



Cannabis Culture and Dentistry



THC, CBD, BFF, OR OMG?

Clinical Considerations for the Dental Professional in this Growing Weed World.

OBJECTIVES

1. Understand historical perspectives of alcohol and marijuana in the United States
2. Describe methods of ingesting marijuana, how it works and its health effects
3. Discover the difference between THC and CBD, and the effects of these chemicals on the body
4. Explore prevention oral health strategies for those who use these substances

Weed, pot, hemp, marijuana - whatever your experience with it, or attitudes surrounding it - the truth is, the cannabis culture in America is shifting. As oral health professionals, we need to stay educated and current on our understanding of cannabis and how it can affect our patients and ourselves.

HISTORICAL PERSPECTIVE ON ALCOHOL

- Prohibition on January 16th, 1920 - The 18th Amendment to the US Constitution
 “By its terms, the Eighteenth Amendment prohibited “the manufacture, sale, or transportation of intoxicating liquors” but not the consumption, private possession, or production for one’s own consumption. In contrast to earlier amendments to the Constitution, the Amendment set a one-year time delay before it would be operative, and set a time limit (seven years) for its ratification by the states. Its ratification was certified on January 16, 1919, and the Amendment took effect on January 16, 1920.”
constitutioncenter.org/interactive-constitution/amendments/amendment-xviii
- Rise of bootlegging, Moonshine Stills, Illegal activity. The Roaring Twenties.
- 21st Amendment repealed the 18th.

Alcohol Today – Thriving Industries with science of Health benefits

- **Wine.** Resveratrol- anti-inflammatory effects- Heart health benefits, considered anti-aging
- **Craft Beer.** High in Yeast-B vitamins (Stress, energy, mental health) High in polyphenols +Antioxidants ½-2 pints a day decreases heart disease risk by 25%
- **Vodka.** Stress reducer, reduces risk if heart disease, anesthetic properties
- **Gin.** Juniper berry- High anti-oxidant, aids digestion with enzymes by breaking down food, stops water retention+ good for kidney. Helps with chronic pain and inflammation, FALVANOIDS- heart disease prevention
- **Whiskey.** Powerful anti-oxidant- ellagic acid - boosts cognitive performance, decreases risk for dementia and mental decline, decrease risk of stroke and heart attack



HISTORY OF HEMP IN US

- Hemp is the fiber made from cannabis plant. No THC
- Colonial thru WWII - used to make rope, sailcloth, cordage. Decay resistant, adaptable to cultivation
- First draft of Declaration of Independence written on hemp paper
- 1937 - Law passed - illegal to grow and use both in its non THC strain and THC strain called marijuana
- Industry killed by rise of synthetic fibers and innuendo. 1958, last significant crop harvested
- 1970 - Classified as Schedule 1- the highest ranking by DEA High Potential for Abuse- no medical use
- 2014 - Rohrabacher–Farr amendment was signed into law, prohibiting the Justice Department from spending funds to interfere with the implementation of state medical cannabis laws

Scope: Marijuana is the most commonly used illicit drug (22.2 million people have used it in the past month) according to the 2015 National Survey on Drug Use and Health.

- 29 states and DC (medicinal)
- Seven states and DC (recreational)
- Estimated that 205 million Americans live in a state where marijuana is legal for either recreational or medical use

www.drugabuse.gov/publications/research-reports/marijuana/what-scope-marijuana-use-in-united-states

FACTS ABOUT OREGON- 2016

- 403 average, operating dispensaries users
- Estimated 1.5 million individual transactions involving sales of usable marijuana to medical cardholders
- Estimated 15.2 million individual transactions of sales of usable marijuana to retail customers
- Medical marijuana dispensaries registered with the Oregon Medical Marijuana Program (OMMP) sold an estimated 90,823 pounds of usable marijuana
- 27% sales to medical card holders
- 73% to recreational users
- For calendar year 2016, according to information the Oregon Department of Revenue, marijuana tax receipts totaled \$60.2 million

Qualifying Medical Conditions-OR

- Glaucoma
- A degenerative or pervasive neurological condition
- HIV/AIDS
- Post-traumatic stress disorder (PTSD)
- A medical condition or treatment for a medical condition that produces one or more of the following:
 - * - Cachexia (a weight-loss disease that can be caused by HIV or cancer)
 - * - Severe pain
 - * - Severe nausea
 - * - Seizures, including but not limited to seizures caused by epilepsy
 - * - Persistent muscle spasm, including but not limited to spasms caused by multiple sclerosis

oregon.gov/oha/PH/DISEASES/CONDITIONS/CHRONICDISEASE/MEDICALMARIJUANAPROGRAM/Pages/physicians.aspx

How Does it Work? Like a Lock and Key

- Cannabinoid receptors-CB(1) receptors are present in very high levels in several brain regions and in lower amounts in a more widespread fashion. These receptors mediate many of the psychoactive effects of cannabinoids.
- CB(2) receptors have a more restricted distribution, being found in a number of immune cells and in a few neurons.
- Marijuana contains over 100 cannabinoids

J Neuroendocrinol. 2008 May;20 Suppl 1:10-4. doi: 10.1111/j.1365-2826.2008.01671.x.



THC VS. CBD

THC

- Psychotropic. Cannabinoid receptors are concentrated in certain areas of the brain associated with thinking, memory, pleasure, coordination and time perception. THC attaches to these receptors.
- The Munchies. THC binds to CB1 receptors in brain
- Endocannabinoids. Endocannabinoids tell our brain to rev up our appetites and help us derive pleasure from the food we eat. In addition, these chemicals promote energy storage in our fat tissues, which may be linked to problems with excessive weight. Scientists are closely researching this connection to examine whether endocannabinoids could be controlled with medication to treat obesity.

science.howstuffworks.com/innovation/edible-innovations/food-craving1.htm

CBD

- Non-psychoactive
- Anti-psychoactive
- Anti-emetic (nausea)
- Anti-inflammatory
- Non-toxic to cells

The medical community is excited about CBD, as it's known to have many therapeutic benefits.

Strains make a Difference

Cannabis Sativa vs. Cannabis Indica - Two plant species- grown for different effects

What does Indica treat Best?

- Relieves Body Pain
- Relieves Spasms
- Reduced seizures
- Relieves Stress and Anxiety
- Relaxes muscles
- Anti- Nausea
- Sleep inducing



What does Sativa treat Best?

- Provides you with feelings of extreme well-being.
- Makes you feel at ease.
- Fights depression.
- Makes you think cerebral and uplifting thoughts.
- Energizes you.
- Stimulates you.
- Increases your creativity and focus

Medical vs Recreational- States differ on how much THC, if any, can be in Legal Medical marijuana

- Sativa strains usually contain higher levels of CBD to THC, according to a study published in the American Journal of Botany.
- Indica strains usually have more THC to CBD.
- Marijuana only refers to cannabis that contains THC

METHOD OF PARTAKING

Inhalation

- Vaping
- Dabbing

Edibles

- Candy and baked goods
- Honey

Topicals

- Creams and lotions
- Chapsticks

Methods Determine Onset and Duration

- Inhalation:
 - Onset- 0-30 minutes
 - Duration =/- 2 hrs
- Edibles
 - Onset- 30 – 120 minutes
 - Duration 6-8hrs



HEALTH EFFECTS

Psychosocial

- Recent use (within 24rs) impairs cognitive performance
- Learning
- Memory
- Attention

Mental Health

- Frequent users at risk of developing schizophrenia, psychoses
- Duos not increase depression, anxiety, PTSD

Adolescence: Related to impairments in

- academic achievement
- education,
- employment
- income

National Academies of Science-Engineering-Medicine www.nap.edu/resource/24625/Cannabis-public-release-slides.pdf

Acute Vs. Chronic Affects



ORAL HEALTH CONSIDERATIONS

- Perio Risk
- Caries Risk
- Xerostomia
- Oral Cancer

Relationship Between Frequent Recreational Cannabis (Marijuana and Hashish) Use and Periodontitis in Adults in the United States: National Health and Nutrition Examination Survey 2011 to 2012

joponline.org/doi/abs/10.1902/jop.2016.160370?journalCode=jop

Oral Health Prevention Strategies

Why Flouride?

- Protection
- Remineralization

Fluoride varnish

- Indicated to treat hypersensitive teeth and as a cavity shield
- Indicated to treat exposed dentin and root surface sensitivity

Talk about risk factors and prevention strategies for oral health

Unanswered Questions:

- When is it appropriate to reschedule a patient for treatment?
- Which procedures are not ok for the patient who has used marijuana?
- If a clinician goes over important information during the appointment, will it be remembered?
- Can a patient still give consent to treatment when they have been using?

MARIJUANA- THE REVERSE GATEWAY DRUG

The Opioid Crisis – How did we get here?

Public Health Emergency

- Sales of opioids increased 300% in two decades
- Highly addictive
- 64k died from drug overdose in 2016
- Up 22% over 2015
- Leading cause of death under 50

In Oregon HB 2114 2017 – to those who can prescribe opioids

Opioid Prescribing Guidelines

- Determine When to initiate or Continue opioids for Chronic pain
- Opioid selection, dosage, duration, follow-up and discontinuation
- Assessing Risk and addressing Harms of opioid Use
- Additional Considerations: Marijuana and safe storage and disposal

Marijuana Considerations:

- Discuss and document use, including whether they use, if so, amount type, reasons for use, etc
- Clinicians & organizations obligated to closely follow emerging evidence on use of marijuana for pain.
- OHA Medical marijuana prescribing guidelines

oregon.gov/oha/ph/DiseasesConditions/ChronicDisease/MedicalMarijuanaProgram/Pages/Physicians.aspx

Recommend Use - Not Prescribe

- An Attending Physician is defined as a Doctor of Medicine (MD) or Doctor of Osteopathy (DO) licensed under ORS chapter 677 who has the primary responsibility for the care and treatment of a person diagnosed with a debilitating medical condition.
- Current data are limited on the interactions between opioids and marijuana. As with all pain treatment, clinicians should focus on improving their patient's quality of life and ability to function, and on ensuring patient safety, when they consider marijuana use by patients who are also using opioids.

OHA Guidelines: oregon.gov/oha/PH/PreventionWellness/marijuana/Documents/OHA-9262-Attending-Physician-Guidelines.pdf Marijuana- the Reverse Gateway drug

Study Reported in Drug and Alcohol Dependence Online Journal, in states where medical marijuana is readily available, they looked at:

- Databases from Hospital Discharges 1000, from 1997- 2014
- Hospitalizations from opioid use
- Deaths in hospitals from opioid use

They discovered:

- Hospital Rates for opioid dependence and abuse decrease 23%
- Opioid overdoses in Hospitals decrease 13%

Study reported in JAMA Oct. 2014 In states where medical Marijuana is readily available they looked at:

- Hospital records 1999-2010
- Opioid Mortality Rates

They Discovered:

- Opioid deaths decrease 24.8% on average (This stat increases with years of legality)
- Patients already receiving opioid analgesics who start medical cannabis treatment may experience improved analgesia and decrease their opioid dose

IS CANNABIS MAKING A SHIFT FROM HISTORICAL VICE TO CURRENT VIRTUE IN ISSUES OF HEALTH?



A COMPLETE LIST OF RESOURCES AVAILABLE UPON REQUEST.

Kelli Swanson Jaecks, MA, RDH

Kellijaecks.com

kelli@kellijaecks.com

RESOURCES

The Current Status of Medical Marijuana in the United States

Gerald J McKenna, MD from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3998227/>

National Conference of State Legislators <http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx>

http://www.oregonlive.com/marijuana/index.ssf/2017/10/oregon_pays_out_85_million_in_1.html

USA Today: Legal Pot in America series

Huestis. Blood cannabinoids. I. Absorption of THC and formation of 11-OH=THC and THCCOOH during and after smoking marijuana. *J Anal Toxicol.* 1992. Sep-Oct; 16(5):276-282.

Hawaii J Med Public Health. 2014 Apr; 73(4): 105–108.

PMCID: PMC3998227

<https://www.fda.gov/newsevents/publichealthfocus/ucm421168.htm>

<https://medicalmarijuana.procon.org/view.resource.php?resourceID=005889>

<https://www.healthcarepackaging.com/article/applications/healthcare/marijuana-reverse-gateway-drug>

<http://theantimedia.org/opioid-deaths-plummet-legal-weed/>

<http://www.shortlist.com/news/gin-vodka-alcohol-good-for-hayfever>

<http://www.mensjournal.com/health-fitness/articles/what-smoking-pot-does-to-your-gums-w489738>

http://www.huffingtonpost.com/2015/02/06/marijuana-depression_n_6622126.html

Relationship Between Frequent Recreational Cannabis (Marijuana and Hashish) Use and Periodontitis in Adults in the United States: National Health and Nutrition Examination Survey 2011 to 2012

<http://www.joponline.org/doi/abs/10.1902/jop.2016.160370?journalCode=jop>

Abstract

Journal of Periodontology

March 2017, Vol. 88, No. 3, Pages 273-280

<https://doi.org/10.1902/jop.2016.160370>

<https://www.forbes.com/sites/debraborchardt/2017/08/02/people-who-use-cannabis-cbd-products-stop-taking-traditional-medicines/-5b3ee5b22817>

Medical marijuana policies and hospitalizations related to marijuana and opioid pain reliever

Drug and Alcohol Dependence. Yuyan Shi. April 1, 2017 Volume 173, Pages 144–<http://dx.doi.org/10.1016/j.drugalcdep.2017.01.006>

[http://www.drugandalcoholdependence.com/article/S0376-8716\(17\)30076-5/fulltext](http://www.drugandalcoholdependence.com/article/S0376-8716(17)30076-5/fulltext)

<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1898878>

<http://www.governing.com/gov-data/state-marijuana-laws-map-medical-recreational.html>

<http://www.oregon.gov/oha/PH/DISEASES/CONDITIONS/CHRONICDISEASE/MEDICALMARIJUANAPROGRAM/Pages/top20.aspx>

https://www.researchgate.net/figure/8372947_fig4_Figure-3-Major-signalling-pathways-associated-with-cannabinoid-receptor-activation-by
<https://www.ncbi.nlm.nih.gov/pubmed/18426493>
file:///J Neuroendocrinol. 2008 May%3B20 Suppl 1/10-4. doi/ 10.1111:j.1365-2826.2008.01671.x.
Cannabinoid receptors/ where they are and what they do.
Current Drug Safety Journal, Bentham Science-peer-reviewed Safety and Side Effects of Cannabidiol, a Cannabis sativa Constituent
Author(s): Mateus Machado Bergamaschi, Regina Helena Costa Queiroz, Antonio Waldo Zuardi, Jose Alexandre S. Crippa. OLUME: 6
ISSUE: 4 Year: 2011Page: [237 - 249]
<https://www.nap.edu/resource/24625/Cannabis-public-release-slides.pdf>
Schweiz Monatsschr Zahnmed. 2009;119(6):576-83.
Cannabis and caries--does regular cannabis use increase the risk of caries in cigarette smokers?
Schulz-Katterbach M1, Imfeld T, Imfeld C.
<https://www.ncbi.nlm.nih.gov/pubmed/20112637>
<https://medicalmarijuana.procon.org/view.resource.php?resourceID=005889>
National Institute on Drug Abuse
<https://www.drugabuse.gov/publications/research-reports/marijuana/what-scope-marijuana-use-in-united-states>
<http://www.governing.com/gov-data/state-marijuana-laws-map-medical-recreational.html>