



MARIJUANA AND VIOLENCE

From Mellow to Murder

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**I have nothing to
disclose.**

GOALS AND OBJECTIVES

- Identify emerging forms of cannabis
- Analyze risk factors for cannabis use leading to violence
- Assess relationship of cannabis use to criminal responsibility
- Assess lab monitoring for cannabis use

Question:

**Can marijuana make
someone go from
mellow to murder?**

U.S. HISTORY

- 1611-Jamestown settlers brought to U.S.
- Helped pay taxes to King
- Fines imposed for not growing hemp

CANNABIS CRIMINALIZAION

- 1906: Pure Food and Drug Act
- Required labeling of products with cannabis

HARRY ANSLINGER

- Deputy Director of Department of Prohibition
- Alcohol became illegal in 1920
- Prohibition ends in 1933

“THE MARIJUANA MENACE”

- Crimes were described by Mexicans who used marijuana

CANNABIS CRIMINALIZATION

- Federal Bureau of Narcotics formed
- Lobbied for harsher penalties for drugs

MARIJUANA TAX ACT 1937

- Levied a tax on marijuana
- Criminalized possession if tax not paid

CONTROLLED SUBSTANCES ACT OF 1970

- Repealed marijuana tax act
- Cannabis classified as Schedule I drug

SCHEDULE I

- **No currently accepted medical use and high potential for abuse**
 - Heroin
 - LSD
 - Cannabis
 - Ecstasy
 - Peyote

CANNABIS FORMS AND PRODUCTS

CANNABIS OVERVIEW

- **Schedule I drug**
- Acts on two specific receptors

AREAS OF THE BRAIN AFFECTED BY CANNABINOIDS

CEREBRAL CORTEX

PLAYS A ROLE IN
MEMORY, THINKING,
PERCEPTUAL AWARENESS
AND CONSCIOUSNESS

HYPOTHALAMUS

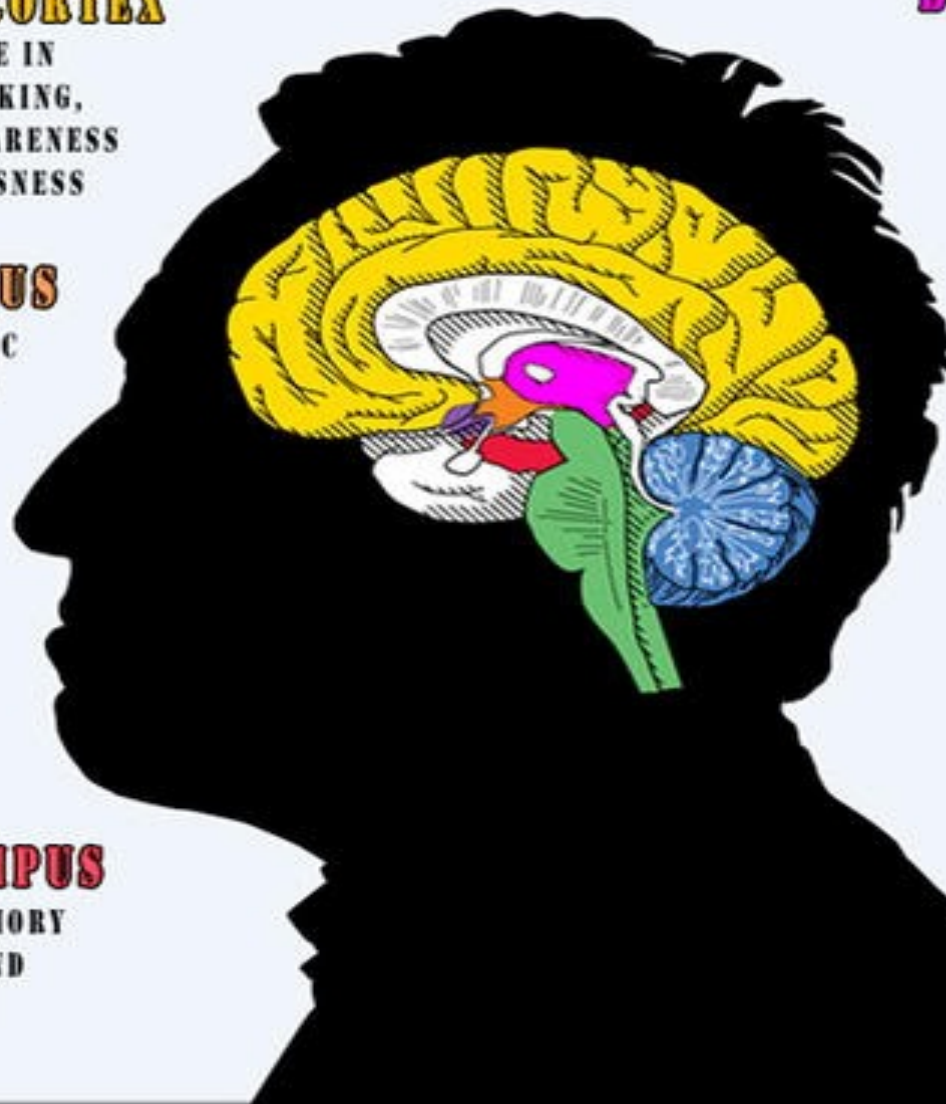
GOVERNS METABOLIC
PROCESSES SUCH
AS APETITE

AMYGDALA

PLAYS A ROLE
IN EMOTIONS

HIPPOCAMPUS

IS KEY TO MEMORY
STORAGE AND
RECALL



BASAL GANGLIA

GOVERNS MOTOR
SKILLS AND
LEARNING

CEREBELLUM

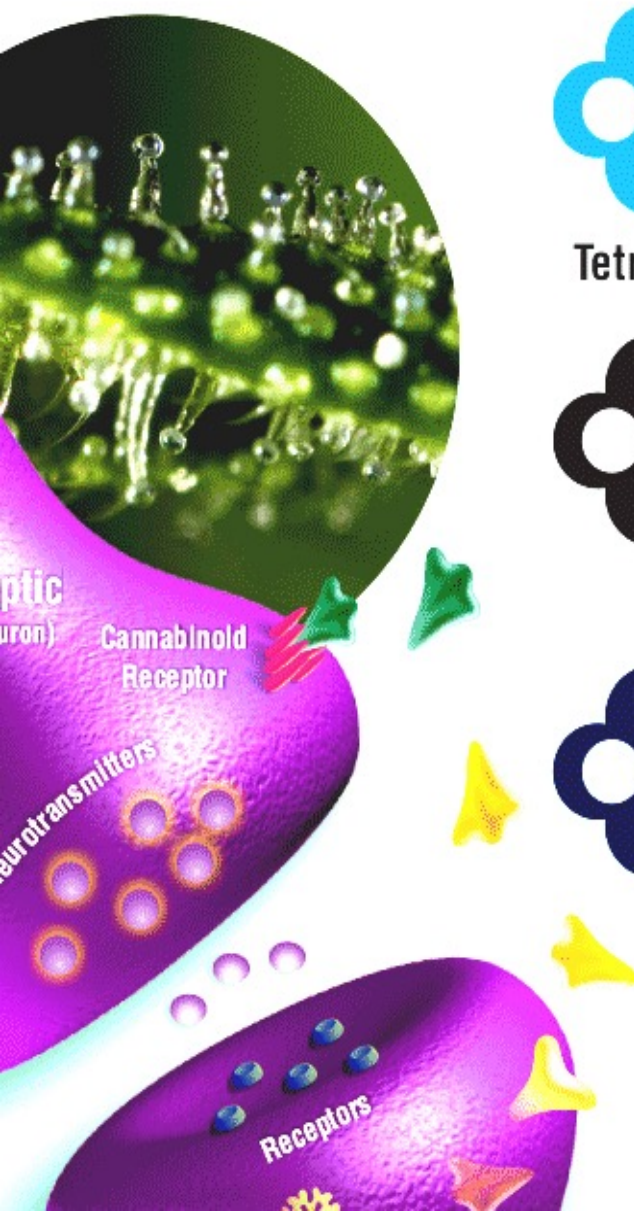
GOVERNS
COORDINATION AND
MUSCLE CONTROL

BRAIN STEM

CONTROLS MANY
BASIC FUNCTIONS
INCLUDING AROUSING,
THE VOMITING REFLEX,
BLOOD PRESSURE
AND HEART RATE

ALSO PLAYS A ROLE
IN PAIN SENSATION,
MUSCLE TONE
AND MOVEMENT

...processes affecting pain modulation, memory, and appetite.
...inflammatory effects and other immune system responses.
...cannabinoid system comprises two types of receptors, CB1
...which serve distinct functions in human health and well-being.



Tetrahydrocannabinol



Cannabidiol



Cannabinol



CBD does not directly “fit”
CB1 or CB2 receptors but
has powerful indirect
effects still being studied.



CB2 receptors are mostly in the





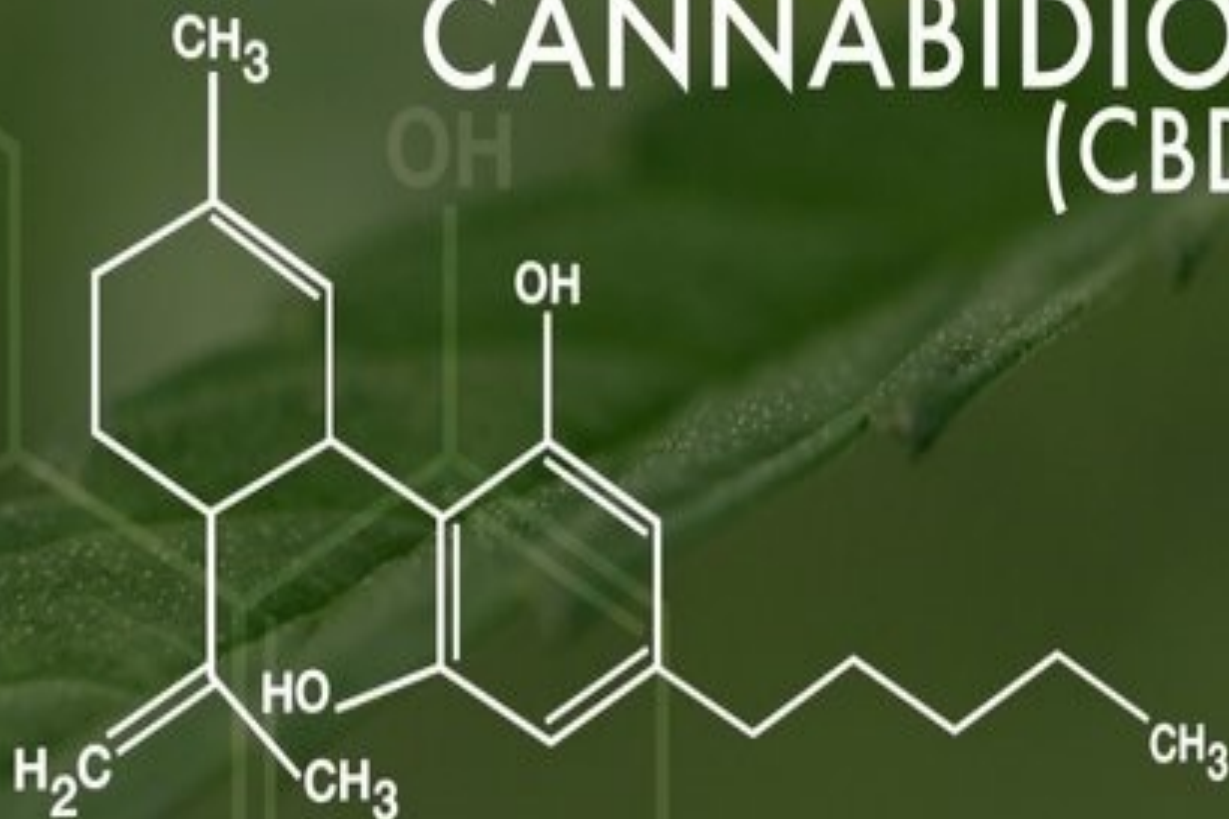
INDICA



SATIVA

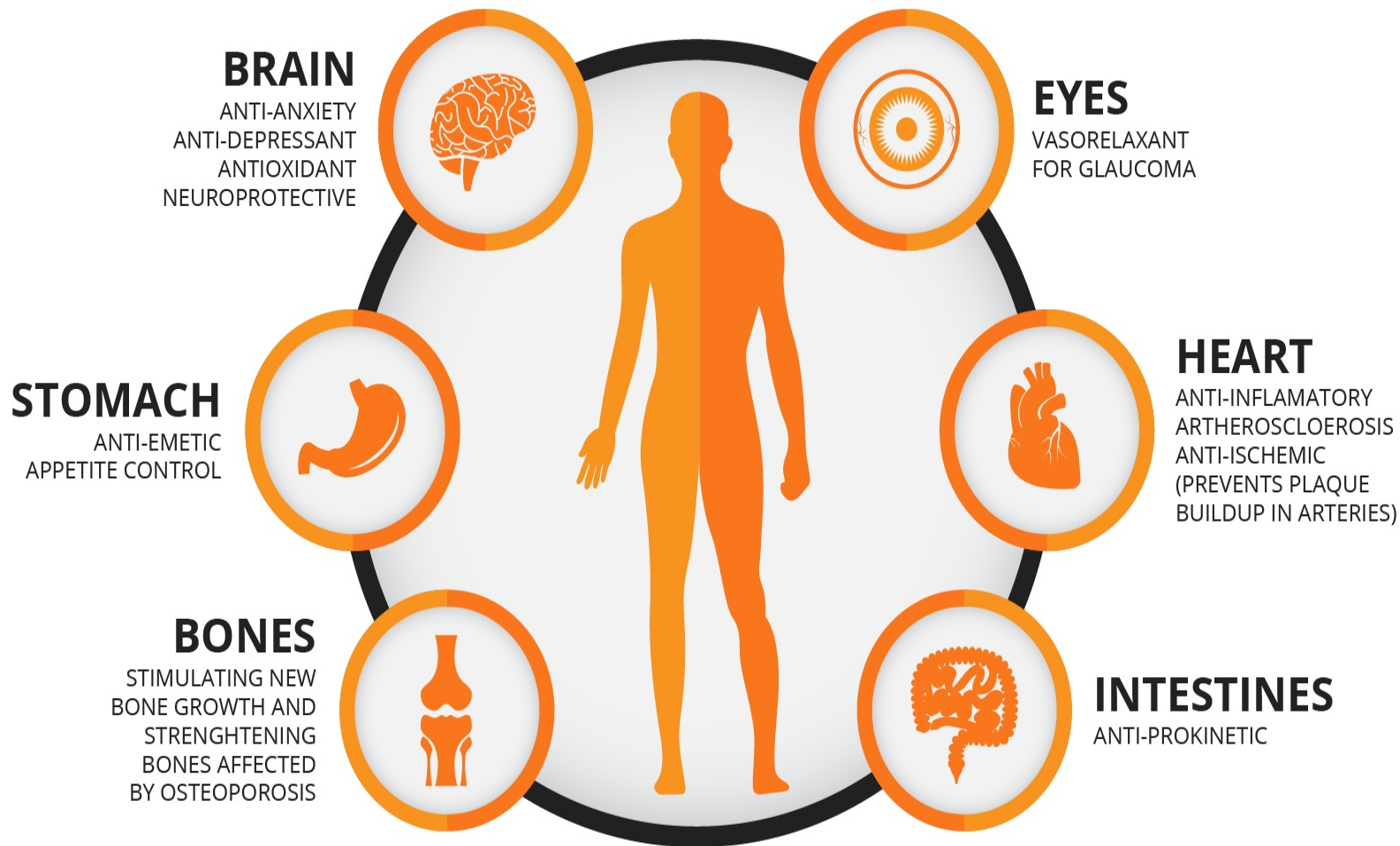
Delta-9-THC

CANNABIDIOL (CBD)



www.mmjdoctor.com

HEALTH BENEFITS OF CANNABIDIOL





CBD

THC

**Ask details about
“marijuana” client
uses!!!**

“SINSEMILLA”

- Female cannabis plants which have not been pollinated
- THC concentration **7-14%**

“SKUNK”

- Sativa and Indica
Crossbreed
- Very potent
- Highly adaptable
- Can be grown
indoors

METHODS OF USE

- **Ingestion**

- Effect: 1-3 hour

- Variable THC

- Risk of overdose and psychotic symptoms

POWDERED LEAVES



- Dissolvable cannabinoid powder
- Effects in 20 minutes and longer duration
- Tasteless & odorless
- Diet friendly

CANNABIS CONCENTRATES

- Concentrated THC products
- Various methods of trichomes collection
 - Solvent or Solvent Free
 - Smoke, Vape (Dab), or Ingest

HASHISH (HASH)

- Sticky resin of marijuana plant
- More powerful version of cannabis
- Usually smoked
- Produces an odor when smoked

BUTANE HASH OIL (BHO)

- Cannabis concentrate made using butane oil
- Can contain up to 80% THC concentrations

SYNTHETIC CANNABINOIDS

- Diverse designer chemicals
- Act on CB1 receptors
- Not detected in UDS

HU-210

- 100-800 X more potent than THC
- Extended duration of action

RISK FOR CANNABIS USE DISORDER

- 9% who use will become addicted
- 17% of those who start in teens become addicted
- 25-50% of daily users become addicted
- 20% of lifetime users will develop CUD

CANNABIS INTOXICATION

- Two or more of the following:
 - Conjunctival injection
 - Increased appetite
 - Dry mouth
 - Tachycardia

CANNABIS WITHDRAWAL

- **Three or more of the following:**
 - Irritability; anger; aggression
 - Nervousness or anxiety
 - Sleep difficulty
 - Decreased appetite/weight loss
 - Restlessness
 - Depressed mood
 - One of many physical symptoms

CANNABIS PSYCHOSIS

- 47.4% who experience cannabis psychosis will develop schizophrenia or bipolar disorder
 - Young age linked to schizophrenia
 - Self harm linked to schizophrenia and bipolar

CANNABIS HYPEREMISIS SYNDROME

- Can occur with regular long term use
- Intense nausea and vomiting in regular users
- Regular cycles sometimes requiring emergency medical attention

CANNABIS WITHDRAWAL

- Most intense during first week
- Nearly 50% of regular or dependent users will develop withdrawal

CANNABIS WITHDRAWAL

Hasin et al. J Clin Psychiatry, 2008

- Examined “heavy” cannabis users defined as use 3 or more X per week
- Median duration for those having 3 or more withdrawal symptoms was 105 weeks

**Is there a link
between cannabis
and psychosis?**

THE “SWEDISH” STUDY

- Reviewed histories of 50,000 18/19 year-old conscripts
- 92% filled out survey about drug use
- Cannabis use increased risk of schizophrenia
- Heavy users with **6X risk** of becoming schizophrenic

**Is this a true
finding?**

FOUR “DEBUNKING” THEORIES

1. Genetic predisposition to schizophrenia predisposes to drug use
2. Schizophrenia leads to cannabis use
3. Findings might be accidental finding
4. Cannabis use marker for environmental stressors that cause schizophrenia

Which came first?

THE “DUNEDIN” STUDY

- Children born between April 1972 and March 1973 followed up at ages:
 - 3, 5, 9, 11, 13, 15, 18, and 21
- Psychiatrist screened for psychosis at age 11
- Marijuana use at age 15 screened

THE “DUNEDIN” STUDY

- **Results:**
 - Those who had used cannabis at age 15 > **4X likely** to develop schizophrenia or schizophreniform disorder

CANNABIS PSYCHOSIS

- **High doses in food/drink** vs. smoked
- Detrimental effect on schizophrenic patients
- 47.4% who experience cannabis psychosis will develop schizophrenia or bipolar disorder
 - Young age linked to schizophrenia
 - Self harm linked to schizophrenia and bipolar

CANNABIS PSYCHOSIS

- **High doses in food/drink** vs. smoked
- Detrimental effect on schizophrenic patients

VIGNETTE

- Parents of 17 year old male seek your advice
- Son became psychotic using MJ
- Had self-harm behavior following psychosis

What is his
prognosis?

Does cannabis
increase risk of
violence?

CAMBRIDGE STUDY

- Represents complete population of 8 year old boys attending 1 of 6 schools
- Received evaluation and follow up for marijuana use at ages:
 - 18, 32, and 48

CAMBRIDGE STUDY

- **Evaluated at each interval:**
 - Marijuana use
 - Self-report of violence
 - Violent convictions

RESULTS

Marijuana use associated with a **9 fold increase** in violent behavior at all three intervals.

CANNABIS AND VIOLENCE

- **Dunedin study:**

- Followed >1000 from birth to age 38
- MJ dependent individuals with 3.8 > violence than controls

- **MacArthur study:**

- MJ use at each follow up resulted in 2.44 x risk of violence

“WEED AND ME ARE GOOD!”

- Ryan is a 19-year-old man referred for a diversion evaluation
- Arrested for domestic violence complaint against girlfriend Tiffany

“WEED AND ME ARE GOOD!”

- Police find Tiffany with bloody lip
- First time “dabbing”
- Ryan accused her of cheating and was acting paranoid

“WEED AND ME ARE GOOD!”

- Use since age 14
- 5x per week
- Higher potency
- Combines with alcohol and opioids
- Bipolar diagnosis not taking meds

“SATIVA”

Cannabis & Violence Risk Factors

- **S**erious Mental Illness
- **A**ge-younger
- **T**ype-higher potency
- **I**ntensity-greater frequency
- **V**ictim-intimate partner
- **A**nother drug with cannabis

FORENSIC APPLICATIONS

VOLUNTARY INTOXICATION

- Not a defense
- Applies when a person decided to use a substance despite understanding the risks



INTOXICATION DEFENSES

- **Involuntary intoxication**

- An intoxicant is ingested unknowingly or without understanding of its possible effects
- Not culpable

INTOXICATION DEFENSES

- **Settled insanity**
 - Substance use has triggered or exacerbated psychotic symptoms
 - Independent of acute intoxication
 - Symptoms last beyond period of expected intoxication
 - Must meet state-specific definition of insanity

OTHER DEFENSES

- Negate specific *mens rea*
- Intentional vs. negligent homicide

OUTLINE OF CASES

1. Aldo Dunphe
2. Richard Kirk
3. Hilman “Bobby” Jordan

WORCESTER, MASSACHUSETTS: 2013

- 23-years-old at the time of the incident
- Six to seven years of daily marijuana use
- History of some experimentation with other drugs

COMMONWEALTH v. DUNPHE

- October 31, 2013 called wife:
 - “Going to rehab”
 - Suicidal
 - Paranoid
 - Aggressive, wanted to break up with wife

IN THE DAYS THAT FOLLOWED

- Voluntarily hospitalized
 - UMass Memorial Medical Center
- Diagnosis on admission:
Psychosis NOS

HOSPITAL COURSE

- November 2, 2013:
 - Visited by wife and adoptive parents
 - Told them he saw his biological father on the inpatient unit
- November 4, 2013:
 - Told nurse: “The little guy is my father”

ALLEGED MURDER

- November 5, 2013:
 - Suffocated victim with a pillow
 - Punched repeatedly in the face
 - Smashed head into cement floor
 - Stuffed cloth into nose and mouth

PER THE PROSECUTION

- Expert opinion:
 - Symptoms due to substance-induced psychotic disorder
 - Not due to cannabis withdrawal
 - No other underlying mental illness

DEFENSE'S ARGUMENT

- Expert opinion:
 - Acute psychotic episode due to mental illness
 - Not due to cannabis withdrawal

VERDICT

- May 2, 2016:
 - Found guilty for first-degree murder
 - Life in prison without parole
- Initial motion for a new trial or for lesser charges denied

OUTCOME OVERTURNED

- December 10, 2019 – October 7, 2020:
 - Case heard by Massachusetts Supreme Judicial Court

SIGNIFICANCE

“A drug-induced mental disease or defect still constitutes a mental disease or defect for purposes of a criminal responsibility defense.”

Late Supreme Judicial Court Chief Justice Ralph. D. Gants

THE CASE OF RICHARD KIRK

- The evening of April 14, 2014:
 - Drove to a marijuana store
 - Purchased products containing THC

CANDY CONTENTS

- Karma Kandy Orange Ginger taffy
 - 100 milligrams (mg) of THC in the taffy: considered a big dose

KEY FINDINGS

- THC: only drug detected in Mr. Kirk's blood
- Denver Post: THC concentration was 2.3 nanograms per milliliter
 - “Relatively low”
 - Less than half the level that is presumed to impair drivers under state law

CASE CONCLUSION

- Mr. Kirk initially charged with first degree murder
 - Pled Not Guilty by Reason of Insanity
 - But later, changed plea to guilty
 - Convicted of second degree murder

BACKGROUND

- March 1, 2019:
 - Hilman “Bobby” Jordan, then age 45
 - Previously found Not Guilty by Reason of Insanity after fatally shooting a friend in 1998
 - Since 2015: on conditional release from St. Elizabeths Hospital in Washington, DC

THE VICTIM

- Javed Bhutto, then age 63
- Lived in same building as Mr. Jordan
- Complained about Mr. Jordan's marijuana use

MARIJUANA OR MENTAL ILLNESS?

- Long history of marijuana use
- Failed four drug screens in 2018
- Positive for phencyclidine (PCP)

A LOOK AHEAD

- Legalization of marijuana continues throughout the country
- **Predicted marijuana “defenses”**
 - Involuntary intoxication
 - Establishing link to psychosis/violence
 - Lawsuits against manufacturers/distributors

CANNABIS TESTING

Marijuana Detection Times

Blood & Saliva	A few hours
Urine	
One-time use	Up to 13 days
Regular use	Up to 45 days
Heavy use	Up to 90 days
Hair	Up to 90 days



ADULTERANTS

- **In vivo:**
 - Taken before giving sample
 - Goal is to hide presence of metabolite

SUMMARY

- Ask detailed questions about type and frequency of cannabis use
- Cannabis use linked to increase risk of psychosis
- Some research indicates cannabis use increases violence risk
- Expect increased criminal and civil litigation