Some Things to Know When Using a Cannabis or Hemp Product

Cannabis and hemp products contain many active ingredients, such as CBD, THC, and others.

Both CBD and THC can interact with common medicines.

FDA approval requires assessment of benefits and risks of a product. FDA also inspects manufacturing.

If products do not go through an FDA review, it can be difficult to predict their interactions with other drugs. It is important to tell your healthcare provider about all the products you are taking.

Based on the 4 FDA-approved CBD or THC drugs, CBD and THC may have the following side effects and drug-drug interactions in the conditions studied.

**CBD**

**POSSIBLE DRUG-DRUG INTERACTIONS**

- Acid reflux medicines
- Antibiotics
- Anti-depressants
- Anti-seizure medicines
- Anti-fungals

**THC**

**POSSIBLE DRUG-DRUG INTERACTIONS**

- Antibiotics
- Anti-seizure medicines
- Anti-fungals

**CBD**

**POSSIBLE SIDE EFFECTS**

- Liver problems
- Drowsiness
- Fatigue
- Abdominal cramps
- Diarrhea
- Decreased appetite
- Rash

**THC**

**POSSIBLE SIDE EFFECTS**

- Dizziness
- Drowsiness
- Abnormal thoughts
- Pancreatitis
- Alopecia
- Abdominal pain
- Nausea
- Vomiting

*This is a general list of possible interactions with these types of medications; it is not a complete list of all potential side effects or drug interactions.

**DID YOU KNOW?**

The FDA has issued at least 48 warning letters to dispensary companies for incorrect labels and illegal advertising.*

A study of non-FDA approved products showed nearly 70% were mislabeled for CBD and another 23% contained undisclosed THC.†

FDA-approved products containing CBD and THC have undergone rigorous testing.

Talk to your healthcare provider if you are using cannabis and/or hemp products.

If you have additional questions, Greenwich Biosciences Medical Information department may be reached by email medinfo@greenwichbiosciences.com or by calling 1-833-424-6724.

*Based on warning letters sent from 2015 to September 2019. Warning letters were issued by the FDA when a company did not accurately state the contents of the THC or CBD product it was promoting. Letters were also issued by the FDA when a company made a misleading medical claim.

†In this study, 84 different products containing a cannabinoid such as CBD or THC were purchased. Then, researchers from the University of Rochester/Phoenix VA (SCH) of Medicine examined each product to test whether the actual contents matched what was stated on the label.

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Cannabinoids can be inducers or inhibitors of the various CYP enzymes; therefore, healthcare providers should consider monitoring patient’s use of cannabis products to reduce the risk of adverse events and to maintain the effectiveness of other concomitant medications.

Based on the 4 FDA-approved cannabinoid drugs, CBD and THC may have the following side effects and drug-drug interactions.

**CANNABIDIOL (CBD)***

CBD is a substrate for CYP3A4 and CYP2C19. Therefore, drugs that inhibit or induce these 2 enzymes will affect the plasma concentration of CBD.

<table>
<thead>
<tr>
<th>CBD</th>
<th>INHIBITION</th>
<th>INDUCTION</th>
</tr>
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<tbody>
<tr>
<td>CYP1A2</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>CYP2B6</td>
<td>+</td>
<td>+</td>
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<tr>
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<tr>
<td>UGT1A9</td>
<td>+</td>
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<tr>
<td>UGT2B7</td>
<td>+</td>
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</tbody>
</table>

**TETRAHYDROCannabinol (THC)***

THC is a substrate for CYP3A4 and CYP2C9. Therefore, drugs that inhibit or induce these 2 enzymes will affect the plasma concentration of THC.

- THC is highly protein bound. May displace other drugs, increasing the risk of adverse events.
- Added CNS effects (dizziness, sedation, confusion) when taken with CNS depressants.
- Hypotension, hypertension, and tachycardia may occur when taken with drugs that also affect the cardiac system.
- THC may lower seizure threshold. May affect anticonvulsants therapy.

Cannabinoid products can be inducers or inhibitors of the various CYP enzymes, including CYP3A4. Approximately 60% of all clinically prescribed drugs are metabolized via CYP3A4.

**Potential drug interactions may occur with CBD and THC and the following medications:**

- > Antiplatelets
- > Benzodiazepines
- > Chemotherapy
- > Opioids
- > Sympathomimetics
- > Antipsychotics
- > Anticoagulants
- > Others
- > Antibiotics
- > Antidepressants
- > Antihypertensives
- > Antianxiety agents
- > Antivirals
- > Antiplatelets
- > Proton pump inhibitors
- > Antifungals

Monitoring for safety and effectiveness is recommended. *Not a complete list of all drug-drug interactions.

Advise patients to talk to their healthcare providers about their current medications and OTC products they are taking at their next visit. Pharmacists should talk to their patients at their next visit about possible drug interactions with concomitant cannabinoid therapy.

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