

Hot Topics in Medication Safety: ISMP Update, Cannabidiol, and Online Pharmacies

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August 20th, 2019

Disclosure

- **GregORY Burger has nothing to disclose**

Pharmacist/Technician Learning Objectives:

- **Preventing errors involves more than just looking at internal data. This program will review hot topics in medication safety by:**
 - **Reviewing some of the most important Institute for Safe Medication Practices newsletter topics from the last year.**
 - **Update on the legalization and the risks/benefits of cannabidiol in Kansas.**
 - **Discuss the risks of ordering medications through online pharmacies.**

What percentage of Online Pharmacies are fake?

A. 32%

B. 71%

C. 65%

D. 97%

So How Good Are You At Spotting the Fake Online Pharmacy?

Are the following websites Verified Online Pharmacies that you can trust?



Search Medications



0 item(s) - \$0.00 [Checkout](#)

[Login](#) [Sign up](#)

Prescription Products

Non-Prescription Products

Pet Meds

How To Order

Frequently Asked Questions

Contact Us

New Customers get \$25 off using code: **25CDDFALL2018** at checkout. Minimum \$75 purchase. [See All Coupons](#)

Top 8 Reasons To Shop At Canada Drugs Direct

- ✓ 125% Price Match Guarantee
- ✓ Open 7 Days A Week
- ✓ 100% Secure Transactions
- ✓ Trusted Pharmacies & International Suppliers
- ✓ Norton Shopping Guarantee
- ✓ Certified Canadian International Pharmacy
- ✓ Amazing & Fast Customer Service
- ✓ Hundreds of 5-Star Reviews

Popular Medications

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TOLL FREE PHONE: 1-888-904-8467

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HOURS: 7 DAYS A WEEK 8AM - MIDNIGHT (EST)



Canada Drugs - Welcome to our certified Canadian Pharmacy

Canada Drugs Direct is your safe online pharmacy that will help you to find an affordable price while looking for medicine online. We are legitimate Online

Buying Safely From An Internet pharmacy

At Canada Drugs Direct, our staff welcomes any individual to use our online mail order system and we are ready to help our customers with their specific needs. If you have been looking for a trusted online pharmacy, you are at the right place.



Not a Verified Pharmacy



PHARMACY

Our Pharmacists offer patient education programs and work closely with in-store Dietitians (Where available in select stores) to help patients achieve their health goals. Our pharmacy team is committed to providing personalized care and quality service. With convenient hours of operation, we're always available and strive to provide you with the highest level of service.

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YOUR STORE

Real Canadian Superstore - Dufferin & Steeles Superstore

Pharmacy open today 9:00 AM - 9:00 PM

Telephone : 416 665 7636

Fax: 416 665 6242

Pharmacy Manager:

Pharmacy License #:

Huan (Alice) Xu

300298

Licensed by:

Ontario College of Pharmacists
483 Huron Street
Toronto, ON M5R2R4
Telephone : 416-962-4861
Fax: 416-703-3100

Hours :

Wednesday 9:00 AM - 9:00 PM
Thursday 9:00 AM - 9:00 PM
Friday 9:00 AM - 9:00 PM
Saturday 9:00 AM - 7:00 PM
Sunday 9:00 AM - 6:00 PM
Monday Closed
Tuesday 9:00 AM - 9:00 PM



Feedback

Online Pharmacy Services

[Access Now](#)



Real Verified Pharmacy

Why are people turning to online pharmacies?²

1. Cost

2. Convenience

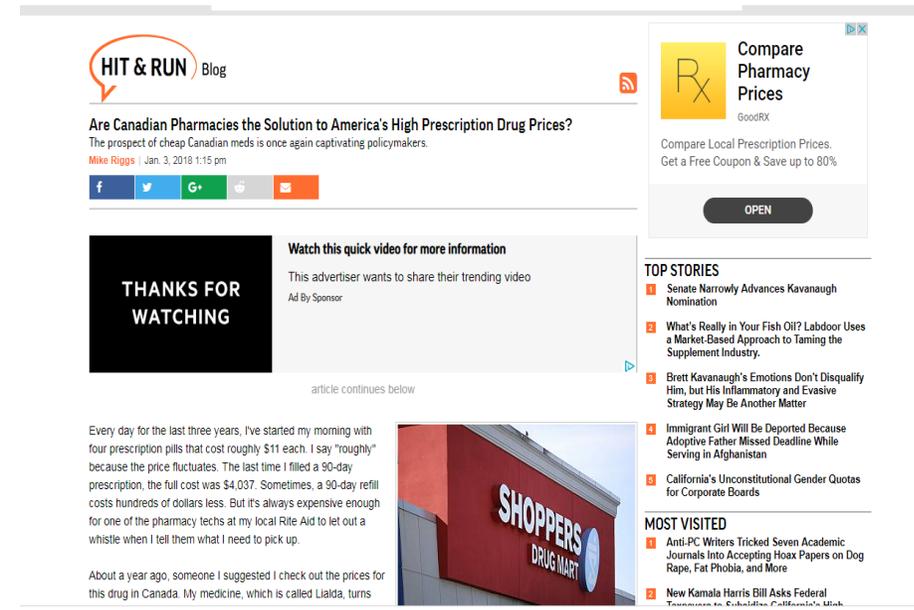
3. Access

Why are people turning to online pharmacies?

1. Cost



The screenshot shows the top portion of a news article on The Star website. The header includes the site logo, navigation menus, and a 'Subscribe' button. A blue banner at the top contains an update message: 'UPDATES Paid subscription has launched on thestar.com. Click here to read an important message from our Publisher.' Below this, the article title is 'Americans turn to Canada for cheaper EpiPens' by Sammy Huades, dated August 25, 2016. The article text begins with 'When Derby Leigh found out she'd need to start carrying an EpiPen this summer due to a'.



The screenshot shows a blog post on the HIT & RUN website. The article title is 'Are Canadian Pharmacies the Solution to America's High Prescription Drug Prices?' by Mike Riggs, dated January 3, 2018. The article text begins with 'Every day for the last three years, I've started my morning with four prescription pills that cost roughly \$11 each. I say "roughly" because the price fluctuates. The last time I filled a 90-day prescription, the full cost was \$4,037. Sometimes, a 90-day refill costs hundreds of dollars less. But it's always expensive enough for one of the pharmacy techs at my local Rite Aid to let out a whistle when I tell them what I need to pick up.' A video player is embedded in the article, showing a 'THANKS FOR WATCHING' message. To the right of the article is a sidebar with a 'Compare Pharmacy Prices' advertisement and a 'TOP STORIES' section listing several news items.

Why are people turning to online pharmacies?

2. Convenience

**35,000-45,000 online pharmacies
deliver right to your door!**

The screenshot shows a CNN Business article from June 28, 2018. The main headline is "Amazon could radically change how you get prescriptions" by Kaya Yurieff. Below the headline is a photo of an Amazon Prime delivery van with a driver holding a package. A red banner at the bottom of the photo reads "See Amazon's new Prime delivery initiative". To the right of the article is a sidebar with financial product advertisements for Synchrony, Ally, and Capital One, each offering a 1.90% APY on high-yield savings accounts. At the bottom of the page, there are sections for "CNNMoney Sponsors" and "SmartAsset Paid Partner".

CNN BUSINESS Markets Tech Media Success Video

Amazon could radically change how you get prescriptions

by Kaya Yurieff @kyurieff
June 28, 2018: 6:08 PM ET

Recommend 490

Personal Finance

Open a New Savings Account

synchrony High-Yield Savings Account	1.90% APY \$0 To Open Member FDIC	Open Account
ally Online Savings Account	1.90% APY \$0 To Open Member FDIC	Open Account
capital one Personal Savings High-Yield Savings Account	1.90% APY \$1 Min To Earn \$25K+ Member	Open Account

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In the last 24 hours, Amazon announced a program that all but franchises its last-mile deliveries and bought the popular online pharmacy PillPack. At first glance, these may seem like utterly

Why are people turning to online pharmacies?

3. Access to Care

The screenshot shows a CNBC news article. At the top, there is a red banner with the text "BREAKING US crude ends volatile week with 1.5% gain, settling at \$74.34, as Iran sanctions loom". Below this is the CNBC logo and navigation links for "MARKETS", "BUSINESS NEWS", "INVESTING", "TECH", "POLITICS", and "CNBC TV". A search bar is visible on the right. Below the navigation is a green advertisement for Cascade Pharmacy with the text "Nothing cleans better" and a "BUY NOW" button. The article title is "Impatient patients turn to online 'buyers club' for new drugs". The article text includes:

- Social Medwork sees its network as filling a gap in the market for the latest drugs against diseases such as cancer, migraine and multiple sclerosis.
- In the past 18 months, the group has supplied more than 3,000 patients.
- The Dutch group, which charges a fee of around 6 percent, claims to be the only organization focused on newly approved branded drugs.

The article is attributed to Reuters and was published on October 3, 2018, at 10:24 AM ET. There are social media sharing icons for Facebook, Twitter, LinkedIn, Email, and Print. Below the article is a photo of hands holding a pill bottle and pills. To the right, there is a small article preview titled "How to maintain your advisory fees in a competitive market" with the subtext "Paid Post For Vanguard". At the bottom, there are browser tabs for "Lecompton Syllab...xlsx" and "FROM THE WEB" with "Sponsored Links by Taboola".

Why is This A Problem?³

Hidden Poisons in Counterfeit Medications

There are a lot of shady ingredients that go into counterfeit medications that consumers can be exposed to by buying directly from unlicensed drug sellers on the internet, or when medical professionals purchase medications from outside the secured supply chain.

Investigators have found these dangerous ingredients in fake medicine.

Heavy metals



mercury
aluminum
lead
cadmium
arsenic
chrome
uranium
strontium
selenium

Actual poison



PCBs
benzopyrenes
rat poison
boric acid
antifreeze

Common household items



road paint
wall paint
brick dust
floor wax
sheet rock
paint thinner

Drugs you didn't ask for



aminotadalafil
homosildenafil
xanthoanthrafil
pseudovardenafil
hongdenafil
sibutramine
haloperidol

No drugs at all



dextrose
dextrin
lactose
starch
saline
salt



FAKE



Why is This A Problem?⁴

Common violations by illegal drug sellers include:

- Selling falsified, adulterated, or unapproved medications
- Selling prescription medications without a prescription
- Operating with no pharmacy license

Every day, approximately 20 new illegal online pharmacy websites go live globally.

3300 sites sell controlled substances like opioids, often without a prescription.

Risks of over/under-dosing, drug interactions, adverse events, and financial fraud.

Online drug sellers can make between \$1-2.5 million in sales each month and counterfeiters make 10x more profit than illicit drug traders.

Reported Patient Harms⁵

UK Paramedic Dies Of Accidental Overdose Of Drugs Sold Through Foreign Online Pharmacy

May 27, 2011

The death of a London paramedic has been ruled accidental after she ingested a fatal dose of pills purchased from a foreign online pharmacy.

Lorna Lambden, 27, a paramedic and Masters Degree student at the University of Hertfordshire, was found dead in her home on December 17, 2010, after ingesting pills purchased over the internet without a prescription, reports the Daily Mail.

The coroner, Edward Thomas, found a fatal level of the drug amitriptyline in her blood. Thomas added that the medication had not been prescribed to Lambden, but suspected she purchased an equivalent called "amitrip" from a foreign internet-based pharmacy.

Said Thomas, "...four milligrams [worth of amitriptyline were] found in her blood, and a therapeutic level is about one milligram." He went on to say that after taking the drug she collapsed and suffered a cardiac arrhythmia, reports the St. Albans Review.

Lambden's family knew that she had trouble sleeping and suspect she purchased the medication to rest between twelve hour shifts with the London Ambulance Service, reports the London Metro.

Lambden's mother, a retired accident and emergency sister, said: "It's terrible that these drugs are so freely available online and people can buy them without seeing any warnings about the harm they can do."

Coroner Thomas said: "Amitriptyline can stop the heart and I think that is likely here. Lorna would not have known it had happened. It would not have been like a heart attack."

Health

Woman dies after taking 'diet pills' bought over internet

Eloise Aimee Parry, 21, from Shrewsbury, 'burned up from the inside' after taking tablets believed to contain highly toxic chemical dinitrophenol



Fake Online Pharmacies Warning Signs¹

Allow you to buy drugs without a prescription from your doctor.

Offer deep discounts or cheap prices that seem too good to be true.

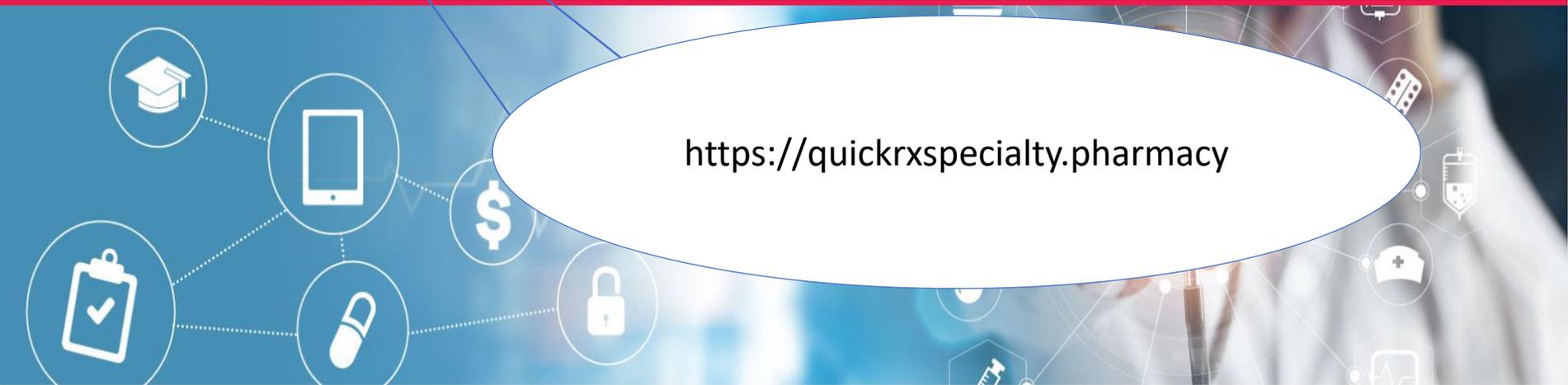
Are located outside of the United States.

Are not licensed in the United States.

A safe online pharmacy^{1,6}:

- **Always requires a doctor's prescription for prescription drugs.**
- **Provides a physical address and telephone number in the U.S.**
- **Has a pharmacist available to answer your questions.**
- **Is licensed with your state's board of pharmacy.**
- **Has a domain name as ".pharmacy".**

Look behind the dot!



SPECIALTIES



PRIOR AUTHORIZATION



FINANCIAL ASSISTANCE



EDUCATION

How to Find Safe Online Pharmacies in the U.S.

Go to: <https://buysaferx.pharmacy/find-a-safe-online-pharmacy/>

The screenshot shows a web browser window with the URL <https://buysaferx.pharmacy/find-a-safe-online-pharmacy/>. The page title is "Find Safe Online Pharmacies in the U.S.". Below the title, there is a paragraph: "With more than 33,000 illegal online pharmacies, ASOP Global is dedicated to helping consumers stay safe online. To ensure the online pharmacy sites you visit are safe and legitimate, use the LegitScript URL verification tool or search the National Association of Boards of Pharmacy's database of verified .pharmacy websites." There are two text boxes: "LegitScript's Verification Program" and "NABP's .Pharmacy Program". Below these is a "Verify your online pharmacy" section with a search bar containing "www.example.com" and a "Verify" button. To the right is a ".pharmacy" logo and text: "With .pharmacy in the URL, the National Association of Boards of Pharmacy 'seal of quality' is built into the website address. Find an NABP-approved .pharmacy website". The footer contains navigation links: "About ASOP Global", "Public Awareness", "Media Center", "External Resources", and "Quick Links".

Find Safe Online Pharmacies in the U.S.

With more than 33,000 illegal online pharmacies, ASOP Global is dedicated to helping consumers stay safe online. To ensure the online pharmacy sites you visit are safe and legitimate, use the LegitScript URL verification tool or search the National Association of Boards of Pharmacy's database of verified .pharmacy websites.

LegitScript's Verification Program
LegitScript maintains the world's largest comprehensive database of regulated healthcare products, organized by legitimacy and safety. LegitScript monitors and catalogs warnings from over 100 government agencies on an on-going basis and follows regulatory developments in nearly 20 countries around the world.

NABP's .Pharmacy Program
The .pharmacy verified domain, established by NABP, creates a safe space for consumers throughout the world to purchase medicine online, while enabling businesses to show that their websites are trustworthy. Unlike seals of approval posted on websites, the .pharmacy domain is part of a website's address and cannot be faked.

Verify your online pharmacy

www.example.com **Verify**

Powered by: LegitScript

.pharmacy

With .pharmacy in the URL, the National Association of Boards of Pharmacy "seal of quality" is built into the website address.
Find an NABP-approved .pharmacy website

About ASOP Global
Members and Observers

Public Awareness
Canadian Online Pharmacies

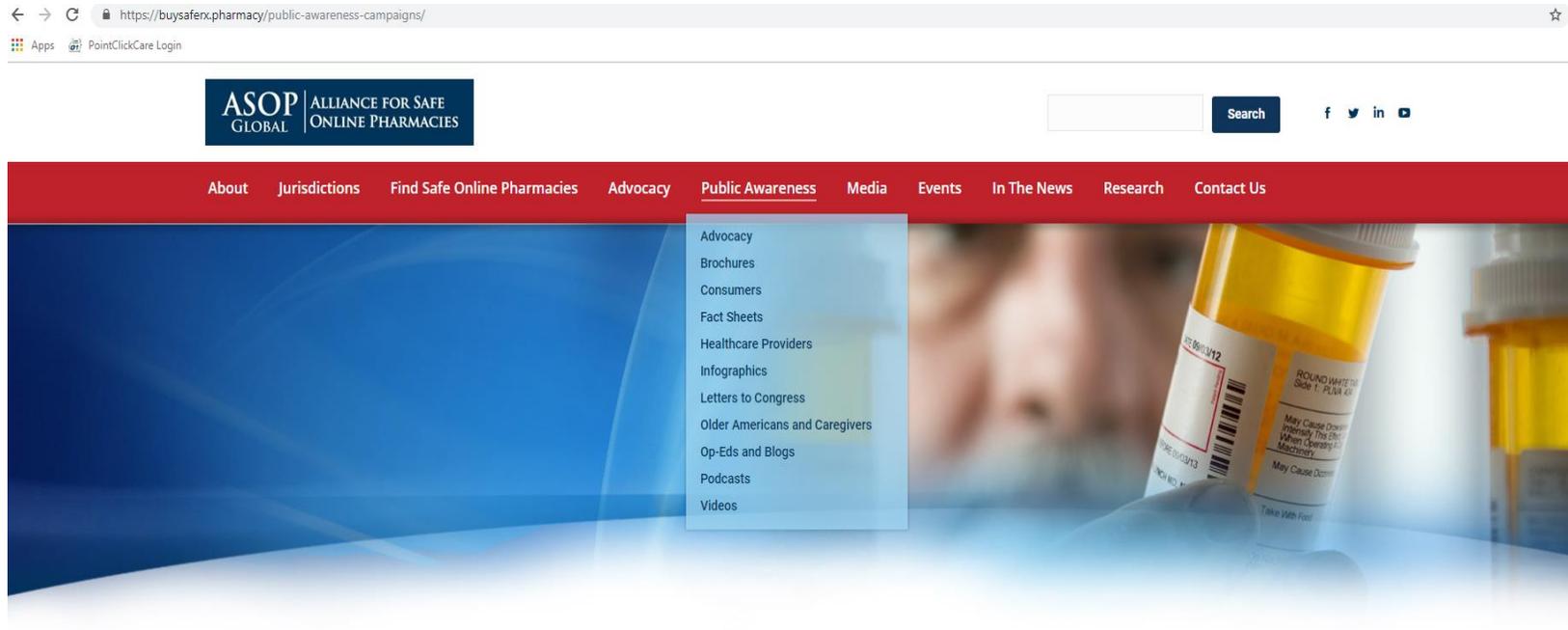
Media Center
News Releases

External Resources
Verify an Online Pharmacy

Quick Links
ASOP Global Foundation

Other Resources are also available

Go to: <https://buysaferx.pharmacy>



Public Awareness

- Advocacy
- Brochures
- Consumers
- Fact Sheets

Canadian Online Pharmacies

When U.S. residents search for Canadian online pharmacies, they will find hundreds of websites that initially, but incorrectly, appear to sell U.S. residents drugs supplied by licensed pharmacies located in Canada. Additionally, there are many more websites that claim to have some nexus to Canada – slap a maple leaf on a website – to dupe U.S. consumers. These sites

Cannabidiol (CBD)

The Cannabis family⁷

(Hemp, Marijuana, synthetic cannabinoids)

The Cannabis family contains over 100 active compounds (cannabinoids)

****Two of the most abundant and best studied are:**

- **Delta-9-tetrahydrocannabinol (THC)**
- **Cannabidiol (CBD)**

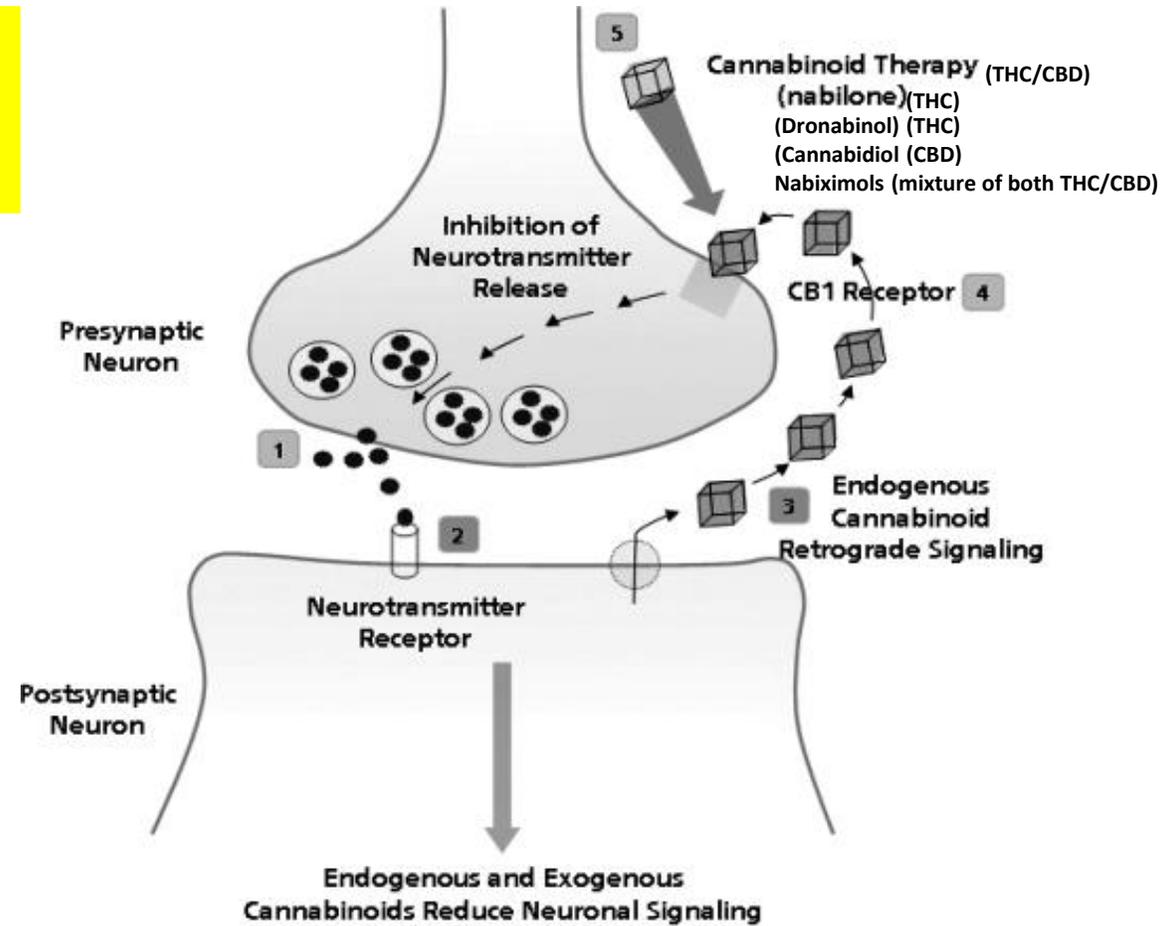
****Both have very different physiological and pharmacological properties due to differences in receptor affinities and activities.**

- **Potential beneficial effects are based on a combination of data including human and animal models.**
- **Effects may be different or vary in intensity based on the specific product (or combination product) used and the method or route of administration.**

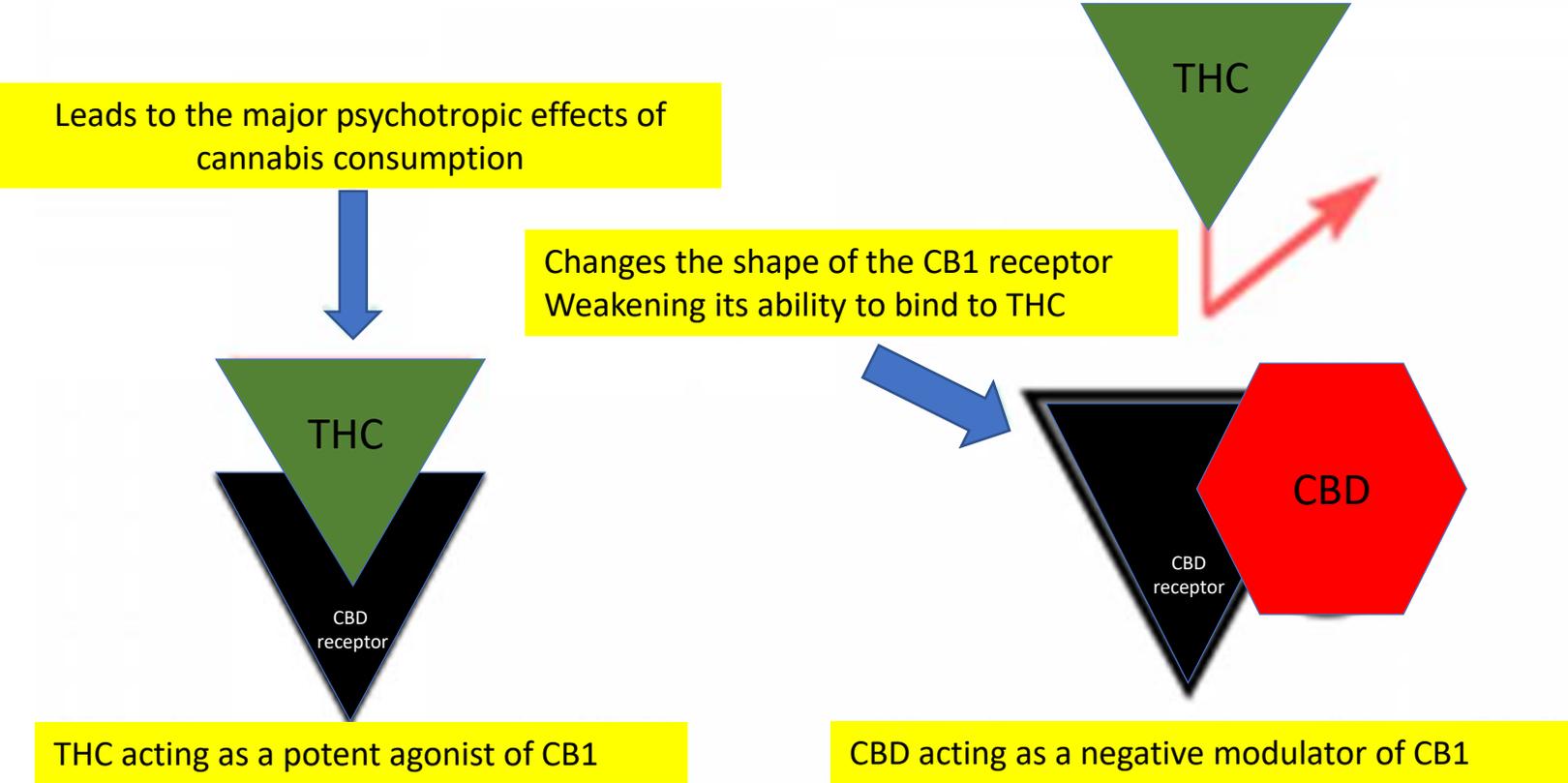
Marijuana and Hemp are two varieties of the same species

Marijuana	Hemp	Hemp seeds (cannabis sativa seed oil)
Produces tetrahydrocannabinol (THC) at 20%+ levels (the psychoactive compound that makes a person feel "high.")	Has to be less than 0.3% THC to be sold legally	0% THC, trace amounts of CBD
Produces CBD at 10%+ levels	Produces CBD at 20%+	Used as food such as hempseed milk, granola, and more
Medicinal and therapeutic uses for chronic pain, mental health, and illnesses	Stalks of the hemp plant can produce clothing, rope, paper, fuel, home insulation... (the list goes on and on)	Cold-pressed for oil production that can be used in cooking, beauty products, and even in paint

Mechanism of Action of Cannabinoids⁸



Mechanism of Action of Cannabinoids



Potential Benefits of THC⁷

Evidence supports use for:

- Analgesia-refractory chronic pain, especially in patients with cancer, multiple sclerosis, rheumatoid arthritis or neuropathic pain.
- Antiemetic-Refractory chemotherapy-induced nausea and vomiting.
- Appetite stimulation-In patients with Human Immunodeficiency Virus (HIV) or Acquired Immunodeficiency Syndrome (AIDS).
- Muscle relaxant.

Limited Evidence for use in improving symptoms of:

- Tourette syndrome, Dementia, Post-traumatic stress disorder (PTSD).



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What are the potential negative/side effects of THC? **7

- Euphoria
- Hyperemesis syndrome (also referred to as Cannabinoid Hyperemesis Syndrome (CHS))
- Psychoactive effects (e.g., feeling drunk, disturbance in attention, dizziness, sedation, disorientation, disassociation, paranoia, and euphoric mood)
- Legal Issues

****Effects may be different or vary in intensity based on the specific product used and the method or route of administration.**

Potential Benefits of CBD⁷

Evidence supports use for:

- Anticonvulsant-Use for refractory seizures in patients with Dravet and Lennox-Gastaut syndromes
- Anxiolytic-Conflicting evidence, but there is limited evidence to show improvement in anxiety associated with public speaking
- Antipsychotic effects-Limited evidence of reduction in psychotic episodes in patients with Parkinson's disease
- May reduce undesirable effects of THC when used together or in a combination product (e.g., sedation, paranoia)
- Analgesia
- Anti-oxidant
- Muscle relaxant
- Neuroprotective



Potential negative/side effects of CBD**7

- Decreased appetite and weight loss
- Diarrhea
- Dizziness, drowsiness, and fatigue
- Liver injury (especially with higher doses or when combined with clobazam or valproate)
- Possible Legal Issues

****Effects may be different or vary in intensity based on the specific product used and the method or route of administration.**

Legality of THC and CBD³

The United States form of government is Federalism. Medical and Recreational Marijuana (THC) are Federally Illegal

- **Federal law supersedes state law**
- **State law can only be more restrictive than federal law**

SO.....No matter what your state law says-THC is a schedule 1 controlled substances under the Federal Controlled Substance Act.

Thus per federal law:

- **Marijuana has no accepted medical use**
- **High potential of abuse**
- **Lack of accepted safety**

Legality of THC and CBD³

The Drug Enforcement Administration (DEA), has the authority to enforce the Controlled Substance Act (CSA)

- **Potential felony prosecution**
- **Potential for loss of facility pharmacy DEA license (prescribing and dispensing)**
- **Potential for loss of professional license**

Cannabidiol is no longer Federally Illegal (Agriculture Improvement Act of 2018- 2018 Farm Bill)

- **Cannabidiol that is derived from Hemp and has less than 0.3 percent THC is no longer a controlled substance.**
- **The Drug Enforcement Administration (DEA) reclassified FDA approved cannabidiol products with less than 0.1 percent THC to Schedule V.**
- **Currently the only way CBD can be marketed per FDA regulations is as a cosmetic.**
- **The FDA held a public comment session in May and plans on working with public and companies that make CBD products to reconcile how it can and can't be marketed.**

Recent Kansas Laws on CBD and THC

May-2018

- Kansas legislation passed SB 282 that made it legal to sell CBD in Kansas as long as it contains **NO** THC.
- Cannabidiol that contains no THC was excluded from the state's controlled substance Acts definition of marijuana.

Spring-2019

- Kansas legislation passed the Industrial Hemp Bill (SB 263) which allows for the growth of industrial hemp and the production of CBD oil with up to 0.3% THC. However, this law doesn't currently regulate end products.
 - Confusion now exists on whether this allows products with up to 0.3% THC be marketed and sold.
 - The law did not change the State Controlled Substance Act.
 - We are 1 of only 4 states that has a zero tolerance for any level of THC sold in products.

Recent Kansas Laws on CBD and THC

However.....

- **Claire and Lola's law (HB 2244) also passed which makes it legal for patients or parents to possess CBD with up to 5% THC if:**
 - **Used to treat certain debilitating medical conditions (such as seizures) AND**
 - **Must have in simultaneous possession a letter signed by a Kansas licensed physician who diagnosed the condition (dated within 15 months of possession)**
 - **Product must be obtained from another state and carry verification that it was tested by a third party laboratory (doesn't allow for sale or production within the state)**
 - **The law leaves wide discretion to police and local prosecutors, who could still pursue charges (i.e. you could still be arrested and face charges)**

Currently Approved Products⁷

THC-based products (synthetic): Most often used to reduce refractory chemotherapy-induced nausea and vomiting.

- Dronabinol (Marinol, Syndros) DEA Schedule III
- Nabilone (Cesamet) DEA Schedule II

CBD-based products: Used to treat certain types of refractory childhood-onset seizures due to Dravet and Lennox-Gastaut syndromes.

- Cannabidiol (Epidiolex) DEA Schedule V

Combination products (Nabiximols): Available in Canada Only

- CBD and THC 1:1 ratio (Sativex)- Used for refractory pain and spasticity associated with multiple sclerosis
- CBD and THC 2:100 ratio (Tilray)- Used to treat certain types of refractory childhood-onset seizures due to Dravet and Lennox-Gastaut syndromes

Unregulated CBD products^{10,11}

CBD Vaporizers (Vape Pens) for smoking (2-56% bioavailability)

Pros: Fast onset (30 sec to 5 min), Ease of use

Cons: Toxic effects on lungs, Poor ability to dose

CBD Tinctures/Oils (Drops/Sprays) for sublingual administration (12-35% bioavailability)

Pros: Quick onset (10 to 60 min), Avoids first pass metabolism, Better absorption

Cons: Sometimes can be difficult determining the dose

CBD Topical Rubs and Balms (most do not produce a systemic blood level)

Pros: Mostly local effects, Patches for sustained effects, Avoids first pass metabolism

Cons: Slower onset (15-120 minutes)

Unregulated CBD products^{10,11}

CBD Edibles and Pills (4-20% bioavailability)

Pros: Lower peak effect but lasts longer

Cons: Slow onset (30-120 min), Dosing may not be precise with edibles

CBD Rectal/Vaginal Suppositories (up to 13.5% bioavailability): Avoids first pass metabolism

What are the potential drug-drug and drug-food interactions with CBD?⁷

CBD is primarily metabolized by CYP P450 enzymes (1A2, 2C9, 2D6, 2C19, 3A4) so medications that inhibit or induce these enzymes can effect CBD levels.

- Examples of inhibitors include-ritonavir, verapamil, fluconazole, omeprazole.
- Examples of inducers include carbamazepine, St. John's wort, primidone, rifampin)

CBD inhibits (CYP P450-2C8, 2C9, 2C19) the metabolism of many medications and can increase medication levels.

- Examples include Amiodarone, carbamazepine, warfarin, phenytoin, and valproic acid **(not an all inclusive list)**

CBD has mixed effects on CYP enzymes 1A2 and 2B6

- Monitor patients and adjust doses of amitriptyline, cyclobenzaprine, and bupropion

High-calorie, high-fat food may increase the absorption of CBD

CNS depressants (e.g. alcohol, opioids) may add to side effects (e.g. dizziness, drowsiness). Coadministration with Valproic Acid increase the risk of elevated liver enzymes

Are there any risks of dependence with CBD?⁷

- Use of pure CBD is unlikely to lead to dependence.

However- Be aware that unregulated products promoted to only contain CBD may also contain some THC and therefore could lead to dependence due to THC content.

What is CBD's impact on urine drug screens?⁷

- **Most urine drug screens test for THC or its metabolites.**
- **Most hemp oil or CBD products do not contain enough THC to lead to a positive urine drug screen.**
- **Very high doses or an impure form of CBD could lead to a positive drug screen.**

Other risks associated with taking unregulated CBD or other marketed products^{12,13,14,15}

It is difficult to determine the quality of unregulated products due to:

- **Uncertain potency**

- Labeled potency-A 2017 study showed that 43% of CBD labeled products contained too little, while 26% contained too much cannabidiol.

- **Uncertain purity**

- The same study above also found 20% of CBD products contained THC.
- Other studies have found products contaminated with microorganisms, pesticides, and heavy metals.

Considerations when helping a patient Select a Cannabis Product⁷

Selecting a company that:

- Clearly lists the amount of CBD/THC per serving or per application. Some products are difficult to interpret dosage
- Makes testing results (example-certificate of analysis) from an independent lab available
- Meets “ISO 17025” standards (follows high scientific standards)
- Maintains Hemp Authority Designation (Speaks to quality standards and indicates that products are derived from hemp and are legal)

Review labeling and company website:

- Avoid foreign sources
- Consider purchasing from states that have legalized recreational cannabis
 - May have more vigorous regulations and testing
- Be aware that inactive ingredients may not be listed. Examples include:
 - Tinctures without labeled alcohol content
 - Dyes and Flavoring agents that could cause allergies
 - Oils such as sesame seed oil or other herbal products such as melatonin which could create additional drug interactions

Considerations when helping a patient Select a Cannabis Product⁷

Other counseling tips:

- **Traveling with non-FDA approved CBD products may be risky due to differences in state laws.**
- **Both THC and CBD products should be avoided in:**
 - **Women who are pregnant, planning to become pregnant, or breastfeeding**
 - **Patients with complex medication regimens (drug-drug interactions)**
- **THC should be avoided in:**
 - **Children and adolescents**
 - **Patients with mood or anxiety disorders**
 - **Patients with unstable cardiovascular disease**
 - **Patients with hepatic disease**

Important ISMP Updates¹⁶

Review your IV to PO Conversion for Levothyroxine

- Recent literature suggests the 50% of the oral dose for IV dosing is now too low.
- If using IV levothyroxine, the recommended equivalent IV dose is now approximately 75% of the oral dose assuming the enteral levothyroxine dose has achieved euthyroidism.
- Go to <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4267409/> for the Guidelines for Treating Hypothyroidism from the American Thyroid Association.



Safety enhancements every hospital must consider after another tragic neuromuscular blocker event

Recommendation: Establish a standard process for patients who require sedation in radiology.

Sequester neuromuscular blockers and affix a clear warning (Warning: Causes Respiratory Arrest—Patient Must Be Ventilated!) on storage locations and ADC

screens. Build an Interactive warning on the ADC screen that requires

verification of Ventilation. Clarify ADC override policies and monitor

regularly (see updated ADC guidelines at: www.ismp.org/node/1372. ISMP

has asked ADC vendors to make design changes (e.g., drug name searches requiring at least 5 letters and manufacturers to clarify the warning on vials.

Do not allow the severity of the outcome of an error drive the response.



Mix-ups between epidural bupivacaine and intravenous (IV) antibiotics in labor and delivery (L&D) units

Recommendation: Educate staff about the risk of mix-ups due to look-alike bags. During drug shortages, warn staff about changes in product appearance, labeling container sizes, and concentrations. Use colored overwraps or a different size/shape container for epidural analgesia to differentiate it from IV infusions. Dispense epidural analgesia with yellow-striped epidural tubing. The practitioner administering the epidural analgesia should bring it to the bedside immediately before use. Require use of a BCMA system.



Container label changes for vitamin A, D, and E

Recommendation: Educate patients and practitioners about this change and how it will affect dosing if they use these vitamins. ISMP has requested consideration of public announcement about this change and supports requiring manufacturers to include the strength on container labels and Supplement Facts panels in both mg or mcg as well as international units in parentheses to allow for safe transition to metric weight labeling.



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Confusing requirements for SHINGRIX (Zoster vaccine recombinant, adjuvanted, GlaxoSmithKline), with those for ZOSTAVAX (zoster vaccine live, Merck)

Recommendation: Educate staff about the differences between Shingrix and Zostavax. Label the storage bins/shelves using The updated Centers for Disease Control and Prevention (CDC) vaccine labels, which draw attention to the differences in Storage, component/diluent, and routes of administration (www.ismp.org/sc?id=3101). Store the Shingrix lyophilized component and adjuvant suspension together to reduce the risk of using the wrong diluent.



Message codes on ACCU-CHEK Inform II and possibly other glucometer result screens can cause confusion

Recommendation: Configure the result screen on your facility's glucometer to display the patient's numeric blood glucose level in order to eliminate the risk of treatment errors caused by abbreviations. Work with the manufacturer of your glucometer, if necessary, to achieve this. Teach staff how to interpret glucometer result messages.



Misuse of pen needles can result in patient not receiving any medication

Recommendation: When teaching patients to self-inject medications from a pen, make them aware of the different types of pen needles available and teach them to remove the proper pen needle covers. Whenever possible, use the type of pen needle for training that the patient will use at home. Use the teach back method and ensure the patient can demonstrate the correct administration technique.



"insulatard insulin with 4mm needle" by Graeme McN is licensed under [CC BY-NC-ND 2.0](https://creativecommons.org/licenses/by-nc-nd/2.0/)

Survey results: Unsafe practices persist with adult intravenous (IV) push medications

Recommendation: Dispense IV push medications in ready-to-administer, prefilled syringes when possible, and ensure cartridge holders are available. Require pharmacy to dilute medications if necessary. If nurse dilution of unstable medications is necessary, provide standardized guidelines. Do not allow dilution/reconstitution in saline flush syringes. Provide units with syringe labels and require labeling of syringes prepared away from the bedside. Assess orientation content to ensure staff are not teaching new clinicians unsafe practices. Utilize the *ISMP Gap Analysis Tool for Safe IV Push Medication Practices* to identify opportunities for improvement (www.ismp.org/node/1188).



USP Standards go into effect on December 1st, 2019

<https://www.usp.org/compounding>

USP 795-Nonsterile Compounding

USP 797-Sterile Compounding

USP 800-Handling of Hazardous Drugs

USP 825-Radiopharmaceutical Compounding



Reporting and second-order problem solving can turn short-term fixes into long-term remedies

Recommendation: To promote organizational learning, create an environment of psychological safety that fosters open reporting, active questioning, and frequent sharing of insights and concerns. Encourage practitioners to both handle the unexpected problem and then report it so steps can be taken to address its underlying causes. Create capacity for second-order problem solving to occur as close as possible to when and where the problem occurred. Once a problem has been identified and the underlying causes examined, proper attention must be paid to reducing its recurrence by developing an action plan to address the systems' weak points.



"Problem solving fortune cookie" by Tomasz Stasiuk is licensed under CC BY-SA 2.0

ISMP offers a free newsletter for nurses

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QUESTIONS?



Melody Arch and Window, Arizona
March 10th, 2019

Question 1: Which of the following are clues that an online pharmacy site might be fake?

- A. They do not require a prescription.**
- B. They are not licensed or located in the United States.**
- C. Offer deep discounts or cheap prices that seem too good to be true.**
- D. All of the above are true.**

Question 2: Which of the following is true concerning online pharmacies?

- A. About 35% of online pharmacies are fake.**
- B. People turn to online pharmacies to get easy access to pharmacists for medication advice.**
- C. Counterfeit medications from online pharmacies could floor wax, sheet rock, or poisons such as heavy metals.**
- D. Are required to be licensed in the United States.**

Question 3: Which of the following is true concerning delta-9-tetrahydrocannabinol (THC) products and cannabidiol (CBD) products?

- A. Cannabidiol (CBD) has minimal drug interactions with other prescription medications.**
- B. Delta-9-tetrahydrocannabinol (THC) based products have no pharmacological benefits.**
- C. There are both delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD) based products approved and marketed in the United States.**
- D. One of the cannabidiol's (CBD) negative side effects is cannabinoid hyperemesis syndrome (CHS).**

Question 4: Which of the following is true about the benefits of cannabidiol (CBD)?

- A. Use of pure CBD is likely to lead to dependence.**
- B. Impure forms of CBD could lead to a positive urine drug screen.**
- C. Traveling with non-FDA approved CBD products should not be an issue since it is no longer considered a schedule 1 controlled substance federally.**
- D. CBD based product Epidiolex is approved by the FDA to treat certain types of refractory childhood-onset seizures.**

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