

Here are this week's health care highlights from AskaPatient:

- Spinal stimulation even years after spinal cord injury can immediately restore some voluntary and autonomic function. <http://ow.ly/DaAX30nqrqV> (02-04-19)
- Irritability and "anger attacks" are frequently overlooked symptoms of depression, not even included in the adult classification. <http://ow.ly/PmmM30nvrVY> (02-04-19)
- Scientists investigate the precarious treatment of childhood osteoporosis, still-growing but brittle bones. <http://ow.ly/L2GP30nzsg4> (02-04-19)
- Tyson recalls thousands of pounds of chicken nuggets after consumers find pieces of plastic in them. <http://ow.ly/TUitT30nzsvG> (02-05-19)
- Only 1 in 20 adolescents is meeting the recommendations for sleep, physical activity, and screen time. <http://ow.ly/5SG530nzYYQ> (02-05-19)
- New surveillance method can point out any human viruses, even those undetectable using current techniques. <http://ow.ly/HNbp30nzZnM> (02-05-19)
- Obesity-related cancers are much more common in millennials than baby boomers experienced at the same age. <http://ow.ly/rss930nATfZ> (02-06-19)
- First study of its kind finds listening to music you love makes your brain release more dopamine. <http://ow.ly/5zHV30nATrC> (02-06-19)
- Several synthetic cannabinoid compounds block growth in most types of colon cancer in lab tests. <http://ow.ly/uCaC30nATCY> (02-06-19)
(see related article below on CBD oil)
- Preliminary findings suggest some depression cases could be treated with probiotics for specific bacteria. <http://ow.ly/XSKH30nATHg> (02-07-19)
- Justice Department sues Philadelphia nonprofit to block opening of first supervised drug-injection site in U.S. <http://ow.ly/3aSA30nBNt8> (02-07-19)
- Reducing blood pressure in the ambulance with nitroglycerine patches does not improve stroke outcomes, study finds. <http://ow.ly/1zn730nBNtk> (02-07-19)
- Side effects from procedures and drug treatments were not fully reported in more than a third of health study reviews. <http://ow.ly/vtAf30nBNwQ> (02-08-19)
- Bug bombs put a small dent in pest problems but can carry some serious health risks for humans. <http://ow.ly/O3f530nCDcY> (02-08-19)
- Breast implants, regardless of type, are associated with a type of lymphoma near the scar, according to the FDA. <http://ow.ly/G7r730nCDIo> (02-08-19)
- Study calls for retraction of hundreds of scientific papers after discovering organs were obtained from Chinese prisoners. <http://ow.ly/TU1v30nCDuO> (02-09-19)
- Two-thirds of bankruptcy filers cite illness and medical bills as contributors to financial ruin. <http://ow.ly/5zEM30nDvlu> (02-09-19)

CBD Oil: a promising treatment but research and quality standards are lacking

What is CBD Oil?

Cannabidiol (CBD) is one of more than forty "cannabinoid" chemical compounds present in cannabis sativa plants, which include marijuana and hemp. A cannabinoid known for its psychoactive effects is tetrahydrocannabinol (THC). Unlike THC, CBD is not psychoactive and therefore does not alter a user's mental state. CBD oil can be extracted from either marijuana or hemp. Most CBD-containing items on the market today are derived from hemp, and are incorporated into a variety of products, including oils/tinctures (probably the most popular), capsules, massage creams, chews, edible films, vaping fluids, beverages, and food. Even though CBD is usually made from hemp, it is not the same as **hemp oil**, which is extracted from the **seeds and contains little or no CBD**.

Uses/Claims

Last year, the FDA approved GW Pharma's Epidiolex drug, an oral CBD solution used to treat two rare forms of childhood epilepsy. CBD is not approved for any other uses in the U.S., but GW Pharma has received clearance to study it for other indications, including cancer pain. GW Pharma's "Sativex" drug (which contains both CBD and THC) has been approved for use in Canada, UK, Spain, and other countries and treats muscle spasm in patients with multiple sclerosis (M.S.). It also has been approved in some countries to treat pain.

It is likely that in the U.S., these and other FDA-approved uses of CBD will be available soon. Meanwhile, hundreds of online retailers are marketing CBD oil with disclaimers about its health benefits. The disclaimers are a way for the companies to avoid receiving a warning from the FDA, but it is unknown how exactly the FDA will respond to the exploding number of companies and CBD products that have become available.

The most popular use of CBD seems to be as an **anti-inflammatory**. Many users suggest that CBD has a therapeutic effect on chronic pain by relieving inflammation. A mouse study from 2012 found that CBD was highly effective at reducing both inflammatory and neuropathic pain. Importantly, its efficacy did not diminish with repeated administrations, as is often the case with analgesics. The researchers found that injecting CBD into the spinal canal provided the greatest benefit, though most patients would probably not opt for this method.

Several studies have also found evidence that CBD can reduce many types of **anxiety** including: social anxiety, obsessive-compulsive, and generalized anxiety disorders. Finally, there is preclinical evidence that CBD can help treat **addiction** including cigarettes, though more thorough research is needed.

Regulatory: Good News and Bad News

The December 2018 passage of the Farm Bill explicitly removes industrial hemp-derived products from the DEA's controlled substances list. CBD companies, not surprisingly, are overjoyed. They predict increased availability of cannabinoid products for consumers and also much easier access for health researchers. The FDA, however, issued a "not so fast" kind of statement in reference to the Farm Bill, with a regulatory perspective of implications for CBD products marketed as medicinal treatments or as dietary supplements.

Overall, there appear to be few risks involved with taking CBD oil, but the major hurdle seems to be finding a reputable source for these products, as it is still an unregulated industry. In fact, in addition to sending warning letters in 2017 to companies that market CBD, the FDA tested some products and found that many do not have as much, if any, CBD as claimed. States that have legalized recreational and medical cannabis tend to have tighter control over product testing, but still carry no guarantee of getting what you pay for. The take-away of all this for potential CBD oil consumers: Buyer Beware. Check with your doctor, pharmacist, or a trusted health care professional. Ask what they themselves or their patients have used, for how long, the formulation, strength, and any other advice.

The chart below compares key information about CBD oil products with the new FDA prescription-only drug called Epidiolex.

| | CBD Oil | Epidiolex (Cannabidiol) |
|-----------------------------|---|--|
| Availability in U.S. | Widely available online (for now); specialty health stores | Rx only |
| Treats* | Many ailments including pain, anxiety, nausea, movement disorders, insomnia | Seizures associated with two kinds of rare pediatric epilepsy: Lennox-Gastaut syndrome (LGS) or Dravet syndrome (DS) |

| | | |
|---------------------------------|---|--|
| Suggested Use | *Because of lack of FDA approval, most labels have disclaimer that the product is not intended to treat any condition | See above. |
| Patient Age | Most products recommend age 18 and up | Age 2 and up; most patients are young children |
| Company | Hundreds of products and retailers in the US and worldwide; U.S. products often described as organically grown and processed. | GW Pharma (U.K.) U.S. distributor: Greenwich Biosciences, Inc. |
| Shelf Life | 12-24 months unopened | 12 weeks after opening; stored at room temperature |
| Packaging | Usually sold in 30 ml (1 ounce) bottles with 1 ml syringe | 30 ml (1 ounce) with 5 ml oral syringe |
| Flavor | Variety; mint, berry, citrus | Strawberry |
| Cannabis plant type used | Hemp | Marijuana |
| THC ("high" chemical) | no THC | no THC |
| Dosage/ administration | common dose is 1 ml (one dropper) administered under tongue | based on patient's weight; administered in cheek; maximum maintenance dosage is 20 mg/kg/day |
| When introduced | At least five years ago | October 2018; approved June 2018 |
| Side Effects | Well-tolerated; may cause sleepiness; diarrhea; decreased appetite | May cause sleepiness; decreased appetite; liver problems; diarrhea; transaminase elevations; fatigue |
| Controlled Substance | Not if classified as industrial hemp | Schedule V (low level of abuse) |
| | | No signs according to study |

| | | |
|----------------------------------|---|---|
| Dependence** | None noted | cited on drug label |
| Characteristics | Varies; usually pale yellow | Pale yellow color |
| Strength | Typical highest concentration formula is 50 mg/ml (1500 mg/oz); a low strength (150 mg/oz) oil would be 5 mg/ml | 100 mg/ml (3000 mg/30 ml) |
| Number of doses per ounce | 30 doses of 1 ml each | Varies by patient weight |
| Cost | Varies; from \$39 for 250 mg /1 oz bottle to \$200 for "high quality" 1000 mg-/1 oz bottle | \$1,235 per 3,000 mg/1 oz bottle; estimated \$32,500 cost for year of treatment |

***In a human physical dependence study, administration of cannabidiol 1500 mg/day (750 mg twice daily) to adults for 28 days did not produce signs or symptoms of withdrawal over a 6-week assessment period beginning three days after drug discontinuation." (from Epidiolex drug label)

Sources and More Reading:

- Drug Label for Epidiolex from NIH Daily Med site: [Drug label for Epidiolex](#)
- FDA's December 2018 statement regarding the Farm Bill implications for CBD availability: <https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm628988.htm>
- A list of warning letters FDA sent in 2017 for CBD oil products: <https://www.fda.gov/NewsEvents/PublicHealthFocus/ucm484109.htm>
- CBD reduces inflammatory and neuropathic pain: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3371734/>
- Analysis of previous studies finds CBD reduces anxiety in several anxiety disorders: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4604171/>
- Preclinical evidence that CBD can help treat addiction: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4444130/>
- FDA finds lower levels of CBD than advertised: <https://www.fda.gov/newsevents/publichealthfocus/ucm484109.htm>
- Consumer Reports overview of CBD: <https://www.consumerreports.org/marijuana/what-is-cbd-what-to-know-about-this-cannabis-product/>
- Discussion of prices and out-of-pocket costs; high strength versions at retail price are very costly. <https://www.cbdschool.com/epidiolex-cbd-price/>

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