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Personalizing Cannabis Doses: Less is More



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A Patient Statement

- Journey to health is physical, psychological, psychological, emotional, spiritual
- Healing means remove stressors that trigger disease
- Practitioner is the facilitator of healing





Module Overview

- Biphasic nature of cannabis
- Various delivery systems
- Onset + duration of dosing
- Dosing inexperienced patients
- Receptor desensitization + tolerance
- Overuse + abuse





ECS Primer

- Humans produce endocannabinoids; plants produce phytocannabinoids
- Humans are wired to use both
- ECS provides balance + homeostasis
- Cannabinoids are neuro-modulators-balance through the neuron synapse





CannaBasics

- All cannabinoids + terpenes work symbiotically (entourage effect)
- Terpenes responsible for different odor + flavor of cultivars (strains)
- Terpene profile determines different effects of indica versus sativa dominant cultivars





ECS Basics

- ECS: network of receptors throughout the body
- CB1 receptors prevalent in brain
- CB2 receptors highly concentrated in immune system
- Anandamide + 2AG: first cannabinoids discovered
- CBD binds on same receptor as THC, tampers psychoactivity
- CBD decreases anandamide breakdown + increases 2AG production = improved ECS tone





Desensitization + Tolerance

- Biphasic nature of cannabis
 - Effect at low + high doses with nothing in between
- High doses can trigger receptor desensitization
 - Withholding cannabis allows receptors to re-sensitize to restore full response
 - Low dose use requires a few days of abstinence
 - High dose use may require 4-6 weeks
- Overuse may trigger personality changes + withdrawal symptoms





Inhaling Cannabis

- Fast-acting, shorter duration
- Flower or bud is gentler versus concentrates (hash, wax, shatter)
- Vaporizing preferable to smoking (similar effects)
- Cultivar variety available in flowers, but not with vape pen concentrates
- Pen concentrates more readily lead to tolerance build-up





Ingesting Cannabis

- Effect varies according to individuals' receptor systems
- Gut absorption + cytochrome P450 system
- Required high doses may indicate problem with these systems
- Delta-9-THC converts to stronger, longer acting component in liver – 11-hydroxy-THC
- Edibles: start low with indica-dominant cultivar (5 mg) to fall + stay asleep





Tinctures

- Tinctures – oil or alcohol-based
 - Under the tongue, quickly absorbed, 4-hour duration
 - Easy to measure + control dose
 - Dropper, pump, or spray
- Ratio recommendations – CBD:THC
 - 1:1 or lower psychoactivity – 2:1, 3:1, 6:1, or hemp oil (less than 0.3% THC)
 - No psychoactivity – 25:1





Other Delivery Methods

- Topicals
 - Adjunct to systemic delivery or for localized pain (no psychoactivity)
 - Low back, cervical pain, muscle spasms
- Creams, salves, oils, sprays
- Patches – systemic relief, long-lasting
- Rectal suppositories – may be useful for bowel-related issues
- Juicing – fresh leaves (not readily available)
 - THCA, raw form has no psychoactivity





Dosing for Newcomers

- Find the sweet spot, different for everyone
- Start low until desired therapeutic effect and take break if tolerance has built-up
- Higher doses require longer periods for receptors to re-sensitize
- Better outcomes when used with nutrition + other lifestyle medicine modalities





Practical Application

- Adjust delivery method + dosage for desired results
- Elderly or for work or travel needs – use 25:1 (may require few weeks for results)
- High CBD cultivar or hemp oil for day
- Higher THC ratio for night





Patient Success

- Fibromyalgia + rheumatoid arthritis (Percocet + benzodiazepine)
- IBS-type symptoms: diarrhea, bloating, gas
- Gluten-free, paleo diet + supplement regimen + 1:1 tincture + bedtime indica inhalant + edible
- Removed trigger foods, healed the gut, treated withdrawal symptoms with cannabis to prevent glutamate excitotoxicity (damaged brain cells)





Less Is More

- Start low, titrate up
- Inhalation + tinctures – good starting point
- Start with balanced CBD:THC ratio (insomnia responds better with some THC)
- Take drug holiday (abstinence) to address tolerance build-up
- Patient education about less is more is crucial!

