolized
- Additional \$3.4 million awarded in 2019
 - To investigate the metabolism of all the chemicals together
- The DEA and FDA have a vested interest in the progress of the grant research



Kratom: NIDA Funded Research

- Results 11/1/20
 - Mouse Model
 - Kratom tea can reduce the sensation of pain
 - Kratom tea acts on opioid receptors
 - Respiratory depression minimal
 - Kratom reduces symptoms of opioid withdrawal

NIDA

NATIONAL INSTITUTE

ON DRUG ABUSE

Kratom: Key Points

- Kratom has addictive potential
- It is sold in as powder, capsules, liquid concentrate, and edible form
- It acts on opioid receptors and α -2 adrenergic receptors
- People use it for mood, fitness, recreation, and opioid withdrawal relief, none of which are proven safe or effective
- Efficacy for opioid withdrawal treatment under investigation
- It is readily available online and at head shops in Ohio and Kentucky
- Use has increased in the past decade
- Overdose on Kratom alone is highly unlikely
- Lack of regulation and false marketing claims are a concern
- Further research must be funded to determine the effects of Kratom

Kratom: Moving Forward

Community Steps

Availability in your community

- Perform community scans

Advocacy and policy in your community

- Speak with local leaders

Education

- Share information about what is known and unknown



[@PreventionFIRST](https://www.facebook.com/PreventionFIRST)



[@PrevFIRST](https://twitter.com/PrevFIRST)

Stay Connected

Joshua McQuilkin

Student Volunteer

jmcquilkin@prevention-first.org

prevention-first.org

- Covvey, J. R., Vogel, S. M., Peckham, A. M., & Evoy, K. E. (2020). Prevalence and characteristics of self-reported kratom use in a representative US general population sample. *Journal of Addictive Diseases*, 1–8. <https://doi.org/10.1080/10550887.2020.1788914>
- Garcia-Romeu, A., Cox, D. J., Smith, K. E., Dunn, K. E., & Griffiths, R. R. (2020). Kratom (*Mitragyna speciosa*): User demographics, use patterns, and implications for the opioid epidemic. *Drug and Alcohol Dependence*, 208, 107849. <https://doi.org/10.1016/j.drugalcdep.2020.107849>
- Henningfield, J. E., Grundmann, O., Babin, J. K., Fant, R. V., Wang, D. W., & Cone, E. J. (2019). Risk of death associated with kratom use compared to opioids. *Preventive Medicine*, 128, 105851. <https://doi.org/10.1016/j.ypmed.2019.105851>
- Post, S., Spiller, H. A., Chounthirath, T., & Smith, G. A. (2019). Kratom exposures reported to United States poison control centers: 2011–2017. *Clinical Toxicology*, 57(10), 847–854. <https://doi.org/10.1080/15563650.2019.1569236>
- Schimmel, J., Amioka, E., Rockhill, K., Haynes, C. M., Black, J. C., Dart, R. C., & Iwanicki, J. L. (2020). Prevalence and description of kratom (*Mitragyna speciosa*) use in the United States: a cross-sectional study. *Addiction*, n/a(n/a). <https://doi.org/10.1111/add.15082>
- Valeriy Z, Tregubenko P (2019) Using Over-the-Counter and Other Prescription Medications to Potentiate Opiates in the USA: Literature Review. *Medical and Public Health Aspects of OTC Medication Misuse*. *J Alcohol Drug Depend Subst Abus* 5: 012.
- White, C. M. (2019). Pharmacologic and clinical assessment of kratom: An update. *American Journal of Health-System Pharmacy*, 76(23), 1915–1925.
- Wilson LL; Harris HM ;Eans SO; Brice-Tutt AC; Cirino TJ; Stacy HM; Simons CA; León F; Sharma A; Boyer EW; Avery BA; McLaughlin JP; McCurdy CR;. (2020, November 1). Lyophilized Kratom Tea as a Therapeutic Option for Opioid Dependence. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/33017752/>