



Medical Marijuana & Wellness Series

WEEKLY DISCUSSIONS WITH INDUSTRY EXPERTS

PAIN MANAGEMENT & MEDICAL MARIJUANA

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Medical Marijuana & Wellness Series

WEEKLY DISCUSSIONS WITH INDUSTRY EXPERTS

Medical Marijuana Awareness Webinars are a series of online education events held by Florida medical marijuana experts with a mission to educate the public on the complex medical abilities and uses of cannabis with beginner-friendly language.

Tonight's webinar is being livestreamed on Facebook!



@MedMarAware



@MedMarAwareDays



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Our series host is joined by industry experts in a live broadcast every week, so it's a great time to ask questions from your computer or phone and get answers while you watch. **If you miss a broadcast, anyone can watch previous broadcasts on our YouTube channel!**

Let's talk about PAIN!



Persistent pain is one of the most common patient complaints

Chronic pain is often misdiagnosed and mistreated

What is pain?

Pain is

- an unpleasant sensory and emotional experience **associated with actual or potential tissue damage, or described in terms of such damage**
- a brain-based phenomenon which occurs due to **a combination of sensations, emotions, and psychosocial factors** (past trauma, anxiety and fear, overwhelming stress, etc.)



As a **consequence** of the pain experience,

- the brain issues protective and reactive outputs. These are mediated through the somatic and autonomic nervous system **[Fight-Flight-Freeze]**.
- physiologic responses include changes in **muscle activity, heart rate, blood pressure, and sweating**.

Chronic Pain vs Acute Pain



Chronic Pain

Chronic pain is any pain that persists for an extended period of time
(3+ months) or which recurs regularly.

Acute Pain

Acute pain is typically connected to a specific injury or illness, and **doesn't last more than a few months.**

Chronic pain is one of the top conditions cited for long-term disability in the US

Cannabis and Chronic Pain

Chronic pain management is the #1 reason for medical cannabis use,
with one study reporting 62% of patients used medical marijuana for pain management.

How does cannabis compare to pain management alternatives?

- *Lower risk of addiction compared to opioids-based medications*, which are more suited to intense, shorter-term pain management.
- ***Cannabis has no record of fatal overdoses***
- No evidence has been found linking cannabis use to *kidney damage and GI issues caused by long-term use of NSAIDs*
- *No issues with liver damage* associated with acetaminophen toxicity



Medical Marijuana & Pain Management

- Medical marijuana has been shown to be clinically effective in treating many chronic conditions including chronic pain, ALS, Parkinson's Disease, Epilepsy, Multiple Sclerosis, PTS, Anxiety, muscle cramps, insomnia, and more
- Different states allow medical marijuana for different conditions
- Use of medical cannabis is proven to be safe, with no possibility of fatal overdose and very few notable interactions with other medications
- Offers an option for patients who have exhausted conventional therapies
- Helps patients to manage chronic pain without the risks from opiates



CANNABIS FOR PAIN: EVIDENCE

- A clinical trial from University of California showed that both high and low doses of inhaled cannabis **reduced neuropathic pain in subjects unresponsive to standard pain therapies.**
- Researchers at McGill University reported that cannabis significantly relieved pain, sleep quality, and anxiety in participants with refractory pain for which conventional therapies had failed.
- A 2019 study showed that cannabis could be an effective treatment option for both pain relief and insomnia and that **80% of participants found it was very or extremely helpful.**



UNIVERSITY
OF
CALIFORNIA



McGill
UNIVERSITY

EFFICACY

YEAR	STUDY/ARTICLE	AUTHOR
1999	Synergistic interactions of endogenous opioids and cannabinoids systems	Welsh and Eads
2002	The Role of Cannabis and Cannabinoids in Pain Management	Ethan Russo, MD
2007	Herbal medicine for low back pain: A Cochrane review	Ganier, J.J, et al.
2009	Cannabinoids, endocannabinoids and related analogs in inflammation	Sumner Burstein & Robert Zurier
2009	Cannabinoid-induced effects on the nociceptive system: A neurophysiological study in patients with secondary progressive multiple sclerosis	Conte, et al.
2009	Systematic Review and Meta-analysis of Cannabis Treatment for Chronic Pain	Eva Martin-Sanchez, MSc, et al.
2015	Efficacy of Inhaled Cannabis on Painful Diabetic Neuropathy	Wallace MS, et al.
2015	Medical Marijuana for Treatment of Chronic Pain and Other Medical and Psychiatric Problems: A Clinical Review	Kevin Hill, MD, MHS
2016	The Medical Use of Cannabis in Neuropathies	Modern Health Concepts. Pg. 147-150
2017	Cannabis and Pain: A Clinical Review. Cannabis and Cannabinoid Research	Hill, K.P., et al.

CANNABIS



WEED4

CNN



THE ENDOCANNABINOID SYSTEM



THE HUMAN ENDOCANNABINOID SYSTEM

CBD, CBN and THC fit like lock and key into existing human receptors.

These receptors are part of the endocannabinoid system which impact physiological process affecting pain modulation, memory and appetite plus anti-inflammatory effects and other immune system responses.

The endocannabinoid system comprises two types of receptors CB1 and CB2, which

CB1 receptors are primarily found in the brain and central nervous system, and to a lesser extent in other tissues.

Receptors are found on cell surfaces

THE HUMAN ENDOCANNABINOID SYSTEM

CBD, CBN and THC fit like lock and key into existing human receptors. These receptors are part of the endocannabinoid system which impact physiological process affecting pain modulation, memory and appetite plus anti-inflammatory effects and other immune system responses.

The endocannabinoid system is comprised of two types of receptors, CB1 and CB2, which serve distinct functions in human health and well-being.

peripheral organs especially cells associated with the immune system.

source: www.bio-human-solution.org



The Cannabis Plant



WHAT IS MEDICAL CANNABIS/MARIJUANA?

CBD - Cannabidiol

Non-Psychoactive cannabis component – Also found in Hemp

THC – Tetrahydrocannabinol

Psychoactive cannabis component



Cannabinoids

• Narrow leaves

Hindu Kush | Major I Shanti | Afghan Kush

Terpenes

- Better suited for colder climates

Your Biology, Dosing, Consumption Method

Sativa



2021 Medical Marijuana
& Wellness Series
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Please send questions using the Q&A button at the bottom center of your screen. The speakers will answer after the presentation. The Q&A feature is public. Both panelists and attendees may see your question.

Cannabinoid CBD Wheel

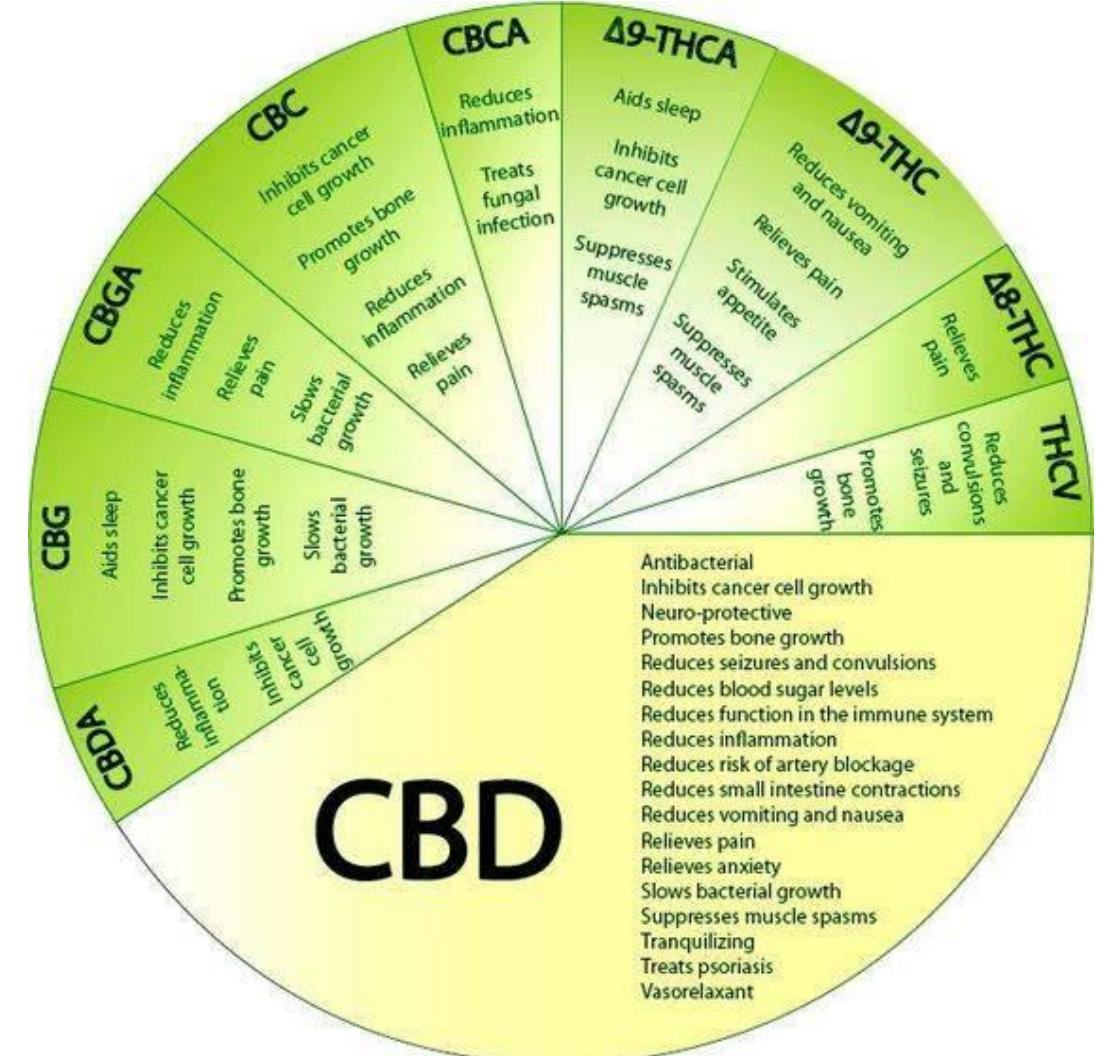
CANNABIS [aka Marijuana or Cannabis Sativa]

- Has over 450 medical properties
- Contains CBD & THC Cannabinoids

Each Cannabinoid has its own medical properties

CBD working in combination with THC produces the Euphoric Effect

CBD counteracts the euphoric effect of THC



A WORD ABOUT DELTA 8

Delta-8 is a cannabinoid found in hemp and marijuana which has little or no euphoric effect

- Hemp-based Delta-8
 - Has less than 0.3% THC, compliant with hemp regulations
 - Can be purchased 'over the counter' (like hemp CBD)
 - Typically has no regulated quality checks or standards
- Marijuana-based Delta-8
 - Can be purchased only from a state licensed dispensary
 - Follows stringent state-regulated quality control standards
 - Can be used to produce a hybrid product [CBD:Delta-8, CBD:Delta-8:Delta-9]





Limonene

AROMA

fruity, citrus aroma

SOURCE

fruit rinds

EFFECTS

- elevates mood
- relieves stress
- antifungal
- antibacterial
- relieves heartburn and gastric reflux
- improves absorption of terpenes/chemicals

Limonene is added to many everyday items like cosmetics and cleaning products



Pinene

AROMA

similar to pine needles

SOURCE

conifer trees, orange peels, turpentine, and many herbs

EFFECTS

- analgesic (pain relief)
- anti-anxiety
- anti-inflammatory
- bronchodilator (helps open airways)
- improves short-term memory

most common terpene in the natural world



Linalool

AROMA

floral aroma

SOURCE

flowers and spices including lavender and coriander

EFFECTS

- stress reduction
- anti-anxiety
- antidepressant
- sedative
- anti-inflammatory
- anti-epileptic
- analgesic (pain relief)

Anecdotal evidence suggests that eating a ripe mango prior to consuming cannabis may accentuate or extend the psychoactive effects of cannabis. This would be due to the fruit's concentrations of myrcene, which is naturally synergistic with THC and allows cannabinoids to more easily bridge the blood-brain barrier.



Myrcene

AROMA

fruity aroma

SOURCE

fragrant plants & herbs including mangos, thyme, lemongrass, basil

EFFECTS

- antibiotic
 - anti-inflammatory
 - analgesic (pain relief)
 - sedative
 - antimutagenic
- most common terpene found in cannabis



Caryophyllene

AROMA

spicy, peppery aroma

SOURCE

spices like black pepper & cinnamon, and herbs like oregano & hops

EFFECTS

- anti-inflammatory
 - analgesic (pain relief)
 - reduction in alcohol-craving
 - anti-anxiety
 - antidepressant
- common in topicals



Eucalyptol AKA Cineol

AROMA

fresh, minty aroma

SOURCE

eucalyptus trees, bay leaves, cardamom, tea tree, and sage

EFFECTS

- antifungal
- analgesic (pain relief)
- anti-inflammatory
- may help with sinus infections
- decreases blood pressure

improves cognitive function for those with dementia



BEST CANNABIS STRAINS AND TERPENES FOR PAIN MANAGEMENT

STRAIN	PRIMARY TERPENES	CANNABINOID PROFILE	COMMENTS
ACDC	Myrcene, pinene, caryophyllene	CBD-Dominant	Consumers find physical relief with little to no detectable euphoria, making this strain a great solution for pain when needing to stay sharp, focused, and productive.
Blackberry Kush	Myrcene, limonene, caryophyllene	THC-dominant	Addresses throbbing aches and pains.
Harlequin	Myrcene, pinene, caryophyllene	High CBD Strain	Its uplifting and clear-headed effects set it apart from heavier, more intoxicating options and make it a perfect choice for daytime medicating.

- For pain, try strains with a balance of THC and CBD
- Early research suggests that the terpene caryophyllene may be beneficial for pain and inflammation. More studies are needed.

BEST CANNABIS STRAINS AND TERPENES FOR PAIN MANAGEMENT

STRAIN	PRIMARY TERPENES	CANNABINOID PROFILE	COMMENTS
The White	Caryophyllene, myrcene, limonene	THC-dominant	Known for its pain-relieving qualities. Typically boasts high levels of caryophyllene alongside a hearty cannabinoid content.
Blackberry Headband	Not enough data	THC-dominant	Delivers focused headache relief and a sweet berry flavor.
CBD Critical Mass	Myrcene, pinene, caryophyllene	Balanced THC/CBD	Delivers a one-two punch of THC and CBD to chase pain and inflammation out the door
Master Kush	Caryophyllene, limonene, myrcene	THC-dominant	aka "High Rise," "Grandmaster Kush," and "Purple SoCal Master Kush"

STANDARD DOSING FORMS

- Sublingual Drops/Tinctures
- Inhalation Vape Pens
- Capsules
- Topicals
- Sprays
- Edibles
- Flower
- Crumble & Shatter



MEDICAL MARIJUANA ROUTES OF ADMINISTRATION



500,000+ Floridians have improved their quality of life and everyday experience with medical marijuana.

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SUBLINGUAL DROPS/ TINCTURES



When taking cannabis via liquid drops under your tongue, components are absorbed via the digestive system or blood vessels in the mouth.

TIME BEFORE ONSET OF EFFECT
15-20 MINUTES
FULL EFFECT AT 1.5-2 HOURS

DURATION OF EFFECT
4-6 hours



EDIBLES

Gummies, hard candies, brownies, and cookies are common forms for edibles. Patients should pay special attention to dosage for a desired effect.

TIME BEFORE ONSET OF EFFECT
15-20 MINUTES*
FULL EFFECT AT 1.5-2 HOURS

DURATION OF EFFECT
4-10 hours



CAPSULES

The content of oral capsules enters the bloodstream after digestion. This method is especially beginner-friendly because of the pre-portioned doses.

TIME BEFORE ONSET OF EFFECT
1.5-2 hours

DURATION OF EFFECT
4-6 hr

TOPICALS



A topical medication is applied directly to the skin at the site where the effect is needed.

This form is useful for its quick relief and ability to focus effect on a specific area.

TIME BEFORE ONSET OF EFFECT
almost immediately

DURATION OF EFFECT
1-2 hours

INHALATION (VAPING)

Vaporization delivers inhaled cannabis into the lungs via water molecules, avoiding absorption of potentially harmful material produced by combustion.



TIME BEFORE ONSET OF EFFECT
almost immediately

DURATION OF EFFECT
2-6 hours



TRANSDERMAL PATCHES

A patch is applied directly to skin so that a controlled release of medication is delivered through skin into the bloodstream. This allows for a long-lasting effect.

TIME BEFORE ONSET OF EFFECT
10 minutes - 1 hour

DURATION OF EFFECT
8-72 hours

FLOWER (SMOKABLE)



Dry flower, also called bud, can be ignited or vaporized and the smoke is inhaled into the lungs.

This product requires a state form

TIME BEFORE ONSET OF EFFECT
almost immediately

DURATION OF EFFECT
2-6 hours



SPRAY

This form of medical marijuana is absorbed via blood vessels in the mucous membranes in the mouth.

Sprays are beginner-friendly with simple doses

TIME BEFORE ONSET OF EFFECT
15-20 MINUTES
FULL EFFECT AT 1.5-2 HOURS

DURATION OF EFFECT
4-6 hours



SUPPOSITORIES

A suppository lets the patient administer medication rectally or vaginally so that it is absorbed near the site where the effect is needed, such as the pelvis, legs, spine, and stomach.

TIME BEFORE ONSET OF EFFECT
varies significantly by individual product; see packaging

DURATION OF EFFECT
varies significantly by individual product; see packaging

What are routes of administration?

Also called administration forms, these are the various ways that medical marijuana patients ingest medication.

For the best effects, speak to your medical marijuana doctor and dispensary staff about your tolerance and familiarity.

Start low, go slow

Experts recommend starting with a low dosage and making note of how it affects your condition, then increasing your dose after several sessions to determine whether the effect is noticeably increased. The goal is to find the minimum dose that produces the maximum effect for your needs.

Pay attention to packaging

When using any medical marijuana product, read dosing information carefully before administration. This can help you with details such as the placement of a patch, the best time to take your medication, and how to adjust dosing for the ideal effect.

Choose the form for your needs

We often default to the familiar when it comes to medications, because it feels most safe. We encourage you to take the time to determine which form will best suit your individual condition.

This page is sponsored by

Medical Marijuana Treatment Clinics of Florida

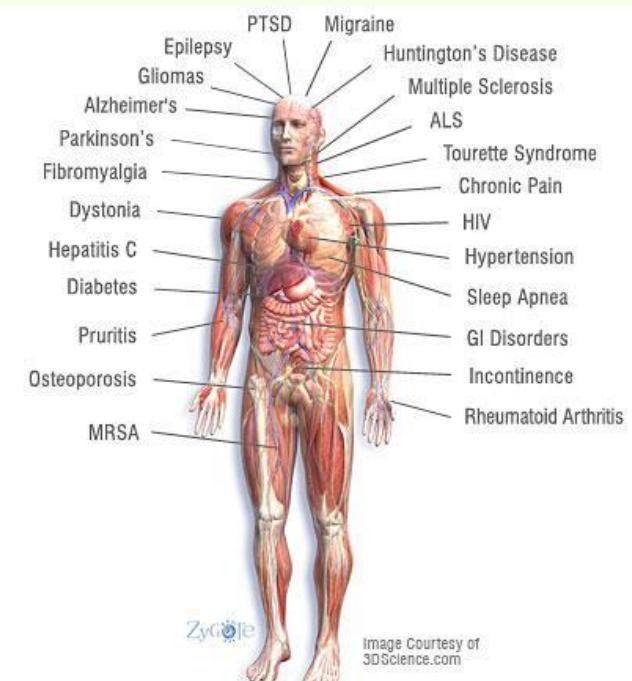
What is dosing, and why does it matter?

Every person's body has a unique reaction to cannabis based on tolerance, experience, medical conditions, and their individual anatomy and physiology.

You might compare it to the way your body reacts to substances like alcohol and caffeine.

NOTE: Your doctor/dispensary needs your input to identify your unique dosing recommendation [aka your "Sweet Spot"]

- What is your tolerance to CBD? What is your tolerance to THC?
- What terpenes work best for your condition?
- What dosing forms are you comfortable with?



Potential Therapeutic Uses of Medical Marijuana

THE BOTTOM LINE

- You are not going to get unexpectedly or uncomfortably high – you're in control
- You are not going to get addicted
- You cannot overdose with cannabis because your body produces its own cannabinoids
- Cannabis has an Entourage Effect, meaning that it treats more than one condition



TruNano Technology

TruNano Tincture is made with our nano-emulsion technology

- Achieved through process of sonification
- Quicker onset
- The bioavailability of these products are over 90%
- Acts like a water-soluble molecule
- 1:8, 8:1 CBD:THC \$55



TruNano Gels

- 10mg, 10 pieces
- Indica, Sativa, Hybrid
- \$25



TruPowder

- \$50 per container
- 200mg total THC
- 5mg per scoop
- Unflavored, Vanilla Cream, Lemon
- Minimal Terpenes



Ratio Products

- **TruClear**

- 1:1 CBD:THC

- **TruPods**

- 1:1:1 Laughing Buddha (Delta 8: Delta 9: CBD),
 - 1:1 Pink Lemonade (CBD: Delta 8),
Smoother/milder euphoria. Pain relief with less potency

- **Vape Carts**

- 1:1
 - 5:3 (Mother of Dragons)
 - 8:1, 1:8

- **TruGels**

- 1:1 CBD:THC
 - 5:1 THC:CBN
 - 1:1 CBD:CBN

- **Capsules**

- 1:1 CBD:THC



Deliveries and Order Pick-Up

Free statewide delivery for all patients over age 65, or patients spending \$200+

Register at trulieve.com to create an online account

Order Delivery

Online Order Received →

In Progress →

Delivery date scheduled →



Your order is completed!

Order Pick-Up

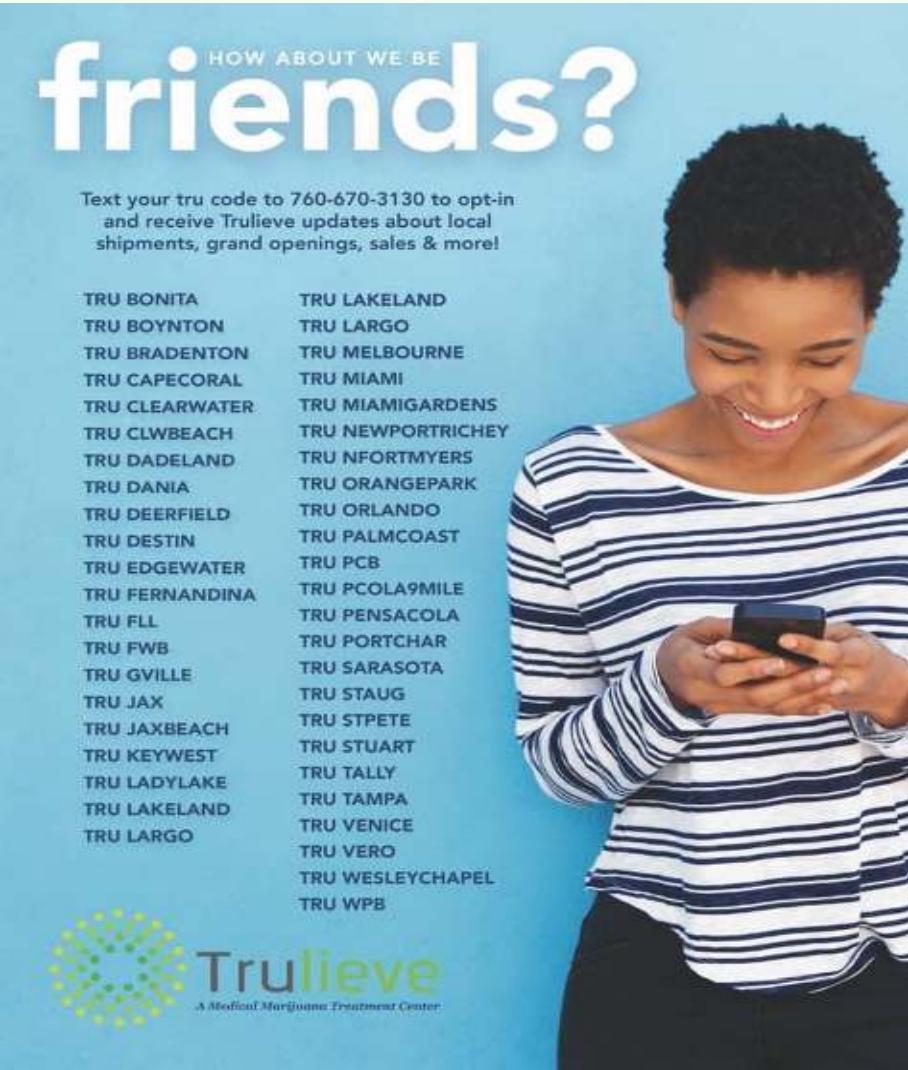
Online Order Received →

Order is completed →

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TRU FWB	TRU PORTCHAR
TRU GVILLE	TRU SARASOTA
TRU JAX	TRU STAUG
TRU JAXBEACH	TRU STPETE
TRU KEYWEST	TRU STUART
TRU LADYLAKE	TRU TALLY
TRU LAKELAND	TRU TAMPA
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A variety of Trulieve cannabis products are displayed at the bottom.

BALANCED LIVING

- Lifestyle and nutrition habits
- Meditation and mindfulness
- Basic self-care
- Health awareness
- Disease prevention



Resources

- Office of Medical Marijuana Use - KnowtheFactsMMJ.com
- Medical Marijuana Patient Application - http://s27415.pcdn.co/wp-content/uploads/_documents/FINAL_DH8009-OCU-03.2018.pdf
- Medical Marijuana Patient Seminars - Marijuanaaware.com
- Guide to marijuana strains, Dispensaries & News - Leafly.com
- Central Florida NORML - cflnorml.org/
- CannaMD: Medical Marijuana Studies - <https://www.cannamd.com/medical-marijuana-studies/>
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