
INFORMED

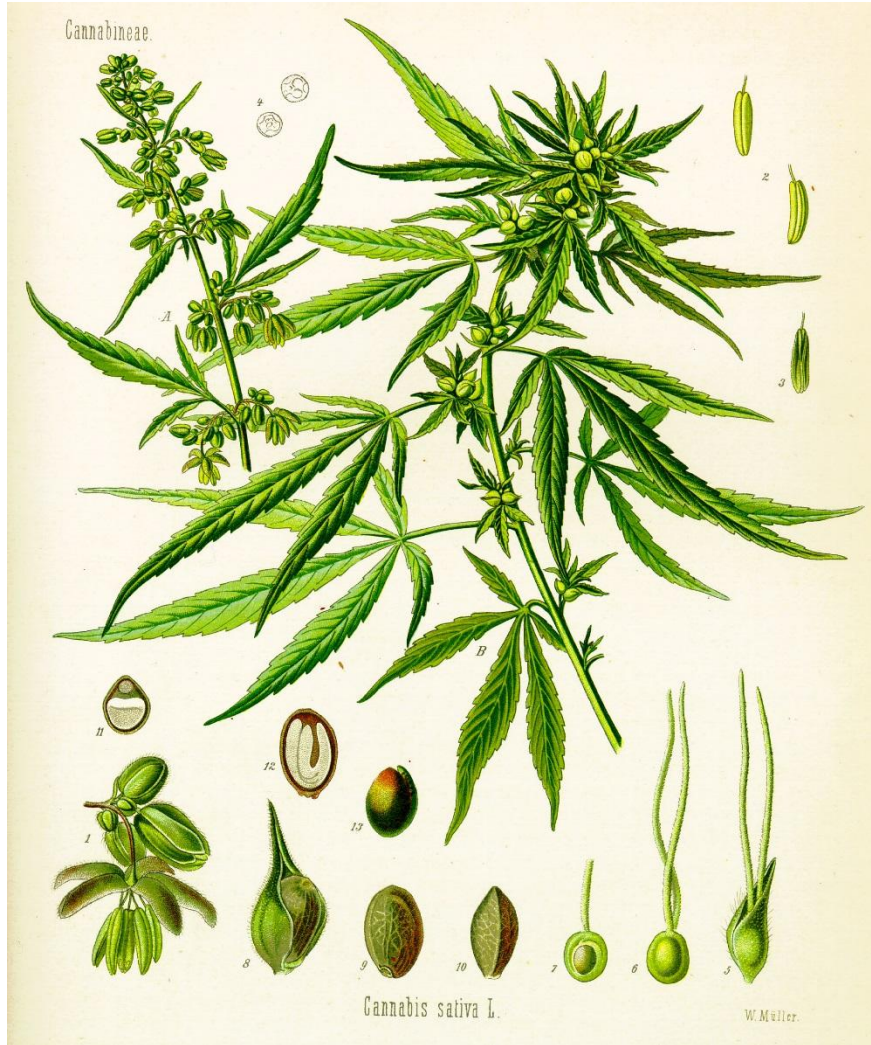


TEXAS

Community Conversation:
Medical Cannabis


Bryan, Texas

What is Cannabis?



- The most pharmacologically active plant on the planet
- A 27 million year old plant used as medicine for over 5000 years – with no reported deaths
- Versatile plant




Fiber | Oil | Seeds | Industrial products | Medicine | Intoxicant



“Cannabis is the single most versatile herbal remedy, and the most useful plant on Earth. No other single plant contains as wide a range of medically active herbal constituents.”

- Dr. Ethan Russo, Medical Director,
International Cannabis &
Cannabinoids Institute

Cannabinoids

Phyto cannabinoids	Endo cannabinoids	Synthetic cannabinoids
		
70+ from the cannabis plant exogenous	2 made inside the human body endogenous	Made in a laboratory exogenous
Illegal (like Heroin)	Innate	Schedule III (like Vicodin)
37 million years old	600 million years old	20+ years old

Research in this field has the potential to help us understand the origin of many not well understood diseases.

Terpenes

A-PINENE

ANTI-INFLAMMATORY
BRONCHODILATOR
AIDS MEMORY
ANTI-BACTERIAL

also found in
pine needles



LINALOOL

ANESTHETIC
ANTI-CONVULSANT
ANALGESIC
ANTI-ANXIETY

also found in
lavender



BETA

CARYOPHYLLENE

ANTI-INFLAMMATORY
ANALGESIC
PROTECTS CELLS LINING THE
DIGESTIVE TRACT

also found in
black pepper



MYRCENE

CONTRIBUTES TO
SEDATIVE EFFECT OF
STRONG INDICAS
SLEEP AID
MUSCLE RELAXANT

also found in
hops



LIMONENE

TREATS ACID REFLUX
ANTI-ANXIETY
ANTIDEPRESSANT

also found in
citrus



Source Canabidigest.ca

Entourage Effect

- Think symphony vs. solo artist
- Cannabinoids and terpenes are more therapeutic together than isolated
- When THC & CBD are used in concert, they are 4X more therapeutic



SOURCE: Russo, Ethan B. "Taming THC: potential cannabis synergy and phytocannabinoid-terpenoid entourage effects." *British Journal of Pharmacology*, 2010: 1344-1364.

The Endocannabinoid System

Regulates, modulates or plays a role in EVERY major biological function in the body:

- pain control
- mood
- immune function
- newborn suckling
- appetite
- temperature regulation
- memory
- inflammation regulation
- neuroprotection
- reward mechanisms



SOURCE: Raphael Mechoulam, Linda A. Parker. "The Endocannabinoid System and the Brain." *The Annual Review of Psychology*, 2013: 21-47.

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How to Stimulate the ECS

Exercise



Running
Yoga
Kickboxing
Bodyweight training
Rowing

Eat Essential Fatty Acids



Hemp seeds
Hemp oil
Chia
Fish oil

Consume Cannabinoids



Vaporization
Tincture
Topical
Patch
Butter/oil



Eat, Sleep, Relax, Forget & Protect

“There is barely a biological, physiological system in our bodies in which the endocannabinoids do not participate.”

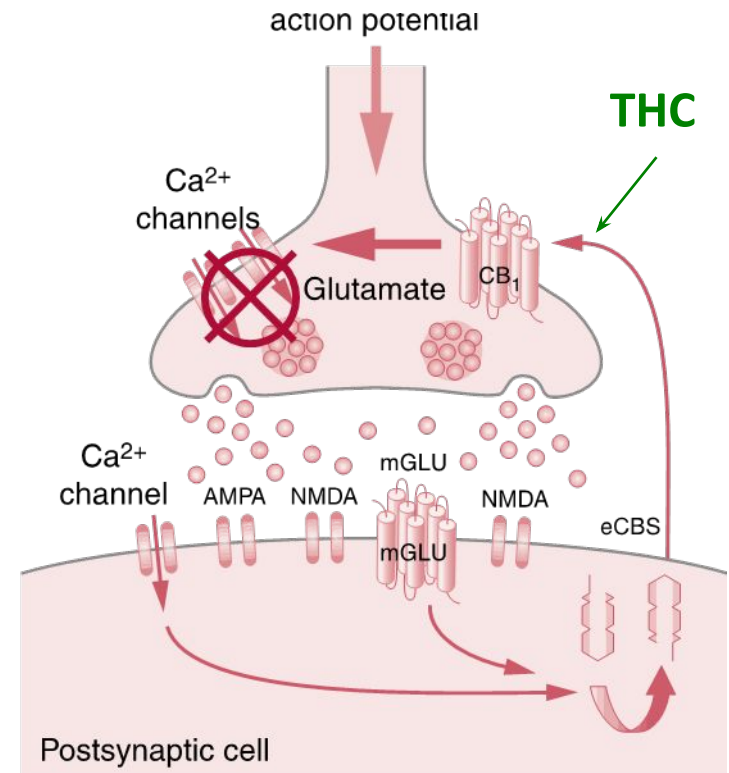
- Raphael Mechoulam, PhD

Endo & Phyto Cannabinoids to the Rescue!

Ca^{2+} influx and upregulation of mGLU receptors in the postsynaptic cell cause DAGLa enzymes to synthesize **2-AG**.

2-AG moves retrograde across the synapse (opposite the direction of glutamate) to CB_1 located on the presynaptic neuron. Activated CB_1 closes presynaptic Ca^{2+} channels, which halts glutamate vesicle release.

THC works in a similar fashion by activating CB_1 .



Source: John McPartland, DO

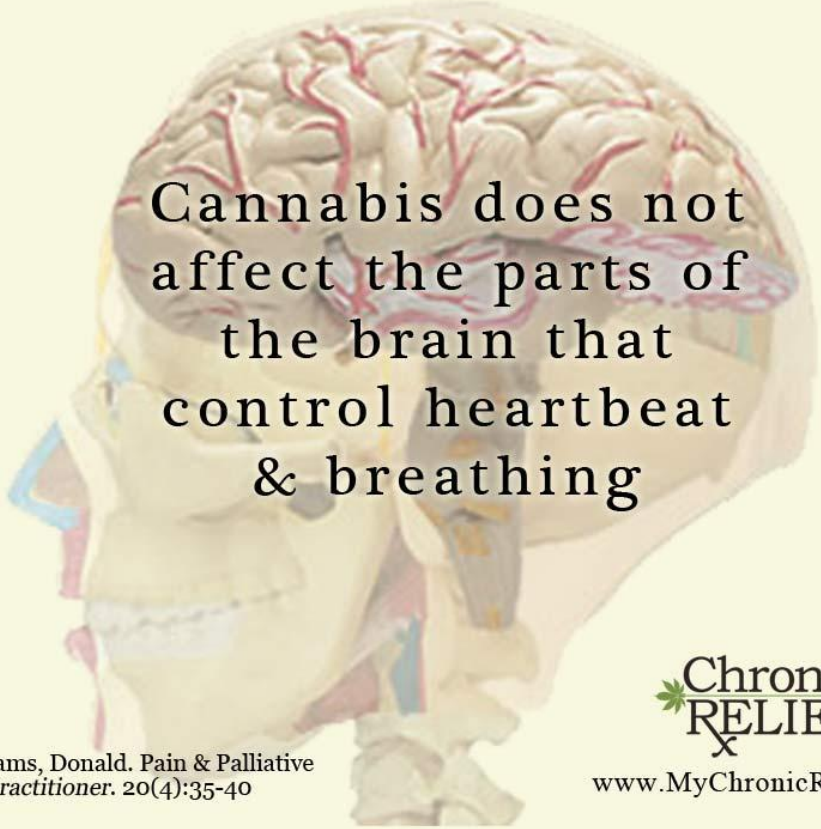
Safety

- Lethal dose unknown
- Side effects are mild
- Low toxicity

Source: Abrams, Donald.
Pain & Palliative Care. *Pain Practitioner*, 20(4):35-40

No One Has Died From
C A N N A B I S

WHY?



Cannabis does not
affect the parts of
the brain that
control heartbeat
& breathing

Source: Abrams, Donald. Pain & Palliative
Care. *Pain Practitioner*. 20(4):35-40

Chronic
RELIEF

www.MyChronicRelief.com

Cannabis & Opiates

- Cannabis can be a substitute for opiates
- Cannabis used with opiates
 - Increases the opiates effectiveness
 - Makes it possible to decrease opiate dose
 - Reduces negative side effects
 - Reduces risk of addiction
- In states where medical cannabis is legal, there are 25% fewer deaths from accidental opiate overdose

Source: Lucas, Philippe. 2012. "Cannabis as an adjunct to or substitute for opiates in the treatment of chronic pain." *Journal of Psychoactive Drugs* 44 (2): 125-133.

Source: International Association of Cannabinoid Medicine

Medical Cannabis Associated With Decreased Opioid Use in Chronic Pain Patients



- Cross-sectional retrospective survey of 244 medical cannabis patients with chronic pain in Michigan
- Medical cannabis use associated with
 - 64% decrease in opioid use (n=118)
 - Decreased number and side effects of medications
 - Improved quality of life (45%)

Boehnke et al. 2016

Healer.com © 2016

Survey Data: Integr8 Maine 2016



n=542 cannabinoid-opioid cotreatment:

- 39% stopped opioids completely
 - 73% for >1 year
- 39% reduced dose
- 47% reported $\geq 40\%$ pain reduction
- 80% reported improved function
- 87% reported improved quality of life

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Source: Dustin Sulak, 2017 "Cannabis as a Harm Reduction Agent for the Opiate Epidemic." Patients Out of Time Conference



The Opioid-sparing Effect Cannabis for Pain

- 17 of 19 pre-clinical studies **demonstrated synergistic effects** from opioid-cannabinoid co-administration.
- The ED₅₀ (median effective dose) of morphine administered in combination with THC is **3.6 times lower** than the ED₅₀ of morphine alone.
- The ED₅₀ of codeine administered in combination with THC is **9.5 times lower** than the ED₅₀ of codeine alone.

Suzanne Nielsen, et al. 2017. "Opioid-Sparing Effect of Cannabinoids: A Systematic Review and Meta-Analysis." *Neuropsychopharmacology* volume 42, pages 1752–1765



Conditions Benefited by Cannabis

- Cancer
- Chronic pain
- ALS
- PTSD
- MS
- Chron's & IBS
- Seizure disorders
- Parkinson's disease
- Alzheimer's disease
- Muscular dystrophy
- Terminal illness
- HIV/AIDS
- Glaucoma
- Autism
- Intractable skeletal muscular spasticity





Major David Bass
Retired

Creed's Story

Jacob's Story



Texas Compassionate Use Program



Signed by Governor Abbott
on
June 1st, 2015

- Authored by Republicans in both the state House and Senate
- Passed out of the Senate 30-1
- Passed out of the House with more than a super majority
- Regulation and licensing overseen by the Department of Public Safety

Who does the program Serve?

Patients diagnosed with Intractable Epilepsy

"Intractable epilepsy" means a seizure disorder in which the patient's seizures have been treated by two or more appropriately chosen and maximally titrated antiepileptic drugs that have failed to control the seizures.



Registry

Department of Public Safety established and maintains an online registry that contains:

- the name of each physician who registers as the prescriber for a patient
- the dosage prescribed and means of administration ordered
- the total amount of low-THC cannabis required to fill the patient's prescription
- a record of each amount of low-THC cannabis dispensed by a dispensing organization to a patient

The image displays two screenshots of the Texas Compassionate Use Registry website. The left screenshot shows the login page, which includes the Department of Public Safety logo, the text 'COMPASSIONATE USE REGISTRY OF TEXAS' and 'Texas Compassionate Use Program', a 'Login' button, input fields for 'username' and 'password', and links for 'Forgot User Name' and 'Forgot Password'. Below the login form is the 'Regulatory Services Division' contact information. The right screenshot shows the 'Physician Email Invitation and Validation' page, featuring the same header and logos, and a form with input fields for 'First Name', 'Middle Name/Initial', 'Last Name', 'Email Address', and 'Confirm Email Address', along with 'Submit' and 'Reset' buttons.

Physicians

A physician is qualified to prescribe low-THC cannabis to a patient with intractable epilepsy if the physician:

is licensed under this subtitle

- dedicates a significant portion of clinical practice to the evaluation and treatment of epilepsy
- is certified:
 - by the American Board of Psychiatry and Neurology in epilepsy or neurology or neurology with special qualification in child neurology
 - by the American Board of Psychiatry and Neurology or the American Board of Clinical Neurophysiology in neurophysiology.
- input safety and efficacy data derived from the treatment of patients for whom low-THC cannabis is prescribed

A second physician qualified to prescribe low-THC cannabis must concur with the determination and concurrence is recorded in the patient's medical record



Search - Physician

Search the Compassionate Use Registry of Texas to find a participating physician in your area that can prescribe low-THC cannabis.

- You can search for physicians in up to 5 counties, cities, or zip codes at one time.
- When searching by city or zip code at least the first 3 letters or numbers are required.
- Search results will appear exactly as entered by registering physicians.

County City Zip [View All](#)
 Enter County to Search

Search Results

Dr. Levels, Douglas Evans
 Amarillo Diagnostic Clinic
 6700 W 9th Avenue
 Building B
 Amarillo, TX 79106
POTTER
 (806) 558-0200

Dr. Keough, Karen C
 Child Neurology Consultants of Austin
 6811 Austin Center Blvd
 Ste 400
 Austin, TX 78731
TRAVIS
 (512) 494-4000

Dr. SCHERE, DANIEL IGNACIO
 AUSTIN EPILEPSY CARE CENTER
 2200 PARK BEND DR STE 2-203
 AUSTIN, TX 78756
TRAVIS
 (512) 539-8831

Dr. Tovar-Olguin, Diego Felipe
 Austin Epilepsy Care Center
 2200 Park Bend Drive, Ste 2-203

Dr. Flores, Jonnie Lemay
 MHQ Neurology Clinic
 11921 University Blvd
 Ste 18
 Sugar Land, TX 77479
FOUNTAIN
 (281) 462-9522

Dr. Kanasakita, Sweeney
 Sween and White
 2401 Green Street
 Temple, TX 76788
HA
 (254) 734-4179

Dr. Wang, Benny
 Texas Endoneurology
 9300 Westpark
 Ste 304
 Westpark, TX 77380
MONTGOMERY
 (832) 524-4553

Dr. Jeter, Gina Hayes
 Northwest Texas Neurology Associates
 4802 Thruway Parkway
 #500
 Tyler, TX 75702
SMITH

Dr. Saperka, Bethany H
 Lone Star Medical Group Neurology
 625 Hensley Drive, Suite 200
 Waco, TX 76798
WALKER
 (817) 344-7604

Dr. Rashid, Rashid
 Neurology-Center Area Specialists
 6500 Westpark Drive
 Suite 311
 Waco, TX 76798
HARRIS
 (254) 724-8334

Dr. DIAZ, M.D., JOSE MANUEL
 NUTY NEUROLOGY
 507 PARK GROVE LN
 FORT WORTH, TX 76102
HARRIS
 (281) 206-2127

Dr. Jones, Melissa Sue
 Houston Area Pediatric Neurology
 2414 Krigers Blvd
 Katy, TX 77454
HARRIS
 (832) 471-4543

Dr. Nag, Yu-Tai
 Children's Hospital of San Antonio
 323 N. Santa Rosa
 San Antonio, TX 78207
BEAR
 (210) 784-4078

Dr. Richards, Carter Malone
 Texas Medical and Sleep Specialists
 4724 Lovellville Stone Rd
 Suite 207
 San Antonio, TX 78249
BEAR
 (210) 241-9000

Dr. Stalbo, Charles A.
 Medical Arts and Research Center
 UT Health San Antonio
 8200 Starbuck Drive
 San Antonio, TX 78229
BEAR

Dr. Jewell, Kelly A.
 University Health System-Pediatric Neurology
 4502 Medical Dr
 San Pedro San Diego
 San Antonio, TX 78229
BEAR
 (210) 355-5427

Dr. Gross, Shellen G.
 Swanton Cross MD PA
 4889 Medical Dr #300
 San Antonio, TX 78229
BEAR
 (210) 654-8727

Dr. Atkinson, Sidney Wright
 Pediatric Neurology Clinic and Surgery
 4502 Medical Drive
 San Antonio, TX 78229
BEAR
 (210) 355-8744

Dr. Adams, Daniel
 Child Neurology Clinic
 4502 Medical Drive
 San Antonio, TX 78229
BEAR
 (210) 355-5427

Dr. Sanner, Colin C
 GEMG Neurology Associates
 442 S. Wright
 Curves Building
 Seguin, TX 78155
COMAL
 (832) 484-4800

Dr. Flores, Jonnie Dandy
 MHQ Neurology Clinic
 11921 University Blvd

Dr. Rosenberg, Judith
 Neurology & Sleep Specialists
 932 Foothold Dr
 Suite 220
 Houston, TX 77024
HARRIS
 (713) 444-4407

Dr. Van Ness, Paul Carl
 Baylor College of Medicine
 7200 Campbell Street
 Department of Neurology
 Houston, TX 77030
HARRIS
 (713) 794-2273

Dr. Hoag, Omelida A.
 U Physicians
 8420 Fennell Dr, Suite 1014
 Houston, TX 77050
HARRIS
 (832) 325-7050

Dr. Gonzalez, Leo R
 Baylor College of Medicine
 7200 Campbell St, Suite 141
 Houston, TX 77030
HARRIS
 (713) 794-2273

Dr. Van Alphen, Gretchen K.
 UTHealth Pediatric Neurology Clinic
 8420 Fennel Street, Suite 900
 Houston, TX 77030
HARRIS
 (832) 325-6558

Dr. Landford, James Edward
 University of Texas at Houston
 8420 Fennel Street
 Houston, TX 77030
HARRIS
 (713) 500-7125

Dr. Newmark, Michael E
 Keller, Joseph Clinic
 2727 W. Highway Blvd
 Houston, TX 77050

Dr. Arnold, Susan T
 Children's Medical Center Dallas
 1919 Medical District Dr
 Division of Child Neurology
 Dallas, TX 75225
DALLAS
 (214) 456-2748

Dr. Debie, Allison Marie
 Children's Health Specialty Center
 Pediatric Neurology Outpatient
 2800 Napier Elementary Freeway
 Dallas, TX 75207
WIL
 (214) 456-2678

Dr. Saki, Rana R
 Children's Health Center/UTSW
 1919 Medical District Drive
 Dallas, TX 75225
DALLAS
 (214) 456-2769

Dr. Perry, Michael Scott
 Cooper Children's Neurosciences
 1500 Cooper Street
 4th Floor
 Fort Worth, TX 76104
TARRANT
 (817) 889-2500

Dr. Keaton, Cynthia G
 Cooper Children's Neurosciences
 1500 Cooper Street
 4th Floor
 Fort Worth, TX 76104
TARRANT
 (817) 889-2500

Dr. Thomas, Deanne Babette
 Kennes Secular Clinic
 2727 W. Highway Blvd
 Houston, TX 77052
HARRIS
 (713) 448-0000

Dr. Watkins, Michael W.
 UTHealth Pediatric Epilepsy Clinic

Dr. Carlin, Aaron L.
 Child Neurology Consultants of Austin
 6811 Austin Center Blvd
 Suite 400
 Austin, TX 78731
TRAVIS
 (512) 494-4000

Dr. Kane, Jeffrey R.
 Child Neurology Consultants of Austin
 3301 Medical Parkway Suite 300
 Cooper Park, TX 78613
WILLIAMSON
 (512) 496-4000

Dr. VALDEZ, MARCOS JAVIER
 DRISCOLL CHILDREN'S HOSPITAL
 3933 S. ALBUQUERQUE ST
 CORPUS CHRISTI, TX 78411
NUECES
 (361) 896-9747

Dr. BIRSL, DEEPA
 CHILDREN'S HEALTH
 2800 Napier Elementary Freeway
 DALLAS, TX 75207
DALLAS
 (214) 456-2768

Dr. Thoburn, Drew Michael
 Children's Health Center
 1919 Medical District Drive
 Dallas, TX 75225
DALLAS
 (214) 456-2768

Dr. Lowden, Andrea
 Children's Health Center/UTSW
 1919 Medical District Drive
 Dallas, TX 75225
DALLAS
 (214) 456-8242

Dr. Arnold, Susan T
 Children's Medical Center Dallas
 1919 Medical District Dr
 Division of Child Neurology



What Kind of Medicine is Available?

"Low-THC cannabis" means the plant *Cannabis sativa* L., and any part of that plant or any compound, manufacture, salt, derivative, mixture, preparation, resin, or oil of that plant that contains:

- not more than 0.5 percent by weight of tetrahydrocannabinols
- not less than 10 percent by weight of cannabidiol

"Medical use" means the ingestion by a means of administration other than by smoking of a prescribed amount of low-THC cannabis by a person for whom low-THC cannabis is prescribed. Oils are currently the preferred method.

Dispensing

- Compassionate Cultivation by Texas based company with facilities in Manchaca, TX
- Cansortium Texas by Knox Medical based out of Florida with facilities in Schulenburg, TX
- Surterra Texas by Florida based Surterra with no open facilities



Contact@InformedTexas.org