

WHAT LAW ENFORCEMENT NEEDS TO KNOW ABOUT

CRATOM



BY

Stan Crowder, PhD, Associate Professor, Kennesaw State University, Georgia, and Andy Altizer, Emergency Operations Coordinator, Westminster Schools, Atlanta, Georgia

IN 2022, THE WETHERINGTON LAW FIRM FILED CIVIL ACTION 22-A-1536 IN THE STATE COURT OF COBB COUNTY, STATE OF GEORGIA, FOR PLAINTIFFS DANA POPE AND JOHN POPE, SURVIVING PARENTS OF ETHAN POPE, AGAINST 15 DEFENDANTS, WITH THIS OPENING SALVO:

For years, a group of people, companies, and industry-funded interest organizations have been collaborating to unlawfully import kratom (Mitragyna speciosa) from Indonesia, create a market for their known-deadly concoctions, and prevent meaningful accountability, with tactics ranging from bullying and threats, to paying key legislators as “consultants.”

Well, that should get your attention.

Kratom is a substance that most law enforcement professionals are completely unaware of, despite the fact that it could significantly affect the outcome of various

types of investigations and litigation; while obscure, the substance has garnered the attention of the National Institute on Drug Abuse and generated a multimillion-dollar study at the University of Florida. It has been touted as an herbal supplement that can help those addicted to opioids, yet it is blamed for deaths in many states, including the death of a police officer in New York.

It's not just law enforcement that is uninformed on this substance and its impacts. Professionals unaware of kratom include counselors, teachers, social workers, public safety personnel, and parents. Narcotic agencies in Indonesia and America consider kratom a drug on par with heroin, yet “even most emergency room physicians and nurses have no idea of what kratom is.” The substance can affect everything from mood to sleep. When the substance is being used, the user's sobriety and ability to reason may be questioned. Clearly, this could



Kratom is considered a substance on par with heroin by some experts. (Photo courtesy of the U.S. Drug Enforcement Administration).

“Kratom’s makeup of two different psychoactive chemicals with both stimulant and narcotic properties makes it unique.”

affect the veracity of victims, offenders, and witnesses. Further, many deaths have been associated with kratom use—including that of 23-year-old Ethan Wyatt Pope, the subject of the aforementioned civil case—making knowledge of the substance vital in investigations.

Kratom has been used in southeast Asia for many years as a recreational and medicinal substance but has only recently come to the attention of researchers and users in the United States. Traditionally, kratom has been used to treat fatigue, pain, diarrhea, and muscle cramps, and although modern science has lent some support to these medical claims, much more research is needed.

WHAT IS KRATOM?

Mitragyna speciosa, commonly known as kratom, is a tropical evergreen tree in the same family as the coffee tree; it grows in southeast Asia and Africa. The first scientific reference to kratom was in 1836, when it



Various distribution forms, include a bottle with Kratom liquid and bags of capsules with the herbal supplement Kratom inside. Photo by Joe Raedle/Getty Image

was mentioned as an opium alternative. According to leading experts,

Kratom is the most common term in the U.S. for the leaves (whole, chopped, or powdered) and leaf extracts (e.g., tea-like brews, and commercially prepared liquids) of the Mitragyna speciosa tree indigenous to Southeast (SE) Asia, Malaysia, and the Philippines.

The leaves of the plant contain more than 20 alkaloids (organic compounds of plant origin), which have physiological effects on humans. Many alkaloids also have psychoactive properties. A psychoactive drug is a chemical substance that acts on the central nervous system and alters brain function, resulting in temporary changes in perception, mood, consciousness, and behavior. The primary psychoactive alkaloids of the plant are mitragynine, which has one-fourth the potency of morphine, and another minor alkaloid, 7-hydroxymitragynine, which is 10 times as potent as morphine. Kratom's makeup of two different psychoactive chemicals with both stimulant and narcotic properties makes it unique. Many sources agree that kratom acts as a stimulant in smaller doses and as an opiate in larger doses.

Kratom can be ingested in many ways—powdered leaves may be encapsulated or pressed into pill form, teas can be brewed from the leaves, or the leaves can be smoked or chewed. (A liquid kratom is advertised online, but the ingredients it contains are unclear.) As with many other drugs, medicines, or herbal remedies, unknown substances or adulterants can be added to kratom, increasing the effects and danger. Kratom is also sold or known as Biak, Ketum, Kakuam, Ithang, and Thom, and it is sold under various names by importers, such as Green Vein Malay Kratom and Red Vein Maeng Da Kratom.

In a study examining the substance's use in Thailand and Malaysia, respondents rationalized the use of kratom for social and recreational needs, stamina, physical endurance, pain relief, and improved sexual performance. Historically, kratom has been used in the treatment of malaria, cough, hypertension, diarrhea, depression, pain relief, fever, and opioid withdrawal. The dual effects of kratom as a stimulant and opioid make it attractive to users in the United States. In a 2015 study, several effects experienced by users were reported. The most positive of these were euphoria and relaxation (often described as like that of opiates), and the most negative themes included nausea and alternating chills and sweats.

Still, various reports document seizures, and seizure-like movements, fever, aspiration pneumonia, jaundice, and pruritus with short-term kratom consumption. Long-term use noted withdrawal symptoms, anorexia, hyperpigmentation, psychosis, constipation, insomnia, poor concentration, and tolerance. There is also documentation that kratom can cause dependency and



*A liquid form of the herbal supplement kratom is poured from a bottle.
Photo by Joe Raedle/Getty Images*

withdrawal symptoms in some individuals attempting to stop the use of the substance. To be clear, the use of kratom has serious effects that must be considered by professionals in the criminal justice arena.

AWARENESS OF KRATOM IN THE UNITED STATES

Kratom is a controlled substance in many countries. Kratom is not, however, illegal in most of the United States. Short of living or working in a state or city that has outlawed the local sale and use of kratom, it is understandable why law enforcement professionals may not have heard of this substance. Some states and cities have acted on kratom; most probably were prompted by a publicized case about kratom being linked to illness or death. As of November 2023, kratom is banned in

“With the substance available for purchase on the internet, in smoke shops, and in gas stations, the sales and use of kratom are increasing.”

Alabama, Arkansas, Indiana, Tennessee, Wisconsin, and Vermont, as well as the District of Columbia.

In the United States, the hue and cry regarding kratom use first came from a report from the Centers for Disease Control and Prevention (CDC) in July 2016. The report stated, “Kratom use appears to be increasing in the United States and the reported medical and health effects suggest an emerging public health threat.” In the CDC study, it was determined between January 2010 and December 2015, U.S. poison centers received 660-calls about kratom exposure, with health care providers making over 75 percent of those calls. Of those persons reporting exposure, 487 reported intentional exposure and 90 percent reported ingesting the substance. As noted in the *Drugs Identified in Deceased Persons by Florida Medical Examiners 2018 Annual Report* published by the Florida Department of Law Enforcement, November 2019, the use of kratom has become an issue that needs to be appropriately tracked:

Reporting of mitragynine was not specifically requested by the Commission in 2018; however, many districts voluntarily reported deaths with mitragynine. A total of 85 occurrences of mitragynine were reported for January–December 2018. Due to reporting deadlines, reporting of mitragynine by all districts will begin with the 2020 Drugs Identified in Deceased Persons reports.

EFFECTS OF KRATOM

Because kratom is legal in most of the United States, usually without an age restriction on purchases, there is an increased need for law enforcement and public health professionals to know and understand kratom and its effects. With the substance available for purchase on the internet, in smoke shops, and in gas stations, the sales and use of kratom are increasing. Why

are people so attracted to this substance? The answer goes back to the dual stimulant and opioid effects:

Two compounds in kratom leaves, mitragynine and 7-hydroxymitragynine, interact with opioid receptors in the brain producing sedation, pleasure, and decreased pain, especially when users consume large amounts of the plant.

However, there is danger in using this substance.

Kratom use has public health implications, including a risk of infectious disease such as *salmonella* and chronic disorders such as liver disease. According to the Mayo Clinic, “*Salmonella* infection (salmonellosis) is a common bacterial disease that affects the intestinal tract. *Salmonella* bacteria typically live in animal and human intestines and are shed through stool (feces). Humans become infected most frequently through contaminated water or food.” From January 2017 to May 2018, an outbreak of *salmonella* infections occurred across multiple U.S. states. Evidence developed by epidemiologic and laboratory testing revealed that kratom was the likely source of this outbreak. Seventy-four percent of the ill people interviewed reported taking kratom in pills, powder, or tea that they purchased from retail and online sources. “The U.S. Food and Drug Administration linked more than 35 deaths to *salmonella*-tainted kratom.” With 41 states reporting cases during the outbreak, the incident gives evidence to the widespread use of kratom.

In a 2017 review of liver injuries caused by the use of herbal and dietary supplements, 16 percent were attributed to products such as green tea, kratom, and black cohosh. Dr. Tyler Oesterie at the Mayo Health Clinic Health System states, “We also know that it (kratom use) can lead to things like liver failure, lead to excessive use like overdosing, which can again lead to respiratory suppression and then death.”

Dr. Gaylord Lopez at the Georgia Poison Center advises the trend and correlation of the impact of kratom on liver injury requires more study. According to a publication by the National Institute of Health,

Chronic use of kratom recreationally has been associated with rare instances of acute liver injury. The onset of injury is usually within 2 to 8 weeks of starting regular use of kratom powder or tablets, with symptoms of fatigue, nausea, pruritus and dark urine followed by jaundice.

Thus, while there is certainly the possibility of liver injury with kratom use, the impact and long-range effects are unknown.

As discussed, users are attracted to kratom because at low doses it acts as a stimulant, a higher dose may bring on euphoria, and an even higher dose brings on sedative effects. Further, the claim that kratom can be used to avoid the symptoms of opioid withdrawal

is very attractive to some users. “It (kratom) does have some opioid-like properties and, so, you’re replacing an opioid with an opioid-like substance,” says Dr. Tyler Oesterie. He explains,

If you take a substance that is opioid-like and it activates those opioid receptors, the receptors say, “Ok, we’ve got opioid again.” It becomes something else you have to withdraw from again.

It stands to reason that too much kratom can cause all the same issues that too much opium would cause.

THE CRUX OF KRATOM

The possibility of a victim or offender using kratom is substantial with the current ease of availability via the internet, smoke shops, and convenience stores. Depending on the amount ingested and the users’ acquired tolerance of kratom, the behaviors and actions of both victims and offenders may be strongly influenced. Therefore, law enforcement’s duty of care dictates consideration and examination of the use of kratom by victims and offenders. To be competent custodians of victims, any criminal investigations initiated and any evidence that supports or refutes allegations of criminal activity should consider kratom use.

The duty of care requires an examination of crime victims. Forensic victimology involves the thorough, critical, and objective outlining of victim lifestyles and circumstances, the events leading up to their injury, and the precise nature of any harm or loss suffered. Therefore, seeking clarity on the possible use of kratom by a victim is paramount. If a victim is using kratom, a variety of effects may be found. Cases of psychosis resulting from use of kratom have been reported, where individuals addicted to kratom exhibited psychotic symptoms, including hallucinations, delusion, and confusion. The possibility of false allegations and reports is obvious. Kratom use is contextual information vital for accurately inferring the most reasonable behaviors to have taken place in relation to a crime. The same examination or considerations must be applied to offenders.

Interviewing a suspected offender who may be under the influence of kratom could be problematic. While the stimulant effects of kratom may produce alertness, physical energy, and talkativeness, this may mislead investigators. Kratom users may be motivated to use it before an interview or polygraph examination. Several websites advertise that kratom can be used for the treatment of panic attacks. Kratom may affect the mind and nervous system, leading to dizziness, drowsiness, hallucinations and delusion,



Kratom is commonly ingested in the form of a pill, powder, or tea. (Photo courtesy of the U.S. Drug Enforcement Administration).

depression, breathing suppression, seizure, coma, and death. The top three positive experiences reported by kratom users were euphoria/sense of well-being, relaxation, and enhanced sociability/empathy, while the top three negative experiences included nausea/stomachache, alternating chills/sweats, and dizziness/unsteadiness. Interviewers and investigators should be alert for individuals who exhibit these indicators for possible kratom use.

Finally, death investigators must consider kratom use. It is possible to overdose on kratom. The CDC analyzed overdose deaths in which kratom was detected on postmortem toxicology testing and deaths in which kratom was determined to be a cause of death in 11 states from July 2016 to June 2017 and in 27 states between July 2017 and December 2017. A total of 152 decedents tested positive for kratom.

Kratom was determined to be a cause of death (i.e., kratom-involved) by a medical examiner or coroner for 91 (59%) of the 152 kratom-positive decedents, including seven for whom kratom was the only substance to test positive on postmortem toxicology, although the presence of additional substances cannot be ruled out.



Most of the decedents (80 percent) had a history of substance misuse, and multiple substances were detected in nearly every kratom-related death.

In a study of 156 cases examined in a state-of-the-art international review, kratom alone was identified or implicated in 23 percent of the cases.

A case study from Texas provides further insight. The Bexar County (Texas) Medical Examiner's Office encountered a death case involving a 17-year-old white male. The decedent showed no signs of trauma and only a small amount of vomit was found on his face and the floor. In the decedent's personal items, investigators found a box of Bali Kratom (brand name) and an empty bottle of liquid kratom. A mitragynine analysis revealed a kratom level of 0.60 mg/L (the mass concentration that notes how many grams of kratom are present in one liter of blood). There was no evidence found for other compelling causes of death.

The issue that surrounds death cases involving kratom is the lack of studies on fatal intoxication blood concentration levels. In another reported case, a 64-year-old man suffered seizures, and a urine analysis found a concentration level of 167 ng/ml. As experts have pointed out,

In any drug intoxication-related death case, the absolute concentration of the drug in the blood or other tissues is of secondary importance to the correlation of that concentration with the scene investigation, medical history, autopsy findings, and all other data.

As these cases illustrate, criminal justice professionals must be aware of and seek forensic testing in cases where kratom use is indicated, suspected, or admitted by victims, subjects, suspects, and offenders.

TESTING FOR KRATOM

Determining whether a witness, subject, suspect, or offender may be under the influence of kratom is an important step in ensuring justice is served, as use of the substance can influence recollection, the ability to reason, and attempts at deception. Limited research with animals indicates that, for the long-term kratom user, it would take approximately a full day for the person to eliminate half of the kratom in their body and just over five days for their system to be fully cleared. Someone who uses kratom less frequently or uses lower doses would eliminate the substance more quickly than long-term and habitual users. Other factors that impact the length of time kratom stays in a person's body includes age, body fat, and genetics, which impact renal function, urinary pH, and metabolic rate.

The standard drug test, SAMHSA 5, is designed to detect alcohol, illicit drugs, and some prescription drugs. Drug testing commonly includes tests for amphetamines, cocaine, marijuana, opiates, and phencyclidine. Kratom

does not show up on these tests; however, a kratom 10-panel drug test can be administered via urine testing. For infrequent or low-dose users, kratom is likely to be detectable in urine tests up to a week later. Kratom is easily detectable in blood tests, which can reveal its concentration level. Hair follicle testing evidence is not yet available. Redwood Toxicology Laboratory in California conducts kratom urine drug testing noting, "Advanced liquid chromatography-tandem mass spectrometry (LC-MA/MS) equipment provides definitive test results." Therefore, the criminal justice practitioner must order specific testing to determine kratom use and possible influence.

CONTINUING RESEARCH

Research on kratom and its effects is ongoing in the United States.

In December 2018, the US National Institute on Drug Abuse (NIDA) awarded researchers at the University of Florida (UF) College of Pharmacy a \$3.5 million, two-year grant to study the therapeutic and abuse potential of alkaloids from the leaves of the Southeast Asian tree kratom.

A total of \$6.9 million to study the various effects of kratom and its alkaloids has been awarded to Christopher McCurdy, the lead investigator at UF. To ensure the kratom to be tested is free of contaminants or adulterants, McCurdy's team is growing kratom trees at the university. McCurdy stated,

I think the FDA and the DEA and the CDC are doing what they need to be doing to protect the public. We don't understand the science behind the products on the market.

Law enforcement officers and other first responders need to know if there are harmful effects from kratom to the responders. Might kratom be mixed with other substances that will create a hazard to those assisting a victim? What kind of misinformation can be expected as kratom begins to impact the news cycle? At this point, there are more questions than answers.

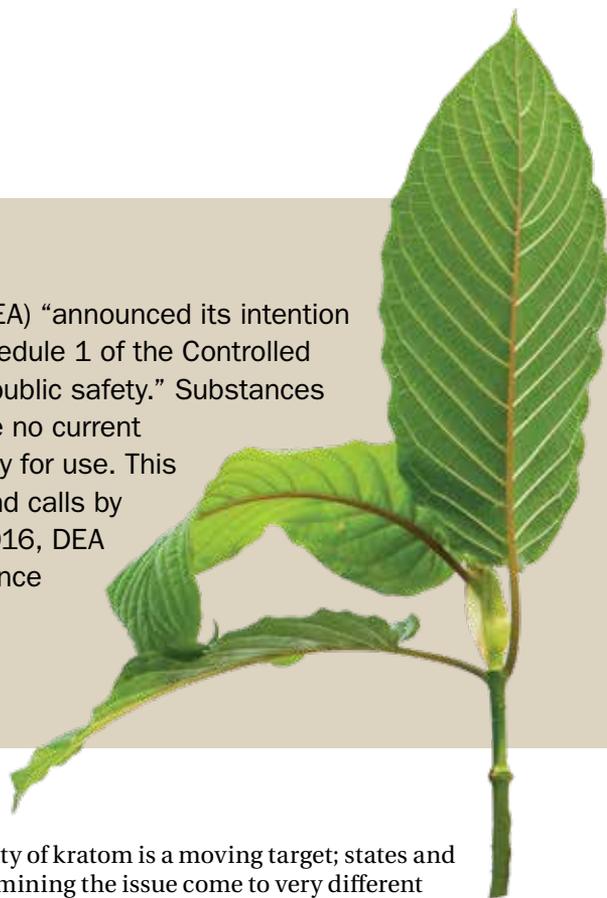
IMPACTS ON LAW ENFORCEMENT

The impetus for the research and production of this effort resulted from questioning many security personnel, police officers, and attorneys. When asked the question, "What is kratom and how does it impact investigations and cases?" the authors always received the same response, "What's that?"

Law enforcement practitioners must expand their knowledge and understanding of kratom. The possible influence of this substance on victims, witnesses, offenders, and ultimately on investigations must be considered. On-scene interviews with family and friends of a victim must include questions about

DEA SCHEDULING ACTIONS ON KRATOM

In August 2016, the Drug Enforcement Administration (DEA) “announced its intention to place the active materials in the kratom plant into Schedule 1 of the Controlled Substances Act in order to avoid an imminent hazard to public safety.” Substances listed in Schedule 1 have a high potential for abuse, have no current accepted medical use, and have a lack of accepted safety for use. This action brought about public demonstrations, petitions, and calls by the U.S. Congress to overrule the decision. In October 2016, DEA withdrew its notice and kratom is not a controlled substance under the Controlled Substances Act and remains a legal substance under U.S. federal law.



natural substances used by the victim and inquire about observations of effects that kratom may cause. A determination of kratom use by a missing person may provide investigative leads. Past narcotics violations by a victim or offender may lead to information on kratom use and again provide investigative direction. Clearly, when no other compelling cause of death is indicated, the investigator must consider and examine the use of kratom.

Kratom toxicity may be accidental or not; without the proper toxicology examination, the investigator may miss vital information. Kratom use and effect must be considered and investigated in serious motor vehicle accidents. Infanticide with a positive finding of kratom in the toxicology screen clearly indicates poisoning and a possible murder charge. Suicide investigations must include the examination of kratom use and toxicity. Clearly, blood and other bodily fluids collection and examination must include screening for kratom. While not the focus here, the civil issues and liability are worthy of examination also, as cases such as premise liability and wrongful death may involve the use of kratom on the part of a party to such suits.

In Georgia, anyone over the age of 18 can buy kratom and take it, but that may change. In Georgia House Bill 181, Representative Rick Townsend has proposed changing the categorization of kratom to a Schedule 1 drug, which means if someone is in possession of the substance, they could face a felony. According to Dr. Jeffrey Smith, chief medical examiner for the Georgia Bureau of Investigations, at least 33 Georgians have died from kratom over the last several years. Clearly indicated in this examination is the need to educate educators. Middle school and high school teachers need training on the signs, symptoms, and actions required to detect and care for young people using this substance.

The legality of kratom is a moving target; states and cities examining the issue come to very different conclusions. The future of kratom is unknown, but the University of Florida study may well be the impetus for legal restrictions on the substance. Undoubtedly additional research is needed (and is underway) on the hazards of kratom, but how this substance will impact first responders and law enforcement investigations should be a priority before it becomes another fentanyl-like phenomenon. ♡

Portions of this article were previously published as “Kratom: What Criminal Justice Practitioners Need to Know” by Stan Crowder and Ken Davis.

IACP RESOURCES

- Drugs & Alcohol

theIACPOrg

- The Synthetic Drug Craze: What Chiefs Need to Know
- Tech Talk: Technology to Combat Today's Drug Challenges

policechiefmagazine.org