

Edible Cannabinoids

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East Metro District





Cannabis or Marijuana...?



- Still a Schedule I Controlled Substance... for now.
 - House Bill would remove it as a Schedule I in Minnesota
- DWI Statute: MSS 169A.20
 - (7) the person's body contains any amount of a controlled substance listed in Schedule I or II, or its metabolite, other than marijuana or tetrahydrocannabinols.
- Revocation
 - Not included as a Schedule I or II for immediate revocation
 - Must be found guilty first
 - Revocation starts post-conviction



Cannabis v Marijuana

- Cannabis
 - All products derived from the plant *Cannabis Sativa*
 - Contains about 540 chemicals
- Marijuana
 - Parts of or products from the plant *Cannabis Sativa* that contain tetrahydrocannabinol (THC)



THC v CBD

- Tetrahydrocannabinol (THC)
 - Psychoactive Ingredient
 - Recreational users want high THC as it gives them the most high
- Cannabidiol (CBD)
 - Non-psychoactive
 - Medical benefits
 - Medical marijuana has higher CBD than recreational



Trichomes

- Tiny crystal-like resin gland
 - Contains more than 50% of THC/CBD in the plant



WHEN TO HARVEST YOUR CANNABIS



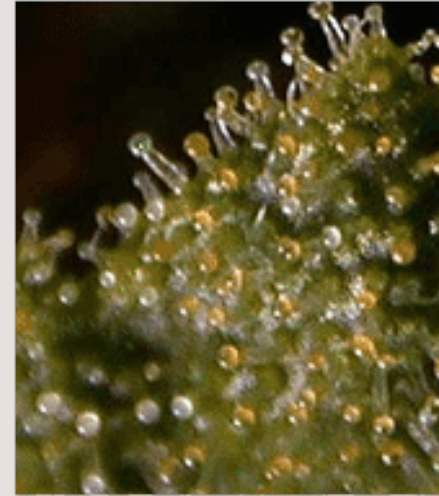
CLEAR TRICHOME

Not enough potency yet.
decreased yield



CLOUDY TRICHOME

Energetic High



AMBER TRICHOME

Body / Couchlock High



MIXED TRICHOME

Combined effect head and body high

Types of Marijuana

- Sativa
- Indica
- Hybrid



Sativa

- Origin
 - Hot, dry climates – Africa, Central America, SE Asia, W Asia
- Plant
 - Tall and thin – Up to 12 feet high. Take longer to mature
- CBD to THC Ratio
 - Lower CBD and Higher THC
- Common Effects
 - “Mind High”
 - Anxiety-reducing
 - May feel productive and creative
- Popular Strains
 - Acapulco Gold (0.1% CBD / 15-23% THC), Panama Red, Durban Poison



Indica



- Origin
 - Afghanistan, India, Pakistan, and Turkey. Adapt to harsh, dry, and turbulent climate of the Hindu Kush Mountains
- Plant
 - Short and Stocky. Bushy greenery and chunky leaves. Faster growing, more buds.
- CBD to THC Ratio
 - Higher CBD, Lower THC
- Common Effects
 - Relaxing – May reduce nausea and pain, increasing appetite
- Popular Strains
 - Hindu Kush, Afghan Kush (6% CBD / 16-21% THC), Granddaddy Purple





Hybrid

- Origin
 - Typically grown on farms or greenhouses from combo of Sativa and Indica
- Plant
 - Depends on the combination
- CBD to THC Ratio
 - Many are grown to increase THC. Each is unique to combination
- Common Effects
 - Can be anything depending on combination
- Popular Strains
 - Pineapple Express (<0.1% CBD / 23% THC), Trainwreck, Blue Dream (<1% CBD / 30% THC)



The Name Says It All...

Sativa Strains

- Excite
- Uplifting
- Social
- Green Crack
- Kaboom
- Loud
- OCD

Indica Strains

- Bliss
- Chill
- Anesthesia
- Dream Queen
- Sweet Dreams
- Twilight
- Zombie OG



MANY DIFFERENT STRAINS OF CANNABIS

STRAIN IS USED TO DIFFERENTIATE BETWEEN CANNABIS SATIVA AND INDICA. IT REFERS TO THE SPECIFIC BREED OF EACH INDIVIDUAL PLANT. OVER THE YEARS, FAMILIAL STRAINS HAVE DIVIDED INTO SPECIFIC SUBSECTIONS. THOUGH STRAINS MAY SHARE LINEAGE, THE DIFFERENCES ARE NUMEROUS



SATIVA STRAINS

Sativa strains have an uplifting effect and offer a cerebral high that includes:

- Laughing uncontrollably
- Engaging in in-depth conversations
- Thinking creatively

Sativa strains grow tall and thin - the plant can grow up to 20 feet in an outside garden. Popular strains include:

AMNESIA HAZE

Beloved by morning users, it offers an uplifting boost.

CHERRY AK

With a sweet, fruity smell and taste, this strain can help elevate a bad mood.

GREEN CRACK

Users are rewarded with a blast of exhilarated energy.

SOUR DIESEL

Despite a diesel smell, this strain offers the highest happiness quotient.



INDICA STRAINS

Indica strains have a relaxing, sedative effect, often used to:

- Reduce stress
- Relieve pain
- Limit anxiety

Indica strains are a bushy plant that can grow between 3 and 6 feet tall and are suitable for growing indoors. Popular strains include:

BUBBA KUSH

With a coffee and chocolate taste, this strain has a heavy tranquilizing effect.

NORTHERN LIGHTS

This pure indica is known to have come from the "mother plant."

HEROJUANA

To battle insomnia, this strain induces a heavy, relaxing sleep.

SKYWALKER OG

This strain is known for its healing properties for those with PTSD.



HYBRID STRAINS

Hybrid strains offer a mix of effects, combining the traits they inherited from their parent strains. Hybrids are known to:

- offer a relaxing body effect
- Create balance of mind and body
- Limit anxiety

Of the roughly 779 strains, over half of them are hybrids. Popular strains include:

BLUE DREAM

Offers a total relaxation while energizing the mind.

HEADBAND

Great for pain relief and a feeling of elation.

GIRL SCOUT COOKIES

This strain is a more extreme version of Blue Dream, so go easy!

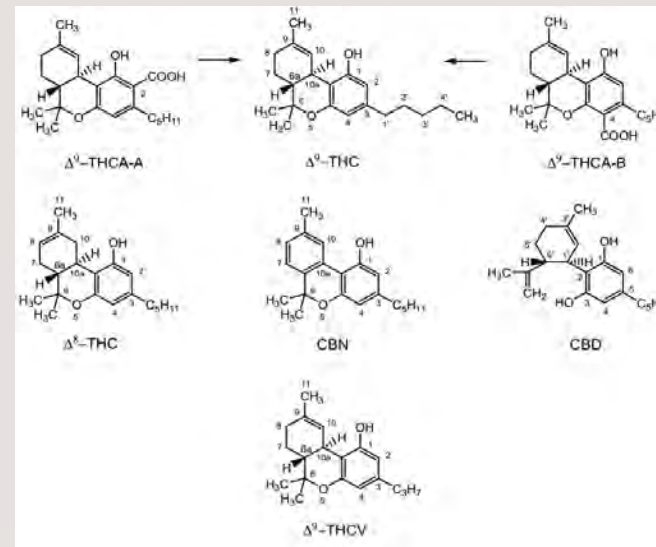
PINEAPPLE EXPRESS

This sweet, tropical strain leaves one feeling happy and euphoric.



The Impairing Chemical in Marijuana

- Tetrahydrocannabinol (THC)
 - What is it?
 - Responsible for most of the psychological effects
 - Impairing chemical in marijuana
 - Types of THC?
 - THCA
 - THCV
 - Δ -8
 - Δ -9
 - Δ -10



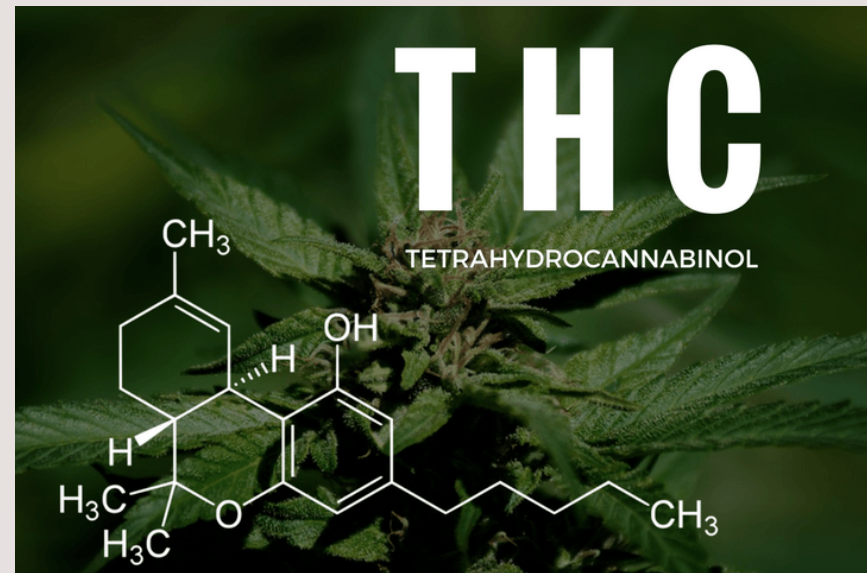
Now, the Metabolites...

- 11-Hydroxy-delta-9-tetrahydrocannabinol
 - Still psychoactive
 - Lasts 24-48 hours
- 11-nor-hydroxy-delta-9-tetrahydrocannabinol
 - Non-psychoactive
 - Lasts 5-6 days
- 11-Nor-9-carboxy-delta-9-tetrahydrocannabinol
 - Non-psychoactive
 - Lasts several days to several weeks in chronic users



THC Levels

- Mid 1990's
 - Averaged 2% to 4%
- 2014
 - Averaged 14%, some strains leveling 37%
- CBD
 - 0.3%
- Edibles
 - Unknown due to manufacturer
- Wax (Dab)
 - 60% to 99.99%
- Leafline Labs Products
 - 5mg to 1200mg THC
 - 1200mg would be used for Chronic Pain or like conditions



Minnesota State Statute 152.72



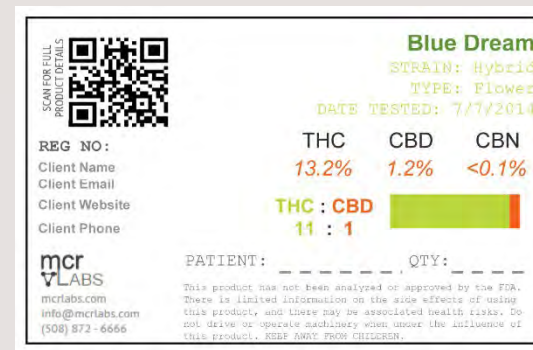
MSS 152.72

- Subd. 1
 - Edible Cannabinoid Product = any product that is intended to be eaten or consumed as a beverage by humans, contains a cannabinoid in combination with food ingredients, and is not a drug
- Subd. 3
 - Non-intoxicating cannabinoids = no more than 0.3% THC



MSS 152.72

- Subd. 5
 - Labelling can be accessed through scan-able QR code via phone
 - Name, location, contact phone number and website of the manufacturer
 - Name and address of the laboratory used
 - Accurate statement of the amount of cannabinoids



The image shows a product information label for 'Blue Dream' cannabis. It includes a QR code, the strain name 'Blue Dream', the strain type 'Hybrid', and the product type 'Flower'. The date tested is '7/7/2014'. The cannabinoid percentages are listed as THC: 13.2%, CBD: 1.2%, and CBN: <0.1%. There is a color-coded bar for the THC:CBD ratio, showing '11 : 1'. The label also has fields for 'REG NO:', 'Client Name', 'Client Email', 'Client Website', and 'Client Phone'. A 'PATIENT:' field and a 'QTY:' field are also present. At the bottom, there is a disclaimer: 'This product has not been analyzed or approved by the FDA. There is limited information on the side effects of using this product, and there may be associated health risks. Do not drive or operate machinery when under the influence of this product. KEEP AWAY FROM CHILDREN.'



MSS 152.72

- Subd. 6
 - Must not:
 - Bear the likeness or contain cartoon-like characteristics
 - Be modeled after a brand of products primarily consumed by children
 - be packaged in a way that resembles the trademarked, characteristic, or product-specialized packaging of any commercially available food or product
 - Be packaged in a container that includes a statement, artwork, or design that could reasonably mislead any person to believe that the package contains anything other than THC.
 - If the package contains multiple servings, they must be separated or scorn
 - Package must show: Serving size, cannabinoid profile, list of ingredients and “keep this product out of the reach of children”
 - Each dose – 5mg or less (combined amount). Each package – 50mg or less



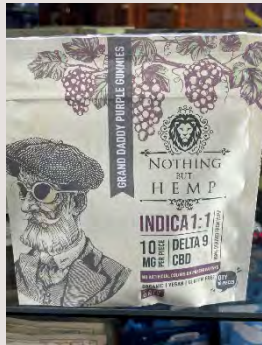
Examples



More Examples



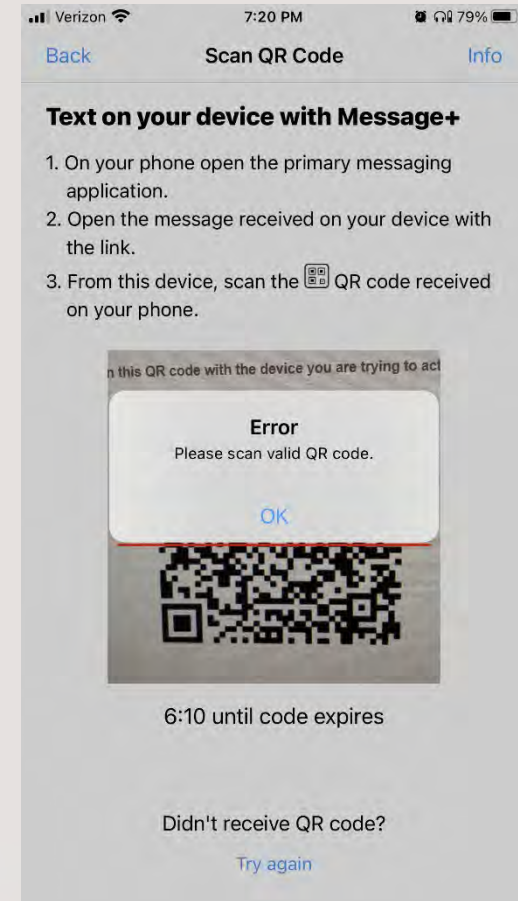
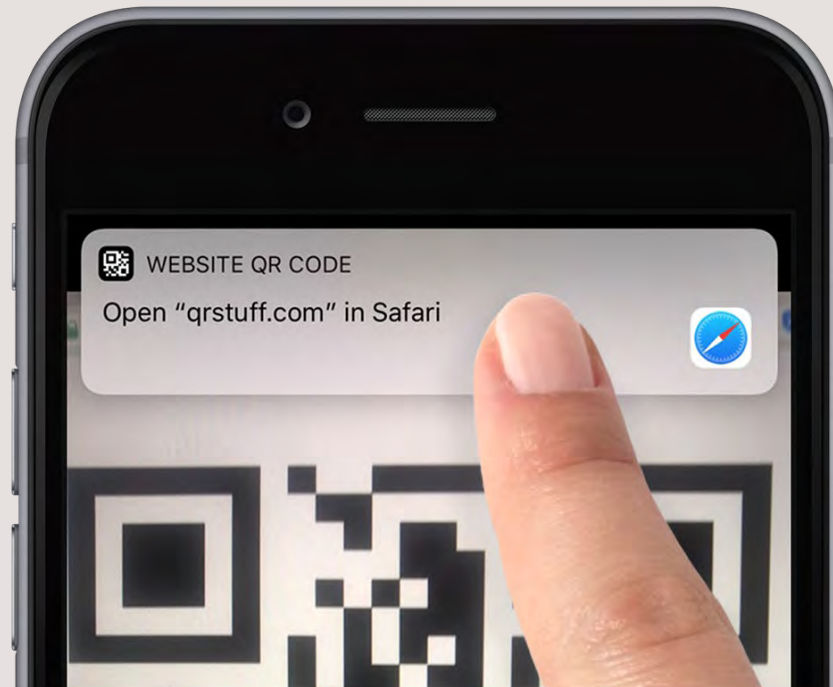
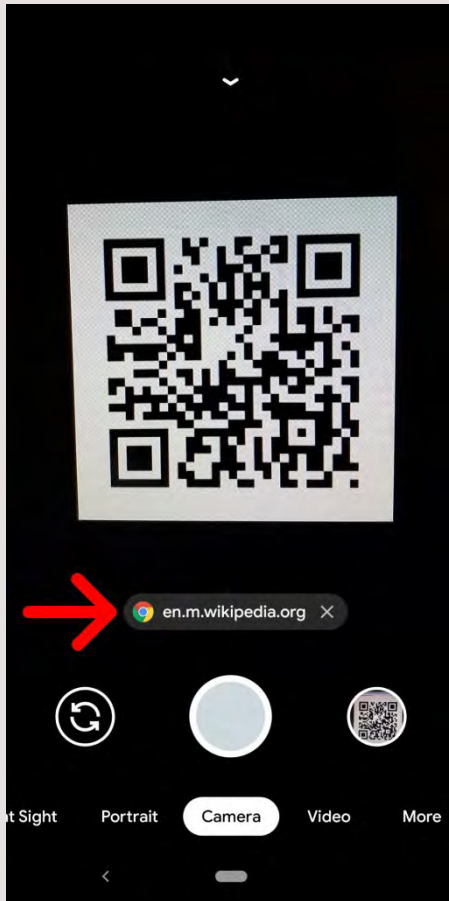
Blaine, MN Smoke Shop



QR Code



QR Code on Phone



Nothing in Statute Regarding...

- Possession and use under 21 years old
- Using while driving
- Open container
- Possession Limit (can only be packaged in 50mg packs) – nothing says someone can't have more than one package
- No real checks and balances for manufacturers and sellers...



Standardized Field Sobriety Testing



Standardized Field Sobriety

- Still run through the normal SFST battery
 - HGN – will not be present
 - VGN – will not be present
 - WAT and OLS – will show signs of impairment
- General Indicators of Impairment
 - Euphoria
 - Bloodshot eyes
 - Odor of Marijuana
 - Debris in mouth
 - Body tremors
 - Increased appetite



Horizontal Gaze Nystagmus

- Will not see:
 - Distinct and Sustained Nystagmus at Maximum Deviation
 - Onset of Nystagmus Prior to 45 Degrees
- May see:
 - Lack of Smooth Pursuit
 - Typically in high doses

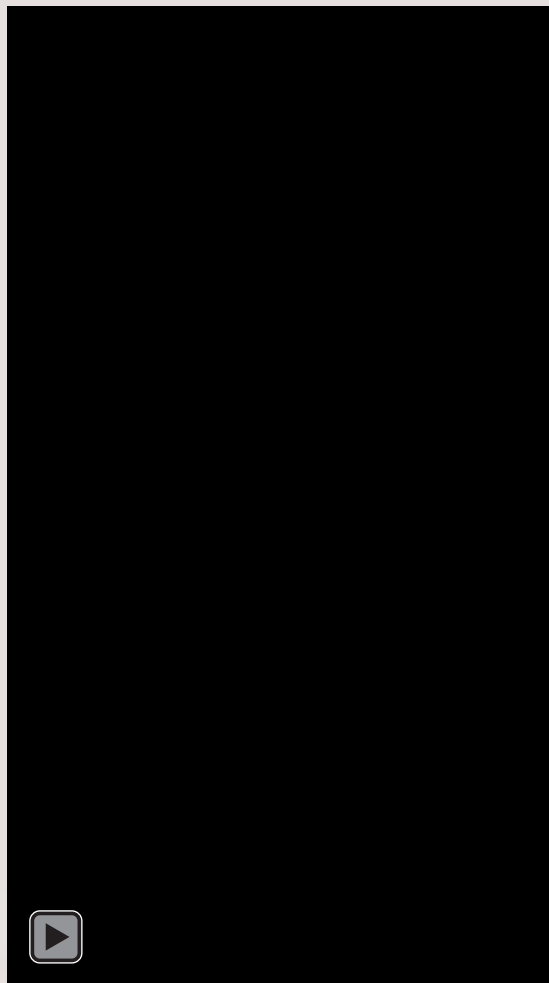


Modified Romberg Balance Test

- Administered to check a subject's time estimation, balance, and presence of tremors (eyelid and body).
- Three indicators
 - Time estimation – 30 seconds
 - Tremors
 - Swaying
- Divided attention
 - Results are not tied to specific drug categories



Eyelid Tremor Example



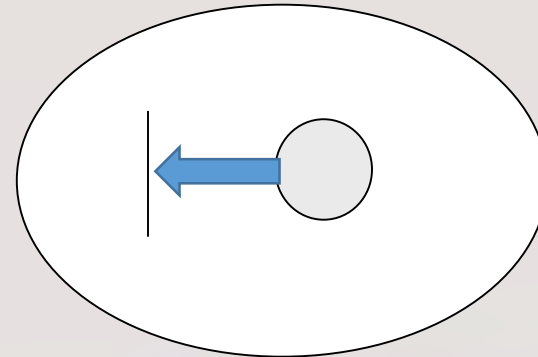
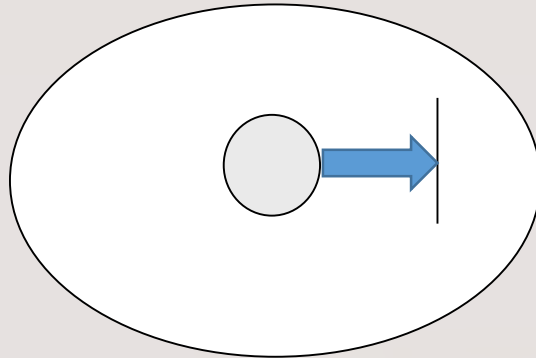
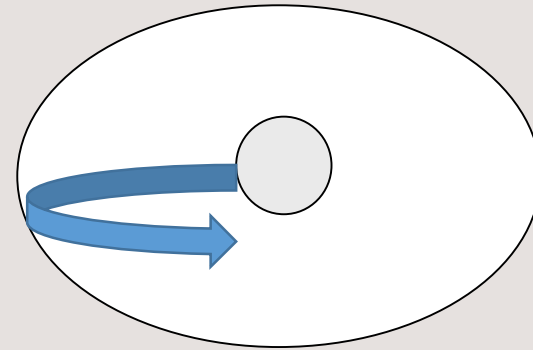
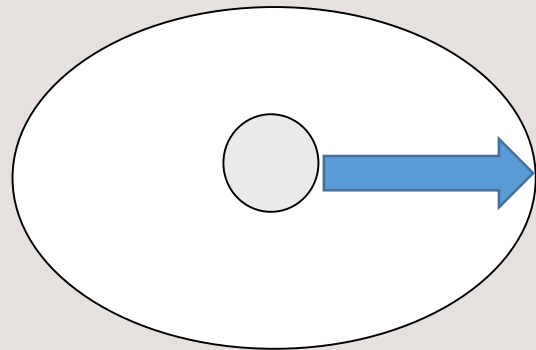
Lack of Convergence

- What is it?
 - The inability of the person's eyes to converge or cross as the person attempts to focus on a stimulus as it is pushed towards the bridge of the nose.
- Drugs Categories that cause LOC
 - CNS Depressants
 - Inhalants
 - Dissociative Anesthetics
 - Cannabis

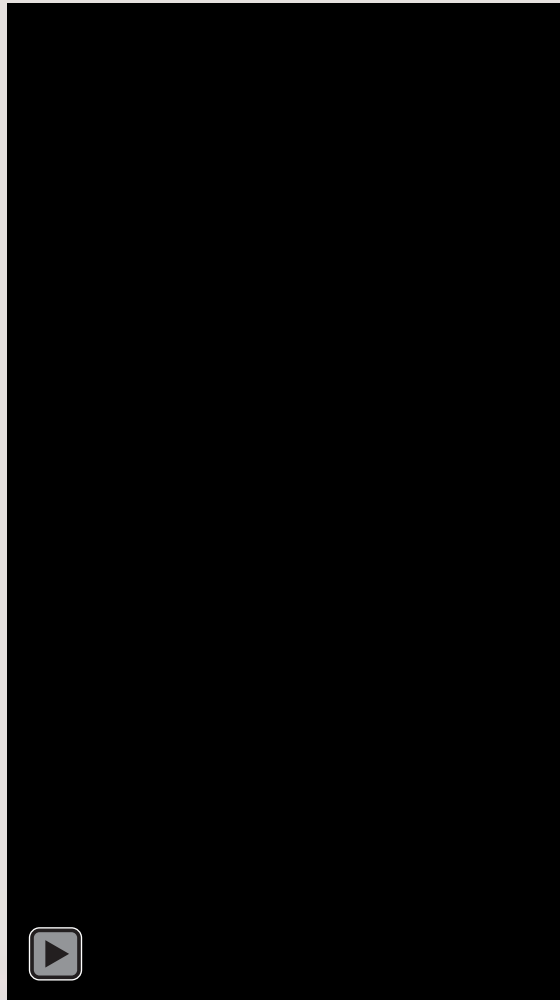


Lack of Convergence

- Reporting results:



Lack of Convergence Example



What will you see?

- No HGN (Typically)
- Lack of Convergence
- Poor balance
- Elevated pulse
 - Duck on a pond
- Eyelid and body tremors
- Residue
- Slurred speech
- Possible dilated pupils



Ingestion and Digestion Time

- Smoking
 - Fastest method
 - Effects happen within seconds of smoking
 - High typically lasts around 4 hours
- Edibles
 - Slowly enters the blood stream
 - Time depends on how fast the particular body digests the edible
 - Typically lasts longer than smoking due to slow release of chemicals



Remember:

Call a DRE if one is available!!!!



Questions?



Thank You!

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