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KRATOM - ARIZONA AND BEYOND

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Darren (not his real name) is a 19-year-old freshman at an Ivy League School. He had attended private schools and was always a straight-A student. He was involved in extracurricular activities and had good friends. He stayed away from students using drugs and alcohol. He worked summers at a local newspaper.

There was a family history of Major Depressive and Bipolar I and II disorders. He had not known this.

Soon after he arrived at college, he became anxious: he thought everyone was smarter, and he struggled academically. Midway through the semester, his parents informed him they were getting divorced.

Darren had no idea their marriage had been an unhappy one for years. He was devastated. His sadness grew and he became too preoccupied to do schoolwork.

Darren made friends with a few people who introduced him to kratom. He found peace and his emotional pain disappeared. He smoked it, drank its tea, chewed its leaves, and found where to purchase its extracts. He became addicted. He stopped going to classes.

Kratom is a Thai word referring to the evergreen tree, *Mitragyna speciosa*. It grows in Africa and Southeast Asia. *Mitragyna* has been used to reduce fatigue and for ceremonies prohibiting alcohol. In the U.S. it can be found in leaves, liquids, powder, capsules and gum. Although research has been scant, it is known that kratom has a stimulant and opiate-like effect. The opiate effect occurs at higher doses. Its active components are alkaloids related to yohimbine. In animals, it has been shown to have anti-inflammatory and analgesic properties. These alkaloids are thought to be partial agonists for the mu-opiate receptor. These receptors are found throughout the brain, spinal cord, peripheral sensory neurons and the intestine. In addition, the alkaloids probably affect neurotransmitters, especially adrenergic systems.

As of 2017, kratom had been banned in Wisconsin, Tennessee, Indiana, Arkansas and Alabama, New Hampshire, Vermont, Sarasota, Florida, Jerseyville, Illinois, and San Diego. In Oregon, a bill was in committee requiring the State Board of Pharmacy to study whether kratom should be classified as a Schedule I substance. In July, the bill failed. It sunsets January 2019.

What of Arizona? In 2014, HB2453 was introduced to add to the list of dangerous and narcotic drugs. Representative Eddie Farnsworth (R-District 12) proposed an amendment to strike kratom from the list. The bill is in the Rules Committee.

Kratom is legal in Arizona. It's available over-the-counter and in vending machines throughout the state. In Tucson, you can buy bags at sandwich shop, from \$10 to \$50, depending on the number of grams. An expert at the University of Arizona said there is no monitoring of how much kratom is in these bags. Customers have said kratom cures or mitigates the symptoms of lupus, PTSD, fibromyalgia and other disorders. Supporters of the substance claim it stops opiate addiction.

In 2017, Hamilton's Pharmacopeia, a show on Viceland, devoted two episodes to kratom. They featured interviews with people speaking of their positive experiences with the substance, and covered the pros and cons of its use.

In 2016, the FDA announced it would place kratom in the temporary Schedule I category. It cited increased calls to poison control centers, seizures, and deaths attributed to the substance. The public uproar against this plan was deafening. The White House received a petition with over 100,000 signatures. Thousands of people provided accounts of the curative effects of the substance. Advocates argued it is safer than opiates.

In late 2017, Representatives Marc Pocan (D-WI) and Matt Salmon (R-AZ) wrote to the FDA and the Office Management and the Budget, calling for a delay in implementing the FDA's plan. It was signed by more than 50 members of Congress. The FDA rescinded its proposal.

However, on November 14, 2017, FDA commissioner Scott Gottlieb issued a public health warning. It stated, "There is no reliable evidence to support the use of kratom as a treatment for opioid use disorder." The warning listed at least 36 deaths attributed to the substance. Further: "We have issued guidance on the proper development of botanical products that can help improve people's health . . . The agency also has a team of medical reviewers in the FDA's Center for Drug Evaluation and Research that's dedicated to the proper development of drug applications for botanicals. To date, no marketer has sought to properly develop a drug that includes kratom . . . we are working to actively prevent shipments of kratom from entering the U.S. At international mail facilities, the FDA has detained hundreds of shipments of kratom . . ."

On December 14, 2017, Representatives Marc Pocan (D-WI) and Frank Lo-Biondo (R-NJ) asked Congressional colleagues to join them in writing to the DEA. They criticized the DEA for beginning the process of listing kratom as a controlled substance. They cited studies supporting kratom's beneficial qualities and expressed concern about limiting research. However, much of this research comes from those working with the American Kratom Association, the Botanical Education Alliance and the United Kratom Association.

Kratom is easy to buy on the Internet through many websites. It ships directly from Thailand. That's how Darren got his. He smoked it several times a day and drank its tea. One night he called his mother and talked about how he had found true spiritual awareness. He reported that he had made some extraordinary discoveries about time bending and the future of space travel. He said he didn't need any sleep. He admitted he had seen visions. Voices told him he was a genius and to keep making discoveries. His mother brought him home. He was hospitalized for a week on a psychiatry ward but refused to take antipsychotic medication. He agreed to take clonazepam. He was discharged, still in a manic state.

The controversy over kratom will continue. If it is classified as a Schedule I substance, good research would be prohibited or severely limited. Nevertheless, psychiatrists need to ask their patients about kratom. Because right now, in Arizona, it's as easy to buy as a bottle of soda.

The Society thanks Dr. Herman for this article on Kratom, an emerging substance on the youth scene. Dr. Herman is recently relocated to Arizona. His practice address is: 17470 N. Pacesetter Way, Scottsdale, AZ 85255, 480-579-3906.