

CBD Use in Children—Miracle, Myth, or Mystery?

Cannabis plants have 2 varieties: marijuana and hemp.

Both contain tetrahydrocannabinol (THC) and cannabidiol (CBD). The levels of THC in marijuana are significant, while hemp contains mostly CBD. THC is the ingredient that can cause a “high” and can lead to addiction and psychosis. Since hemp was legalized in 2018, CBD products have flourished. They claim to cure problems such as acne, cancer, and mental health issues. Many celebrate cases like Charlotte, the little girl whose seizures responded well to a specifically formulated concentrate of CBD known as *Charlotte’s Web*. However, there is limited scientific evidence to back these claims, and CBD may carry risks too. Cannabis in general has a lot of health effects, regulating blood pressure, sugar, mood, pain, hunger, and stress responses. These effects have not been well studied in children. Adolescents are using CBD/THC products frequently as they see these products trending on social media or advertised on storefronts. Teens are even trying new kinds of products like Delta-8, thinking that they are safe.

Adults use CBD to treat chronic pain, nausea, vomiting, mood disorders, and opiate addiction. In children, the only US Food and Drug Administration–approved CBD product is Epidiolex (Greenwich Biosciences). It can be used only in clinical trials for 2 rare forms of childhood seizure disorders that do not respond to medications. Also, new studies in children with autism spectrum disorder show promising improvement in hyperactivity, anxiety, sleep problems, and self-injurious behaviors. CBD is also being studied for depression and spasticity. However, CBD has important adverse effects. CBD is known to cause sleepiness, fatigue, and diarrhea, and there are reports that it can cause seizures in toddlers. It can harm the liver and can interact with other medications. There has been an increase in CBD poisoning cases after eating edibles or overdosing with an adult product. CBD poisoning should be suspected if a child has unexplained vomiting, fever, or drowsiness. Most importantly, the long-term effects of CBD on the developing brain are unknown.

One reason for these conflicting reports of CBD helping or hurting is that CBD products seen online or in stores are not regulated by the Food and Drug Administration or any other national organization. Because of this, CBD products are frequently mislabeled, and many products can contain very high doses of THC and other contaminants such as pesticides or heavy metals. Until more research is done, CBD should only be used to treat children in special cases

Cannabis use in children

Cannabinoids are the active chemicals in hemp and marijuana and include tetrahydrocannabinol (THC) and cannabidiol (CBD). Only THC causes intoxicating effects. Hemp contains mostly CBD.

Most states have legalized marijuana use for medical conditions, and some states have legalized marijuana use for adult recreation. Hemp and CBD products are legal to buy and use in all states.

Only 1 CBD product is FDA-approved for children, for the treatment of rare forms of childhood seizure disorders that do not respond to medications.

Increasing evidence shows that cannabinoids may be an effective treatment for children with hyperactivity, anxiety, sleep problems, and self-injurious behaviors. Adults use CBD to treat chronic pain, nausea, vomiting, mood disorders, and opiate addiction.

! The long-term effects of CBD are unknown.

Adverse effects of CBD use may include

- Interactions with other medication
- Sleepiness
- Fatigue
- Diarrhea
- Seizures in toddlers
- Liver harm
- Vomiting, fever, or drowsiness with overdose

Talk to your child’s pediatrician if you think your child may benefit from CBD use.

For More Information

<https://www.cdc.gov/marijuana/faqs/is-marijuana-medicine.html>
<https://childmind.org/article/cbd-what-parents-need-to-know/>
<https://www.aappublications.org/news/2019/10/02/parentplus100219>
<https://pediatrics.aappublications.org/content/146/2/e20192629>
<http://www.aapcc.org/CBD-Alert>

who have not responded to treatment for specific seizures or, possibly, autism spectrum disorder. Stories of miracle cures for children are encouraging, but just because it is a plant product or is easily available does not make it safe to use in children. Ask your primary care physician to discuss CBD use if you are curious or you think your child might benefit from it. Your physician should be willing to discuss without judgment, keeping your child’s best interest in mind. They also may be able to direct you to clinical trials that are carefully guided by experts.

Authors: Ruchita Kachru, MD; Casey Perry-Lunardo, APRN; Lindsay A. Thompson, MD, MS

Published Online: April 26, 2021. doi:10.1001/jamapediatrics.2021.0367

Author Affiliations: Department of Pediatrics, University of Florida College of Medicine, Gainesville (Kachru, Perry-Lunardo, Thompson); Department of Health Outcomes and Biomedical Informatics, University of Florida College of Medicine, Gainesville (Thompson).

Conflict of Interest Disclosures: None reported.

The JAMA Pediatrics Patient Page is a public service of *JAMA Pediatrics*. The information and recommendations appearing on this page are appropriate in most instances, but they are not a substitute for medical diagnosis. For specific information concerning your child’s medical condition, *JAMA Pediatrics* suggests that you consult your child’s physician. This page may be photocopied noncommercially by physicians and other health care professionals to share with patients. To purchase bulk reprints, email reprints@jamanetwork.com.