

A CURRENT REVIEW OF ALCOHOL AND OTHER DRUGS

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OUTLINE

- Carl's First and Second "Rule" of studying addictions .
- Basic facts about alcohol and other drugs impact on the human brain .
- A general update on many of the current drugs being used and abused .

**DAWSON'S FIRST "Rule"
OF STUDYING ADDICTIONS**

THERE ARE
NO
ABSOLUTES !

**DAWSON'S SECOND "Rule"
OF STUDYING ADDICTIONS**

**IN ORDER TO WORK
EFFECTIVELY IN THE FIELD
OF ADDICTIONS . . .
YOU MUST UNDERSTAND
HOW THE BRAIN WORKS !!!**

POINTS OF REFERENCE

**THE AVERAGE ALCOHOL BEVERAGE UNIT (B.U.)
“ CONTAINS APPROX. ONE half (1/2) OUNCE OF
ETHYL ALCOHOL “**

**ONE (1)
12-OUNCE
BEER
(4.9 %)
BY VOLUME,
EQUALS ONE
STANDARD
BEVERAGE
UNIT (B.U.).**



**ONE (1)
5-OUNCE GLASS
OF WINE (12 %)
BY VOLUME,
EQUALS ONE
STANDARD
BEVERAGE UNIT
(B.U.).**



**ONE (1)
COCKTAIL
CONTAINING
1.5 OUNCES
OF 80 PROOF
(40 %) BY
VOLUME, EQUALS
ONE STANDARD
BEVERAGE UNIT
(B.U.).**



**A ONE (1)
OUNCE
RECOMMENDED
DOSAGE OF VICKS
NYQUIL CONTAINS
TEN (10 %)
ALCOHOL BY
VOLUME ...
AND SUPPLIED
WITH A NIFTY
SHOT GLASS.**



**ONE (1) 20 ml.
MOUTH FULL
OF LISTERINE
ANTISEPTIC
CONTAINS
(26.9 %)
ALCOHOL BY
VOLUME.**



**Germ-X
Hand Sanitizer,
with Vitamin E,
contains
Sixty Three (63 %)
or 126 proof
Ethyl Alcohol
by volume.**



ALCOHOL INFUSED GUMMY BEARS



QUESTIONS ABOUT THE HUMAN BRAIN

**HOW MANY NEURONS DOES
THE AVERAGE HUMAN BRAIN POSSESS ?**

HOW MANY NEURONS DO WE THINK WITH ?

HOW MANY DO WE NOT THINK WITH ?

HOW DOES A DRUG ENTER THE BRAIN ?

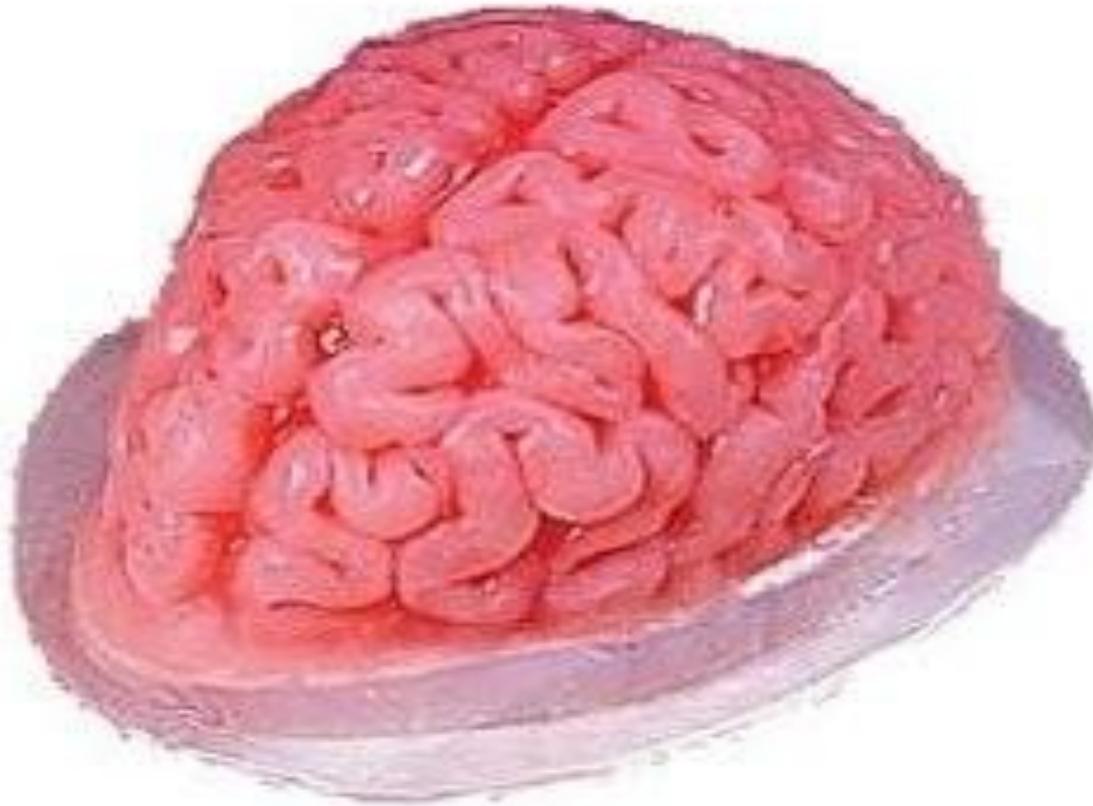
WHERE IN THE BRAIN DOES ADDICTION OCCUR ?

BASIC FACTS AND REGIONS OF THE HUMAN BRAIN



**THE AVERAGE
HUMAN
BRAIN WEIGHS
APPROX.
THREE (3 Lbs.)
POUNDS AND
PRODUCES
APPROXIMATELY
15 WATTS OF
ELECTRICITY.**

The human brain has the same basic texture and consistency of
Jell-O



BLOOD BRAIN BARRIER (BBB)

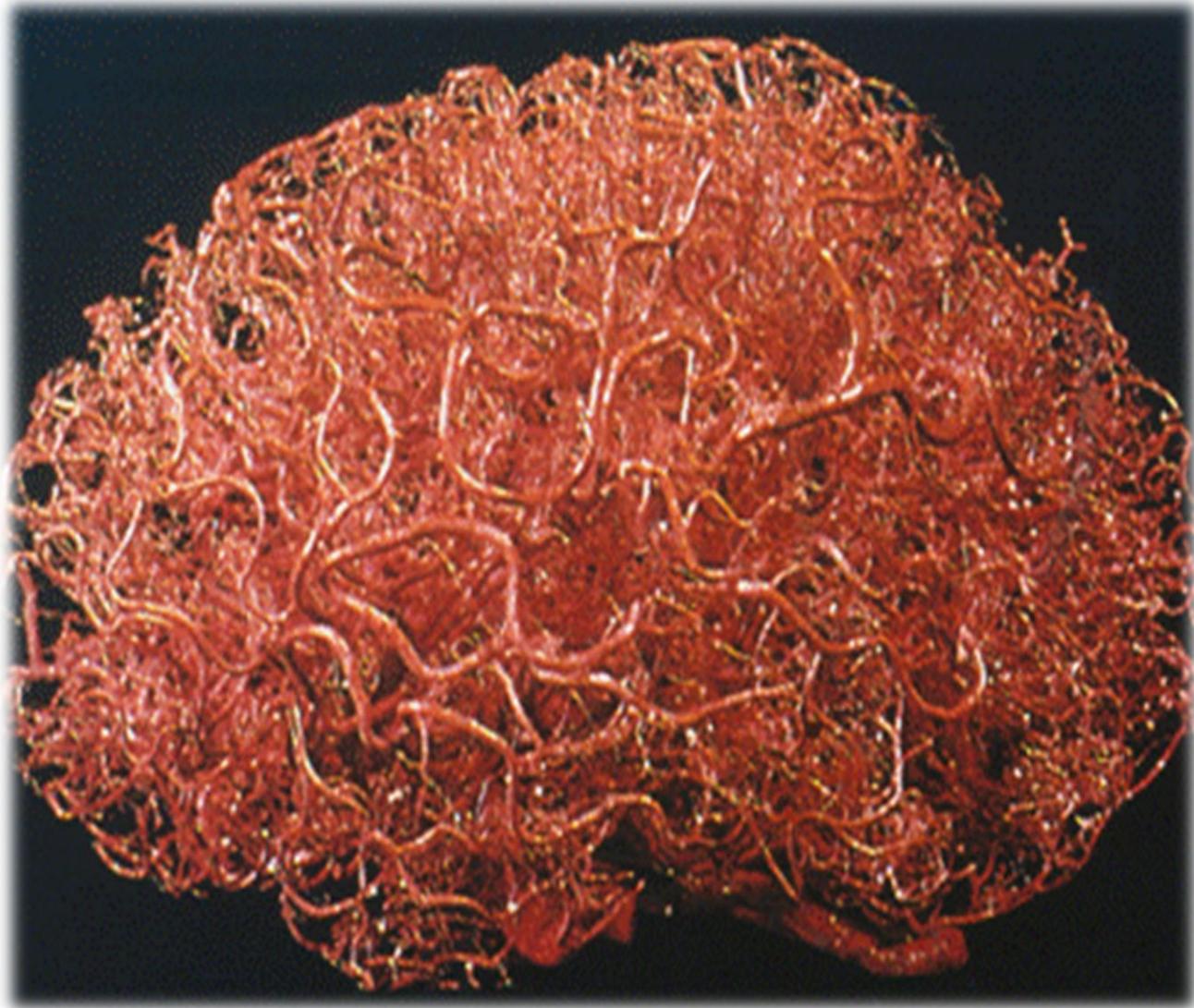
**A REGION OF THE
BRAIN THAT RESTRICTS
ELEMENTS OF THE
BLOOD AND
CEREBROSPIAL
FLUID FROM ENTERING
INTO THE BRAIN.**

**THE BBB PROVIDES
THE BRAIN PHYSICAL
AND CHEMICAL
PROTECTION FROM
PHYSICAL INJURY AND
HARMFUL SUBSTANCES .**

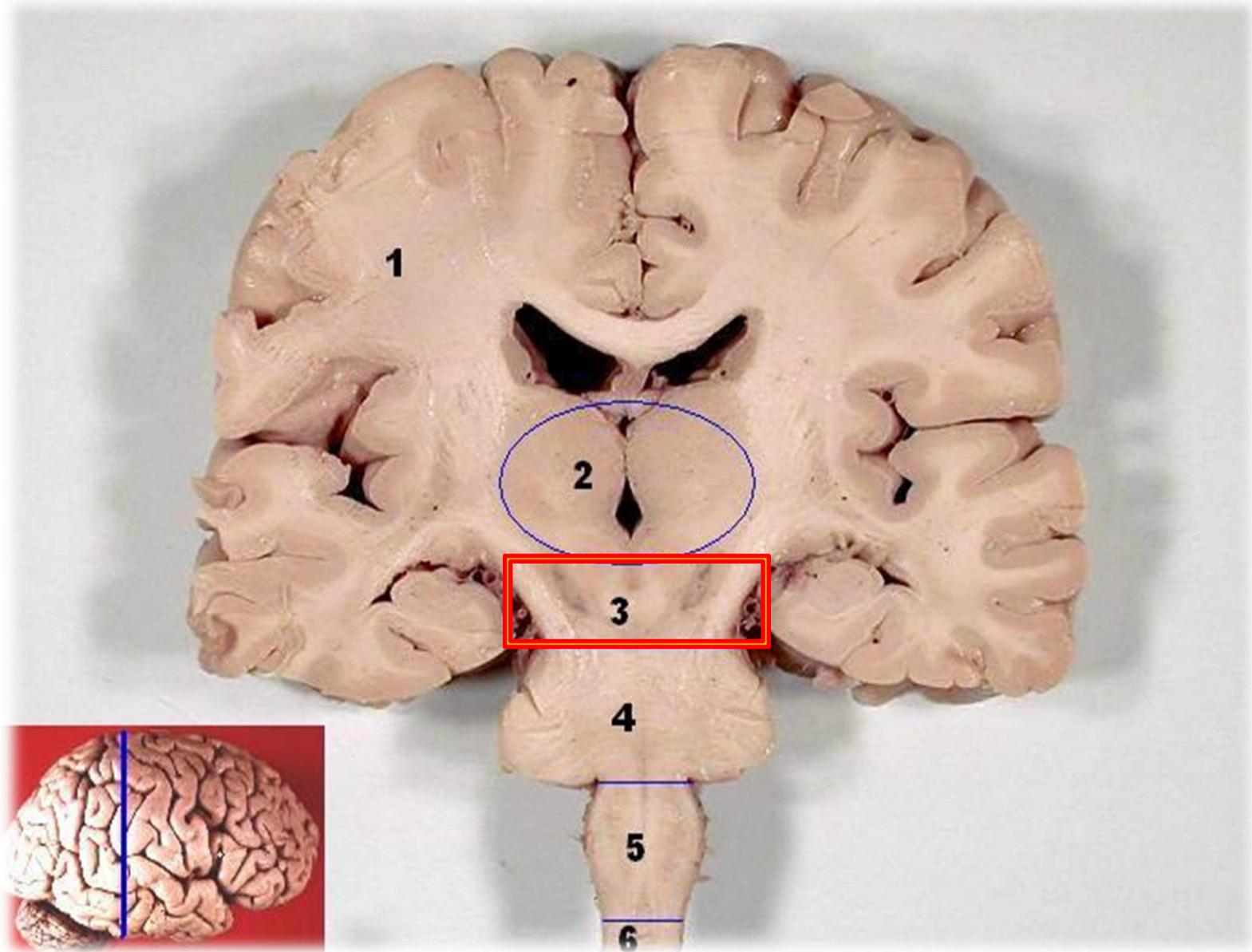
MENINGEAL LAYERS MAKE UP THE BBB



THE BRAIN'S VASCULAR SYSTEM REQUIRES A CONSTANT 20% OF THE BODY'S BLOOD SUPPLY TO MAINTAIN NORMAL ACTIVITY



IMPORTANT REGIONS OF THE BRAIN

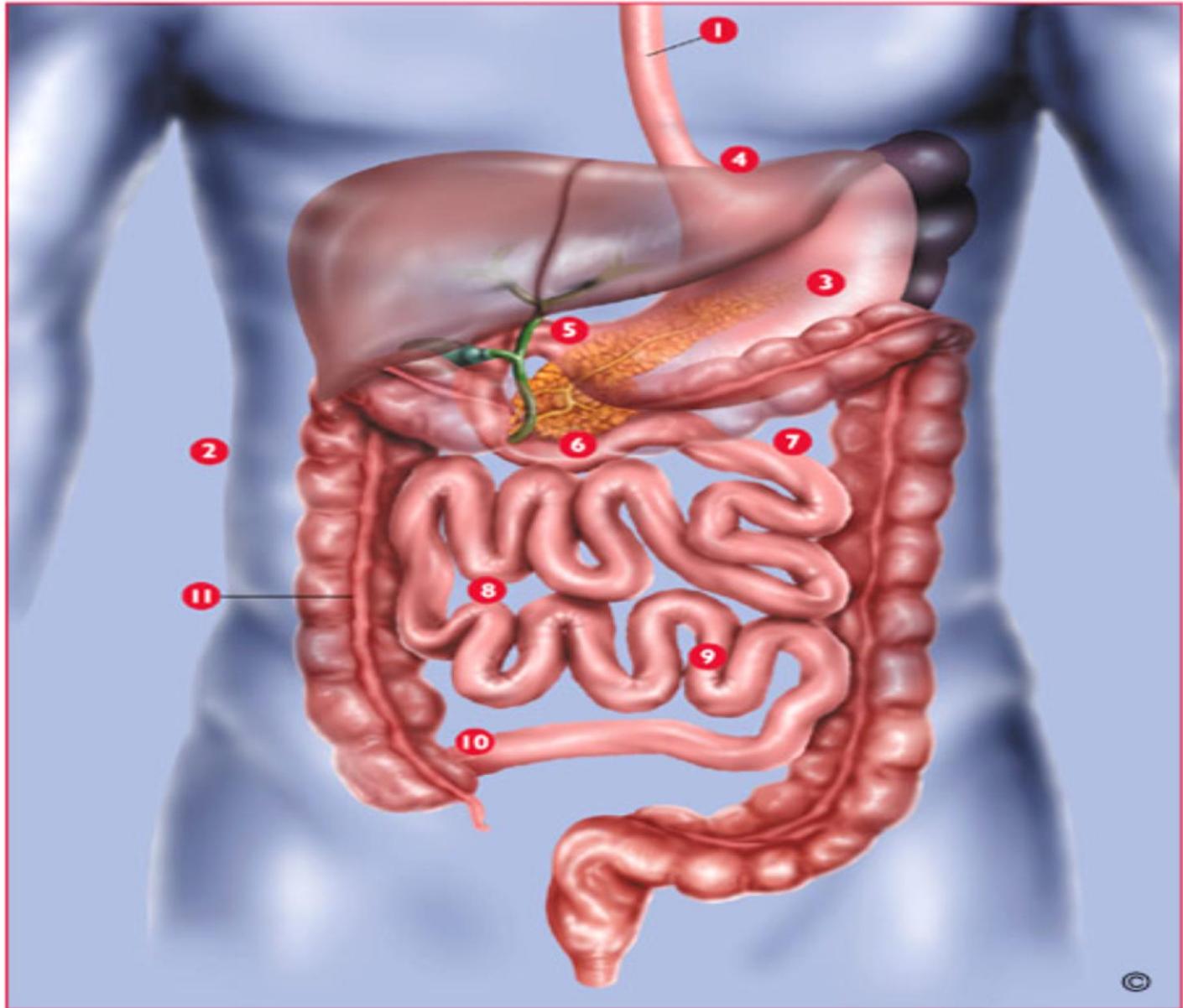


DELIVERING A DRUG TO THE BRAIN

ORAL INGESTION

(Introduction into the body via the mouth)

The Human Digestive System



SUBLINGUAL INGESTION

(Introduced into the body from under the tongue)



INTRANASAL INHALATION
(Insufflation)
“ Snorting ”

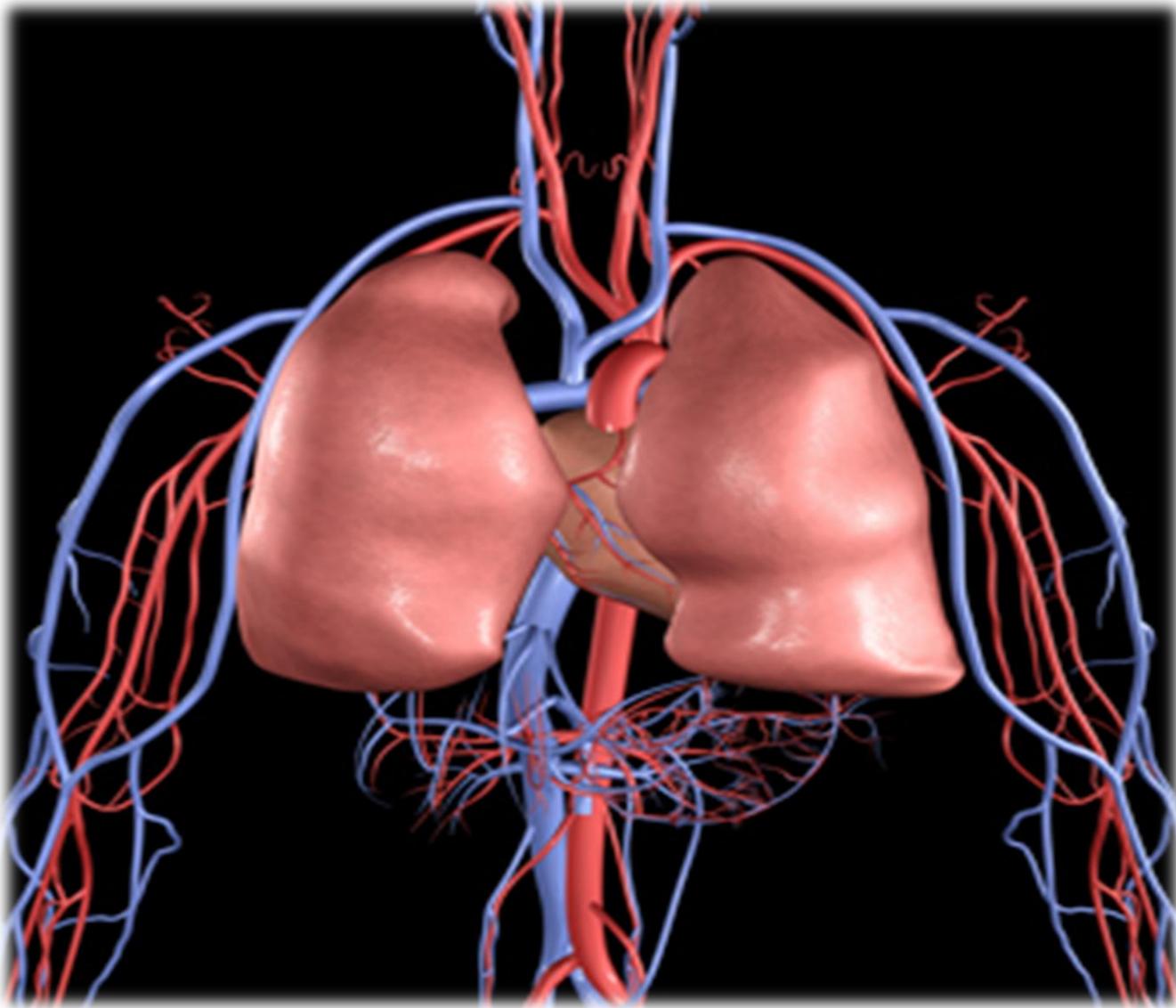


SMOKING INGESTION

(Introduction into the body via the lungs)



SMOKING AND ORAL PATHWAYS TO DELIVER A DRUG



SUBCUTANEOUS

“ Below the Skin “

SUBCUTANEOUS INJECTION SITES “SKIN POPPING” AND INFECTED SCARRING





FIGURE 7: Extensive necrosis secondary to cocaine injection (courtesy Dr. Milton Viana, Belo Horizonte)

TRANSDERMAL PATCH

(Introduced into the body via the skin)



Nicotine
Transdermal
System
14 mg delivered
over 24 hours
NICH 0820

INTRAMUSCULAR

“ Into the Muscle “



INTRAVENOUS

“ Into the Vein “



SCARRED VEINS



OCCLUDED "BLOCKED" AND COLLAPSED VEINS





FIGURE 8: Granuloma (foreign body) along the venous path due to cocaine injection

THE “ FEEL GOOD ” CHEMICALS IN THE BRAIN

THREE (3) PRIMARY NEUROTRANSMITTERS INVOLVED IN SUBSTANCE ABUSE AND DEPENDENCY

- ☐ We are believed to possess Sixty (60) plus neurotransmitters/neuromodulators in the brain and nervous system .

The **Big Three** (3) are the following :

Dopamine (DA) : Involved with pleasure, small and large motor movements and psychosis.

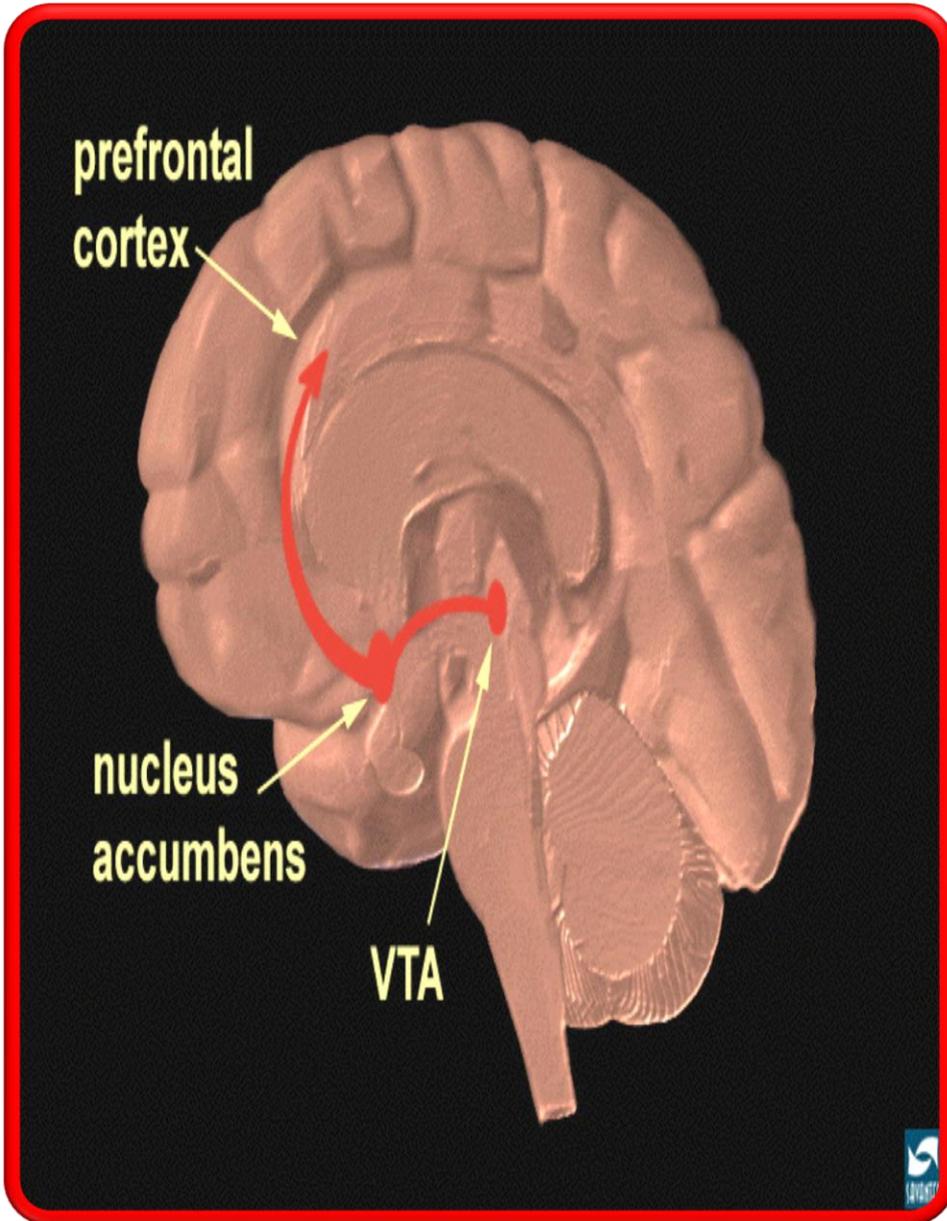
2. **Serotonin** (5ht) : Involved with self-confidence, feelings of well-being, anti-anxiety, anti-depression.

3. **Norepinephrine** (NE) : Stimulates the brains

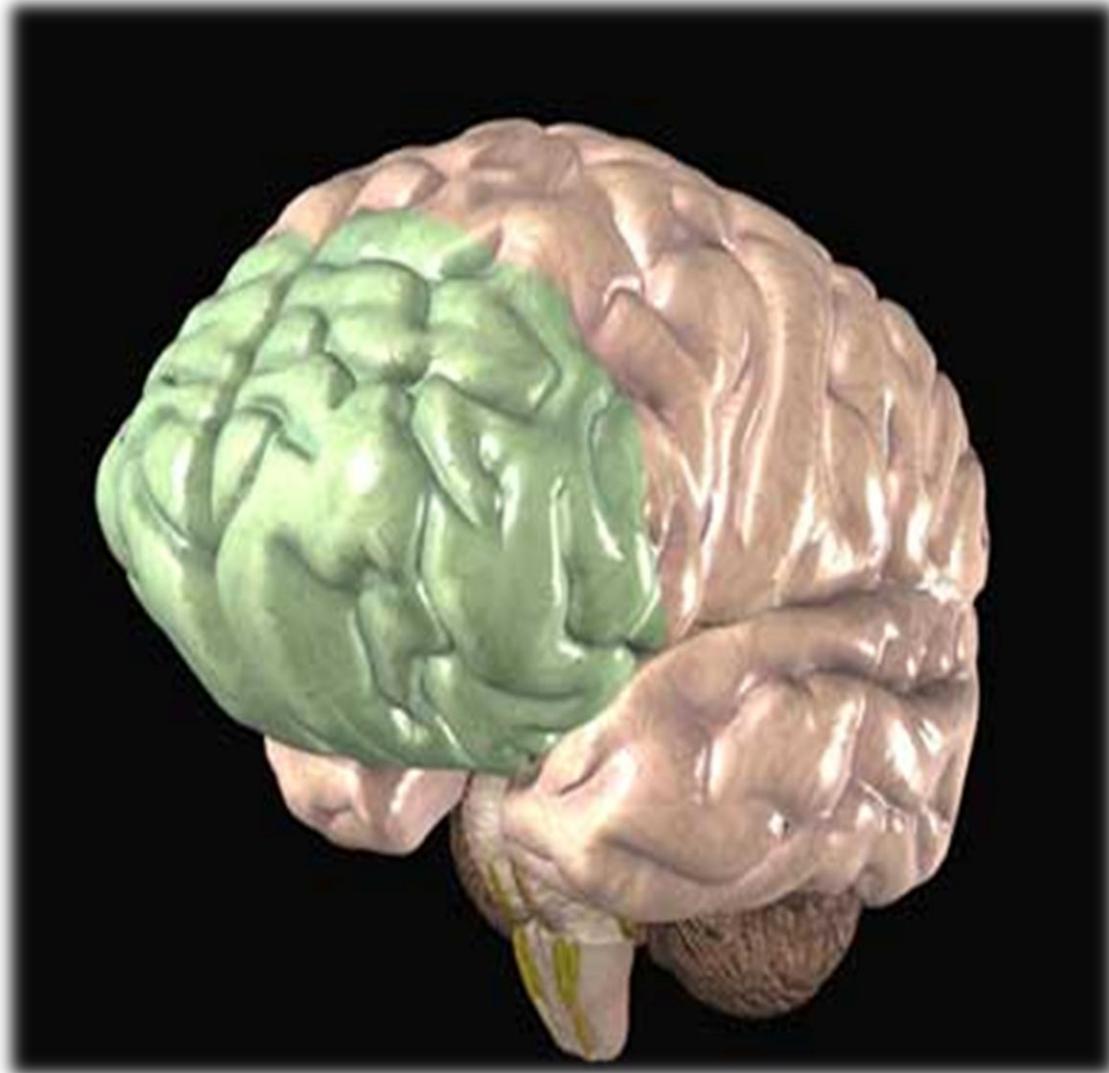
4. four (4) “F” centers.

**THE LOCATION
OF THE
“ FEEL GOOD ”
CENTERS OF
THE BRAIN**

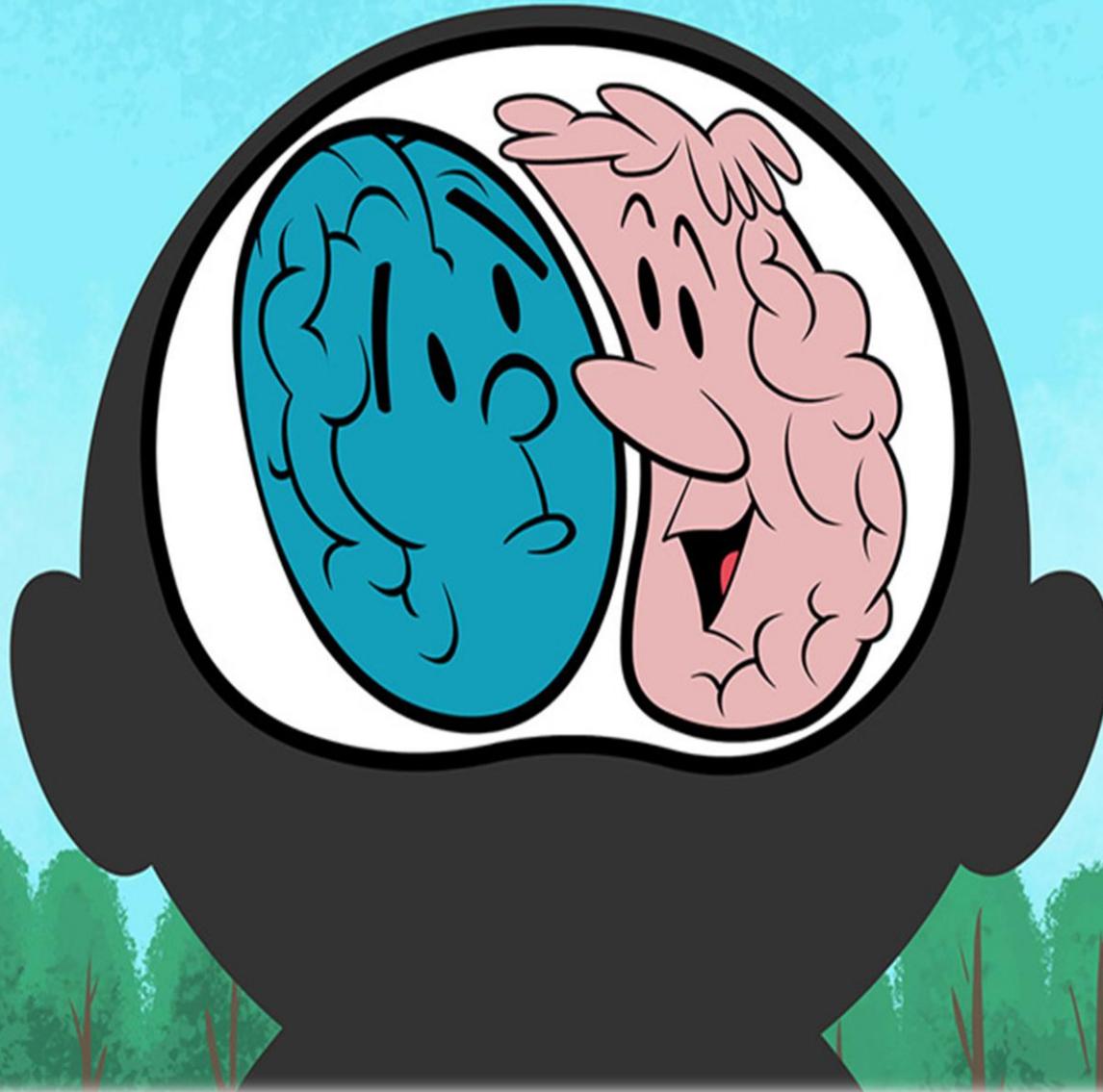
PATHWAYS FOR THE PLEASURE CENTERS IN THE BRAIN



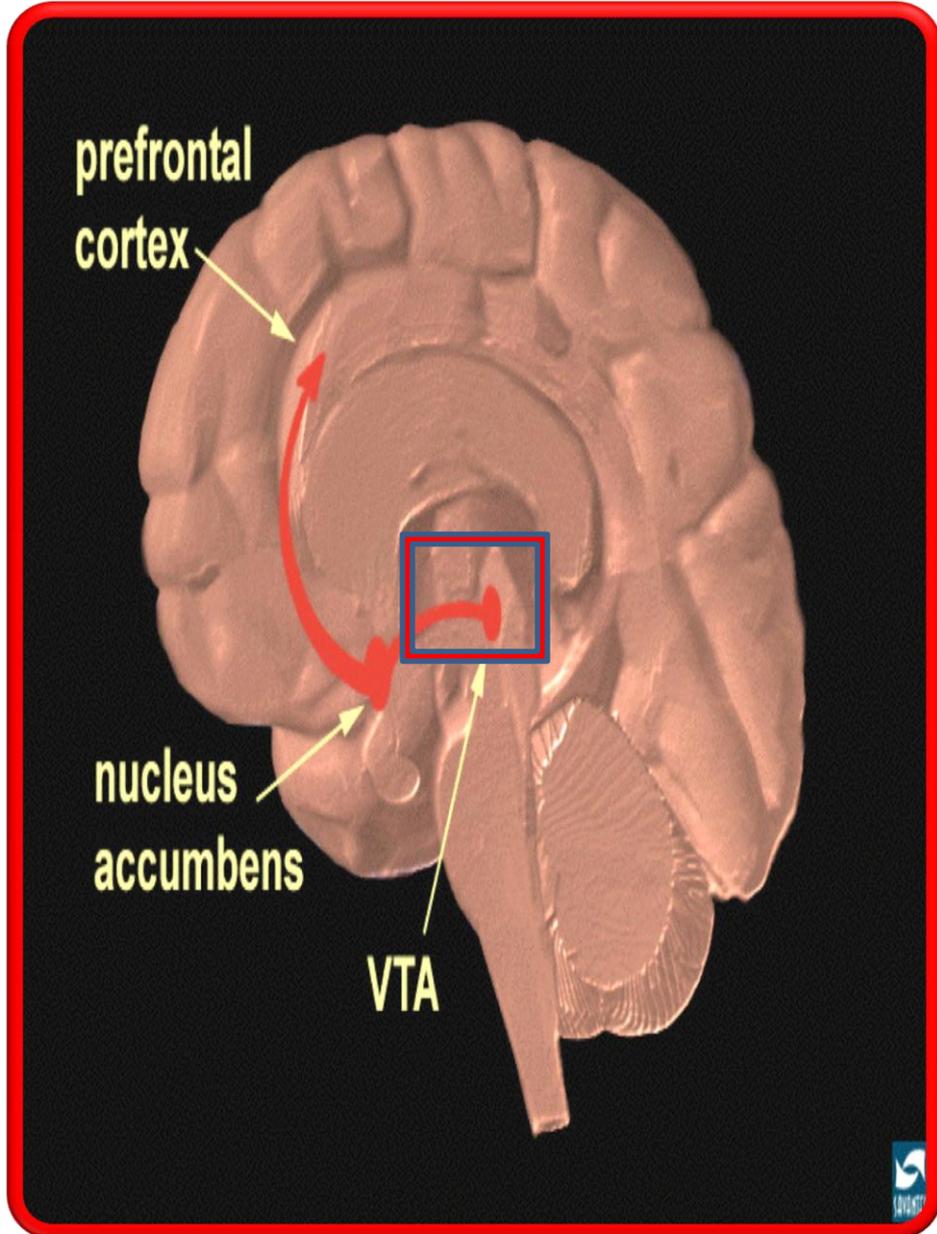
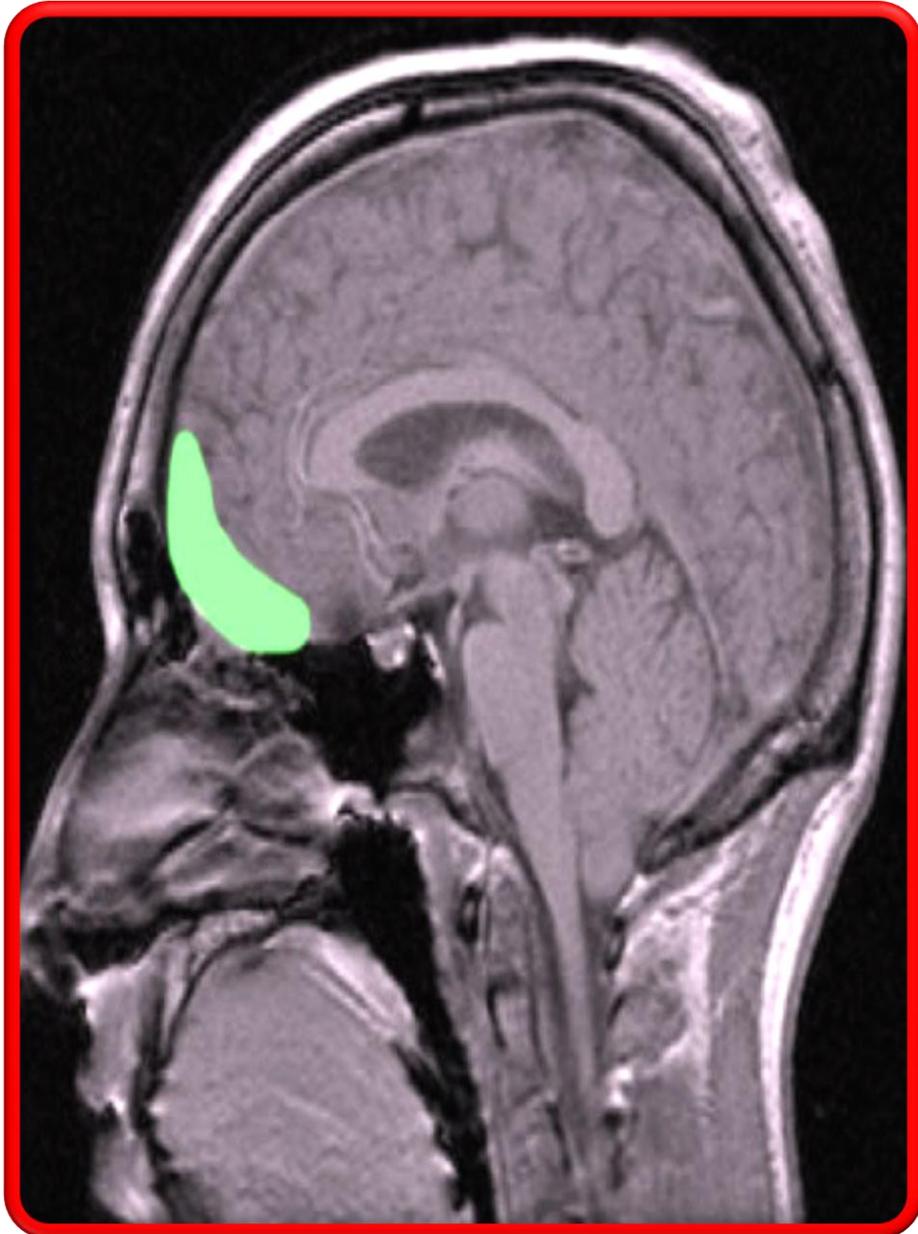
**ORBITAL-FRONTAL LOBES OF THE BRAIN
ARE CENTERS FOR MORAL, ETHICAL AND
PERSONALITY DEVELOPMENT**



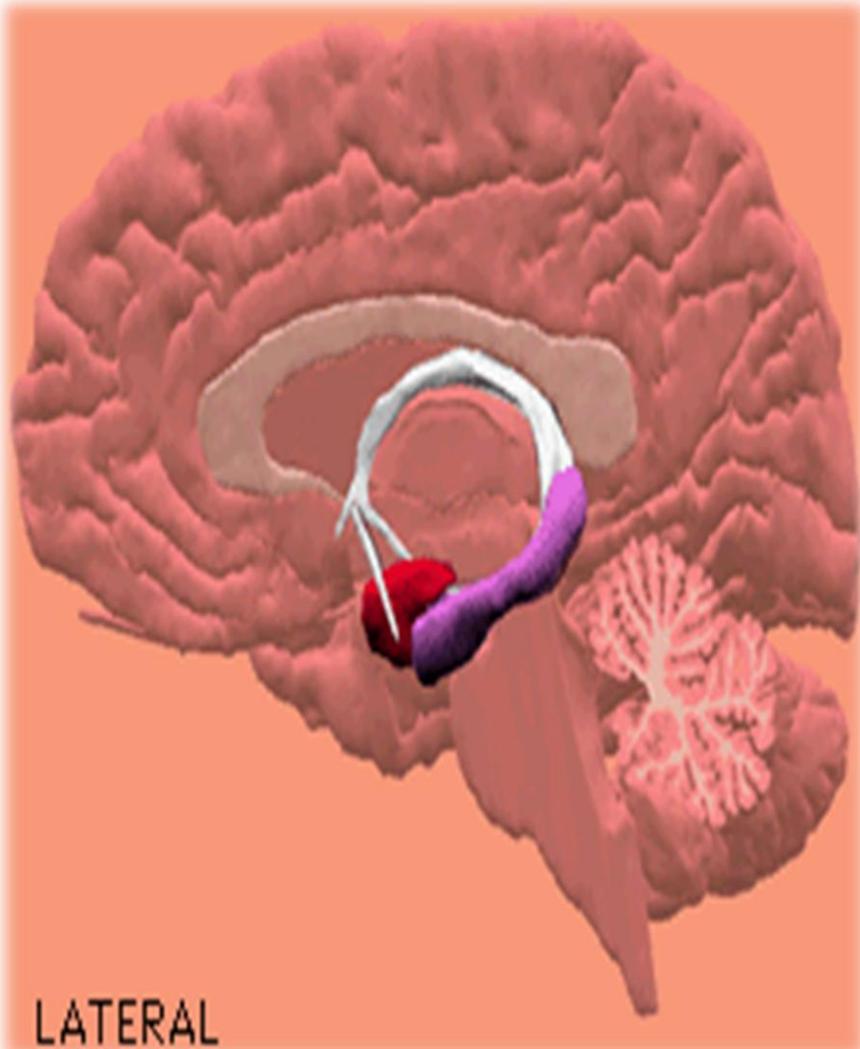
TWO SIDES OF THE HUMAN BRAIN



HOW PLEASURE PATHWAYS EFFECTS DECISION MAKING

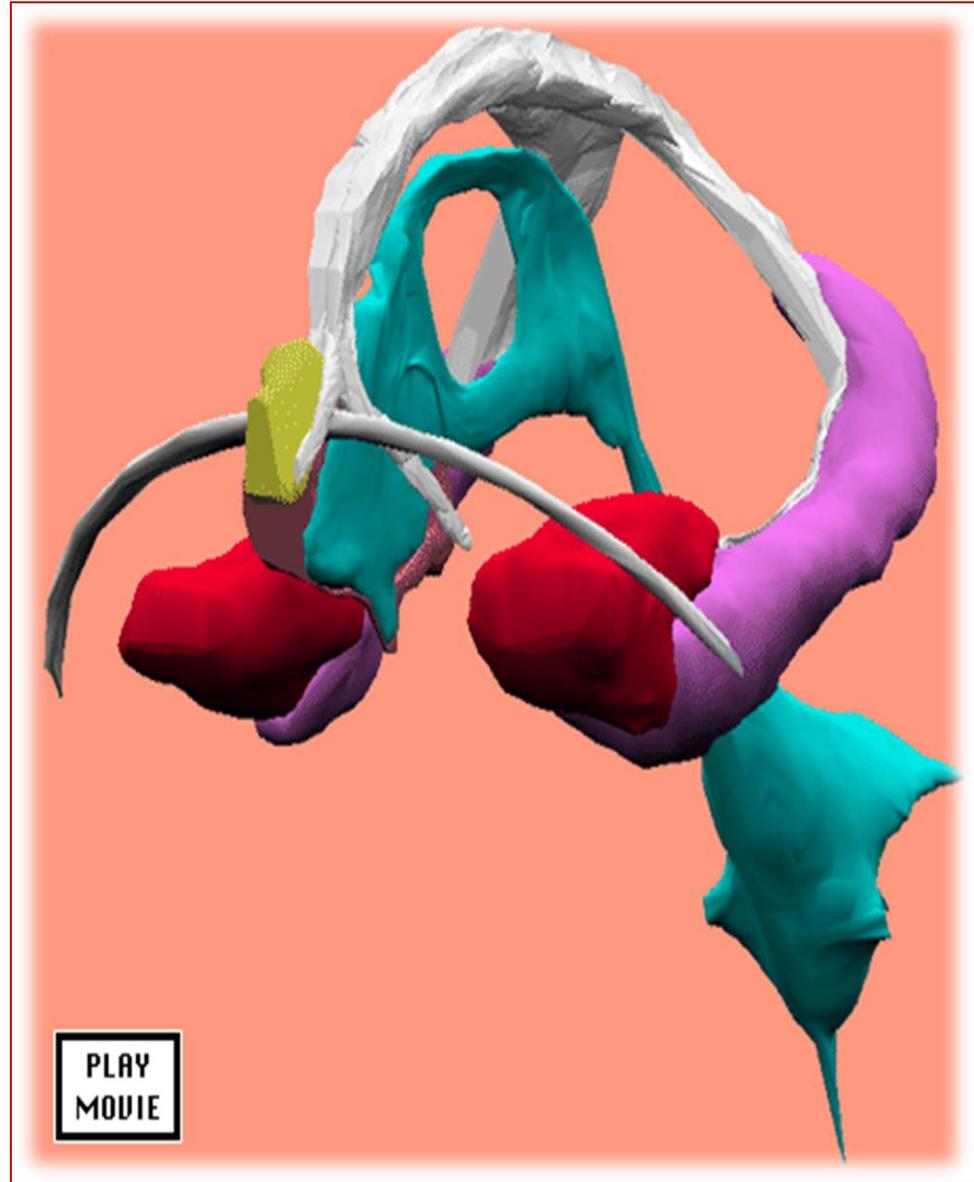


CENTERS WHERE THE BRAIN REMEMBERS PLEASURE

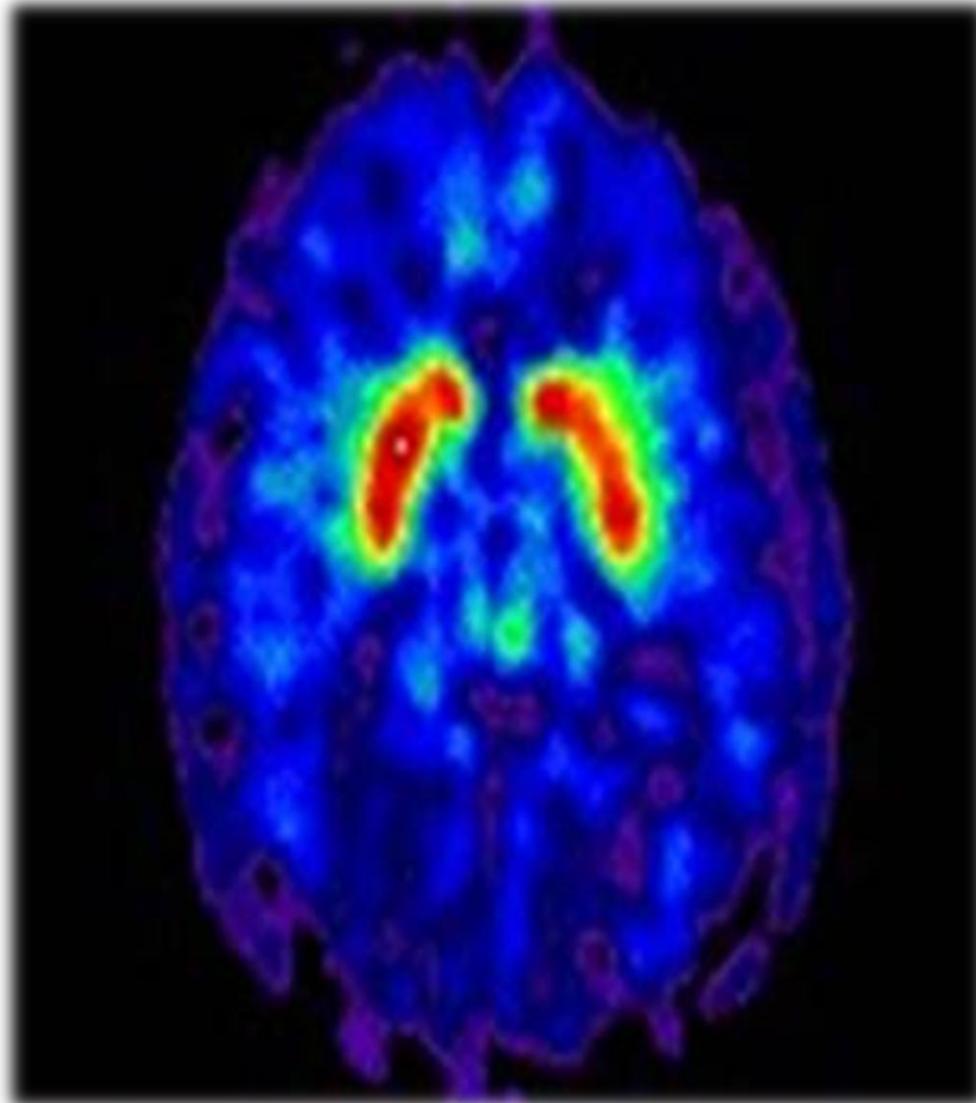


Amygdala : WHERE THE BRAIN DOWNLOADS EMOTIONAL MEMORY

- THE AMYGDALA IS CAPABLE OF DOWNLOADING FEARFUL OR PLEASURABLE EVENTS ON THE FIRST EXPOSURE .
- HOWEVER , EVOLUTION HAS TAUGHT THE AMYGDALA TO BE VERY RELUCTANT TO EVER FORGET WHAT IT HAS LEARNED .
- THIS HELPS EXPLAIN THE WHY PTSD IS DIFFICULT TO TREAT .



**A PET SCAN IMAGE OF THE BRAINS MEMORY CENTERS
RESPONDING TO A PLEASURABLE EVENT**



CENTRALLY-ACTIVATING

(aka: Psycho-active) DRUGS

**ALL DRUGS ARE DESIGNED TO EITHER
IMITATE YOUR BODY'S "FEEL" GOOD
CHEMICALS . . .**

**OVER STIMULATE THEIR PRODUCTION AND
RELEASE . . .OR ALL THE ABOVE**

DEPRESSANTS

(Drugs that “suppress” the activities of the brain)

DEPRESSANT DRUGS THAT DEPRESS THE ACTIVITIES OF THE BRAIN

DEPRESSANT DRUGS INCLUDE THE FOLLOWING :

1. **ALCOHOL** (ANY SUBSTANCE CONTAINING ETHYL ALCOHOL) .
2. **ANTI-ANXIETY AGENTS** :
(BENZODIAZEPINES . . . BARBITURATES) .
3. **SLEEP AIDS** : (SEDATIVE - HYPNOTICS) .
4. **PAIN RELIEF** : (OPIATES / OPIOIDS) .

5. OVER THE COUNTER (OTC)

AGENTS CONTAINING THE FOLLOWING :

COLD AND FLU PREPARATIONS

CONTAINING ...

“ ANTIHISTAMINES “, “ DIPHENHYDRAMINE “,

AND COUGH MEDICATIONS

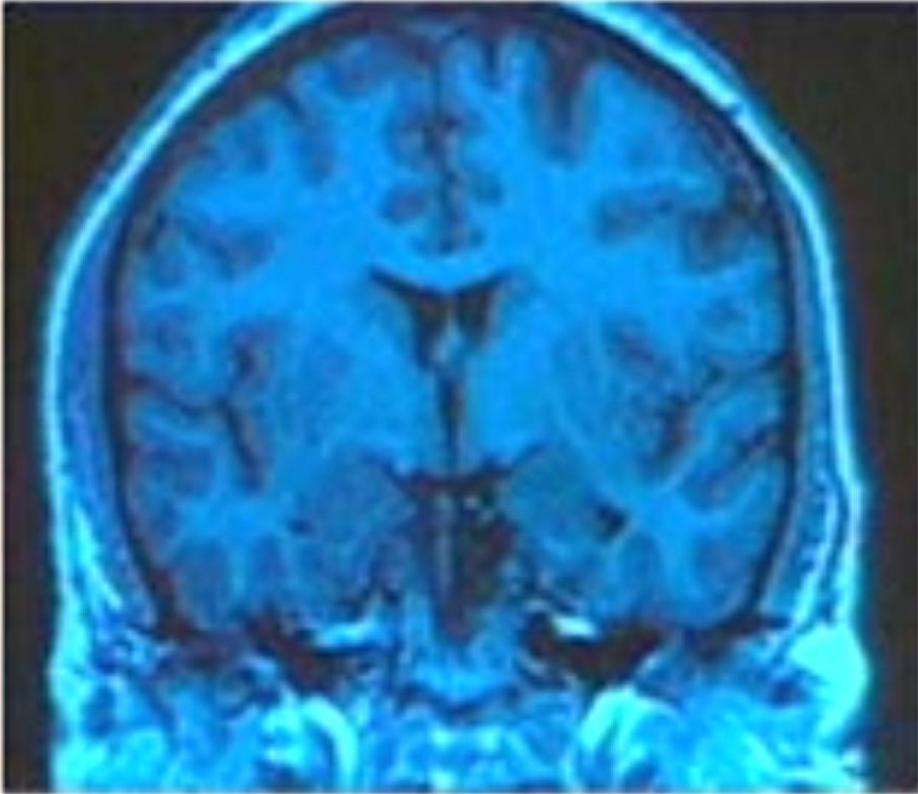
CONTAINING ... “ DEXTROMETHORPHAN “ .

6. ILLICIT DRUGS CONTAINING :

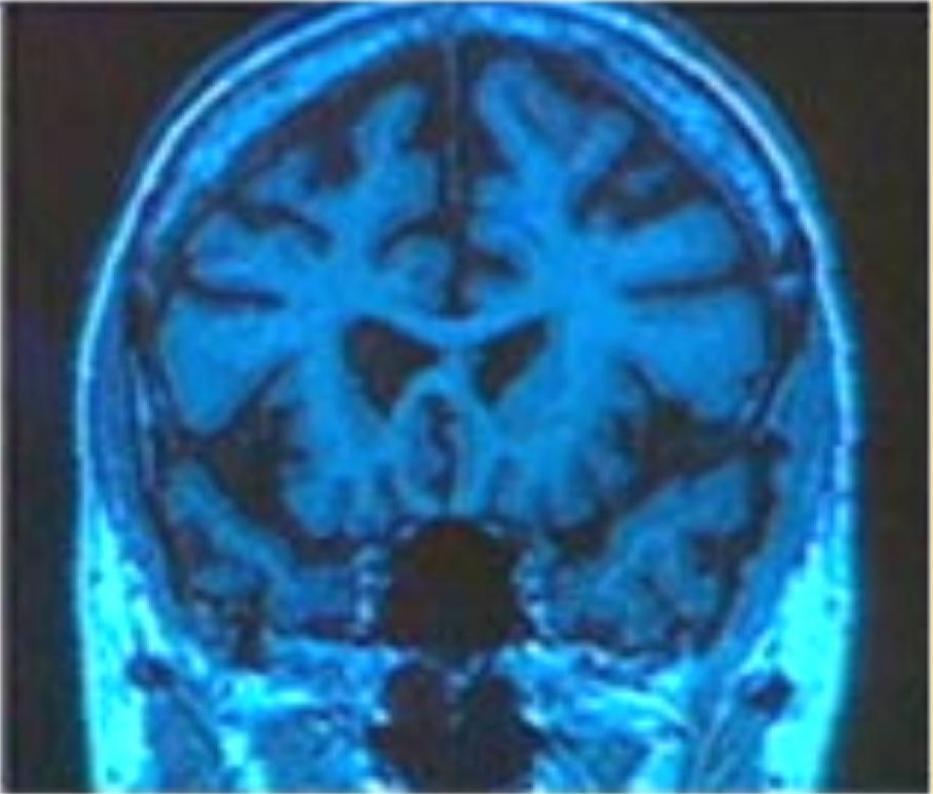
“ MARIJUANA “, “ GHB “ AND “ INHALANTS “ .

ALCOHOL

DOES ALCOHOL REALLY KILL BRAIN CELL ?



Normal
43-year-old



Alcoholic
43-year-old

NO !

ALCOHOL INDIRECTLY DAMAGES THE CELLS OF THE BRAIN THROUGH :

- 1. HYPOXIA : DECREASING THE NECESSARY AMOUNT OF O₂ TO THE BRAIN OVER AN EXTENDED PERIOD OF TIME .**
- 2. MALNUTRITION : DEPLETING THE BODY OF IMPORTANT VITAMINS AND MINERALS NORMAL FOR NEUROLOGICAL FUNCTIONING .**
- 3. LIVER DISEASE : LONG-TERM ALCOHOL EXPOSURE DAMAGES NORMAL LIVER FUNCTIONING WHICH THEN BECOMES TOXIC TO THE BRAIN .**

ALCOHOL :

- 1. CENTRAL NERVOUS SYSTEM DEPRESSANT.**
- 2. PRODUCES AN “ ADDITIVE EFFECT “ ($1+1 = 3$).**
- 3. DEHYDRATE (REDUCES BODY FLUIDS AND H₂O).**
- 4. ASTRINGENT (LIQUID “ SAND PAPER “).**
- 5. STEALS O₂ FROM THE CELLS AND TISSUES OF THE BODY .**
- 5. VASODILATOR (ENLARGES THE BLOOD VESSELS).**
- 6. DEPLETES THE BODY OF NECESSARY VITAMINS AND MINERALS.**
- 7. INVADES EVERY LIVING CELL OF THE BODY.**
- 8. THE LIVER TREATS ALCOHOL AS A POISON (TOXIN)**
- 9. MUST ACT AS EITHER AN OPIATE OR A BENZODIAZEPINE .**
- 10. METABOLIZED BY THE LIVER AT A CONSTANT RATE OF ONE (1) OUNCE PER EVERY TWO (2) HOURS .**

BENZODIAZEPINES

BENZODIAZEPINES

- ◎ **BENZODIAZEPINE MEDICATIONS POSSESS A MILD POTENTIAL FOR ABUSE AND DEPENDENCE CONCERNS .**
- ◎ **BENZODIAZEPINE MEDICATION ABUSE TYPICALLY DOES NOT RESULT IN FATAL OR LETHAL DRUG OVERDOSE .**
- ◎ **BENZODIAZEPINE MEDICATIONS ARE NOT RECOMMENDED WHEN ALSO PRESCRIBED ANTI-ALCOHOL AND ANTI-OPIATE MEDICATIONS .**

BENZODIAZEPINES

- ◎ **BENZODIAZEPINES ARE METABOLIZED BY THE LIVER SIMILAR TO ALCOHOL.**
- ◎ **THEY DIRECTLY INHIBIT LONG-TERM LEARNING BY THE BRAIN.**
- ◎ **BENZODIAZEPINES ARE KNOWN FOR PRODUCING ANTERIOR-GRADE AMNESIA. (ROHYPNOL, VERSED)**
- ◎ **DETOXIFICATION FROM BENZODIAZEPINES MAY TAKE A LONG TIME TO BE EFFECTIVE OR THE POTENTIAL FOR RELAPSE IS HIGH.**

SEDATIVE (HYPNOTICS)
“ SLEEP AIDS “

SEDATIVE (HYPNOTICS) “ SLEEP AIDS ”

- ◎ **SEDATIVE (HYPNOTIC) MEDICATIONS ARE CONSIDERED SLEEP AIDS .**
- ◎ **SEDATIVE (HYPNOTICS) ARE TYPICALLY PRESCRIBED FOR SLEEP DISORDERS (INSOMNIA : DIFFICULTY BEING ABLE TO PRODUCE SLEEP, OR THE INABILITY TO STAY A SLEEP).**
- ◎ **SEDATIVE (HYPNOTICS) ARE CONSIDERED CNS DEPRESSANTS AND ARE CREATED FROM VARIATIONS OF BARBITURATES , BENZODIAZEPINES OR NON-BENZODIAZEPINE MEDICATIONS.**
- ◎ **CURRENTLY MOST SEDATIVE (HYPNOTIC) MEDICATIONS ARE NOT RECOMMENDED TO BE TAKEN LONGER THAN TWO (2) TO SIX (6) WEEKS.**

OPIATES / OPIOIDS

(aka : Narcotics)

PTOSIS and CONSTRICTED PUPILS



- ◎ OPIATE OVERDOSE CAN BE LETHAL , EITHER WHEN USED ALONE AND ESPECIALLY WHEN USED WITH OTHER CNS DEPRESSANTS (1 + 1 = 3) EFFECTS .
- ◎ OPIATE SUBSTANCES ARE LIPOPHILIC (LOVES FAT) . MEANING THEY INFILTRATE INTO THE HIGH PROTEIN AND FAT CONTAINING ORGANS OF THE BRAIN AND BODY . . . QUICKLY . (HEROIN vs. CODEINE)
- ◎ OPIATE ADDICTS BECOMES ADDICTED TO THE “ RUSH ” .
- ◎ OPIATE DRUGS THAT PRODUCE “ LESS OF A RUSH ” ARE LESS FAT-SOLUBLE AND ARE MORE EFFECTIVE IN TREATING OPIATE DEPENDENCE.
(METHADONE AND BUPRENORPHINE)

OPIATES

- ◎ OPIATE SUBSTANCES ARE KNOWN TO PRODUCE PSYCHOLOGICAL AND PHYSICAL ABUSE AND DEPENDENCE.
- ◎ THE MOST COMMON CAUSE OF OPIATE / OPIOID DEATH IS RESPIRATORY ARREST. (STOPS BREATHING)

“ZOHYDRO”



- **THIS SUBSTANCE IS CONSIDERED THE MOST POWERFUL EVER LEGALLY DISPENSED OPIATE ,**
- **CONSIDERED TEN (10x's) MORE POWERFUL THAN VICODIN ,**
- **IDENTIFIED AS PURE HYDROCODONE ,**
- **TIME RELEASED,**
- **USED FOR MODERATE TO SEVERE PAIN,**
- **THE PILLS CAN BE ADULTERATED (CRUSHED) FOR A MORE POWERFUL AND IMMEDIATE HIGH ,**
- **CREATED BY A SAN DIEGO, CALIF COMPANY " ZOGENIX",**
- **HAS THE ADDICTION TREATMENT COMMUNITY SCARED TO DEATH !!!**

DESIGNER OPIATES DRUGS
(KROKODIL)

KROKODIL (DESOMORPHINE)
(Crocodile)



- **THIS IS A DRUG THAT GOT IT'S NAME BECAUSE OF THE GREENISH / SCALY APPEARANCE THAT DEVELOPS AROUND THE REGIONS OF THE INJECTION SITE.**
- **A DESIGNER SEMI-SYNTHETIC OPIATE DRUG INVENTED IN RUSSIA.**
- **THIS DRUG COMBINES CODEINE, GASOLINE, PAINT THINNER, IODINE, HYDROCHLORIC ACID AND RED PHOSPHOROUS.**
- **THIS DRUG IS CONSIDERED TO BE SIX (6) TO TEN (10) TIMES MORE POWERFUL THAN HEROIN.**
- **THE USE OF THIS DRUG WILL RESULT IN LARGE AREAS OF NECROTIC (DEAD) SKIN "ESCARS" TO FORM AROUND THE INJECTION SITES, RESULTING IN ROUTINE INFECTIONS AND AMPUTATIONS.**

KROKODIL DESTROYS HUMAN FLESH AND BONES



CANNABIS
(MARIJUANA and K-2)

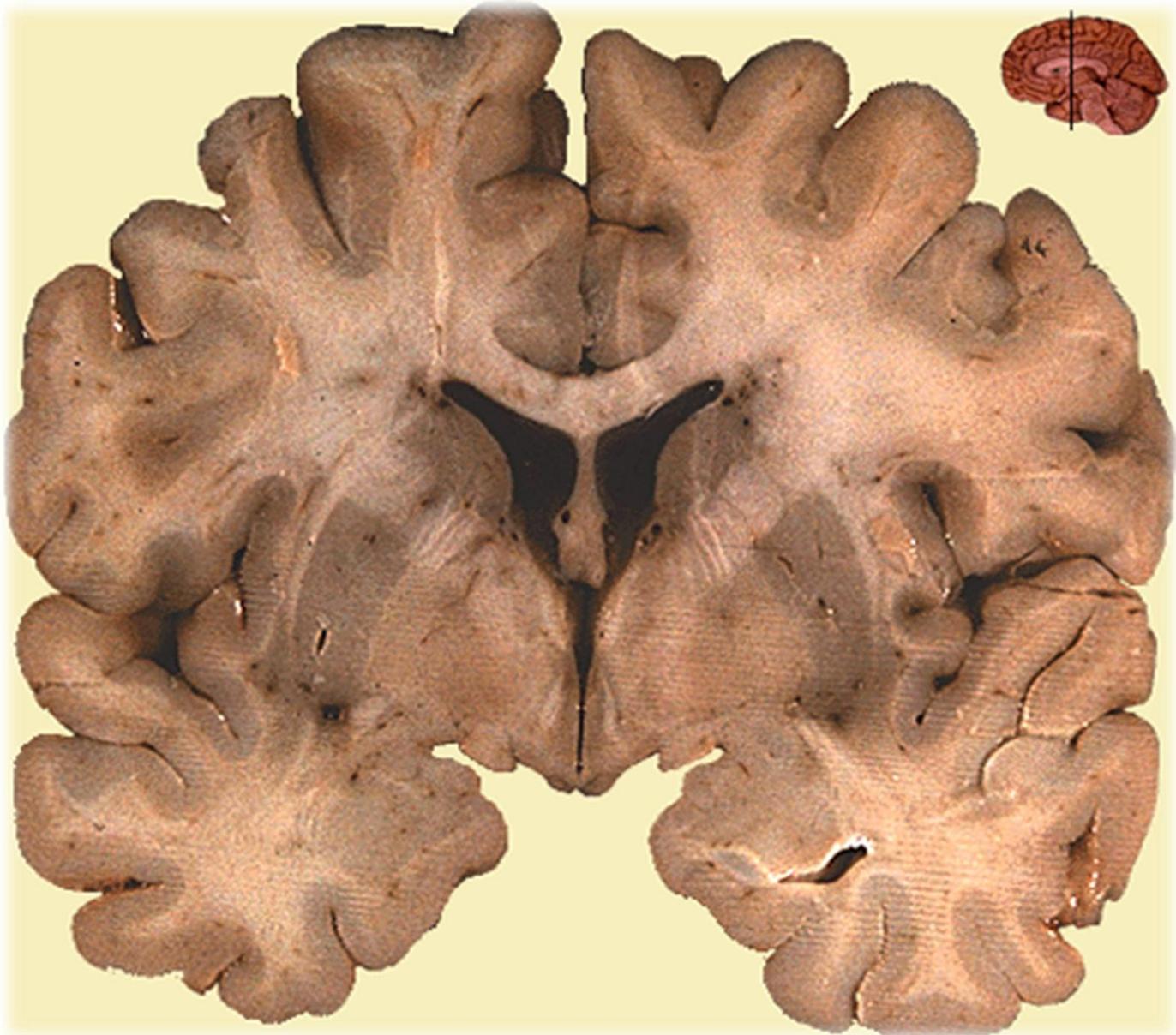
CANNABIS “ MARIJUANA ”

- **CANNABIS “ MARIJUANA ” POSSESS IT’S OWN CLASSIFICATION “ CANNABIS ” .**
- **OVER FOUR HUNDRED SIXTY (460) KNOWN CHEMICALS FOUND IN THE SMOKE OF MARIJUANA .**
- **MORE THAN SIXTY (60) ARE KNOWN TO BE CANABINOIDS .**
- **THE USER IS ATTEMPTING TO ISOLATE TWO (2) CHEMICALS ... ( 8 & 9 - THC) .**

CANNABIS “ MARIJUANA ”

**▲ 8 & 9 - THC ARE ATTRACTED TO THE
HIGH PROTEIN REGIONS OF THE BODY.**

The light regions of the brain represent high areas of protein



▲ 8 & 9 - THC EFFECTS THE ACTIVITY OF THE “ SHORT-TERM ” LEARNING CENTERS OF THE BRAIN .

**DOES THE BRAIN PRODUCE IT'S OWN
MARIJUANA ?**

ENDO-CANNABINOIDS

- VS -

TETRA-HYDRO-CANNABINOIDS

**ENDOCANNABINOIDS ACT AS NEUROCHEMICAL POLICE . . .
DIRECTING EACH NEUROTRANSMISSION . . . AND INSURING . . .
THAT EACH NEUROCHEMICAL ARRIVES SAFELY AT ITS DESIRED DESTINATION .**



TETRAHYDROCANNABINOL IS LIKE LETTING A DRUNK COWBOY DIRECT TRAFFIC!!!



REMEMBER . . .

**SECOND HAND INHALATION OF
MARIJUANA SMOKE WILL NOT
RESULT IN A “POSITIVE”
URINE SCREENING ANALYSIS !!!**

**MY ITALIAN MOTHER WARNED ME
THAT
IF I EVER SMOKED MARIJUANA
THAT MY
TESTICULES WOULD DRY UP AND
FALL OFF !!!!**

FACT OR FICTION

IS MY MOM RIGHT ???

YES !!!

RESEARCH CONDUCTED AT THE
“ FRED HUTCHINSON CANCER CENTER “
SEATTLE , WASHINGTON ... FOUND THAT
SINCE THE MALE TESTIES POSSESS A HIGH
NUMBER OF ENDOCABINOID RECEPTORS ,
THEY WERE **TWICE (2 X 's)** AS LIKELY TO
DEVELOP A FORM OF AN EXTREMELY FAST
SPREADING **CANCER** , KNOWN AS
“ **NONSEMINOMA** “ , THAN NON-SMOKERS ..

The logo features a central silver circle with a fine grid pattern. Inside the circle, the text "K2" is written in a large, bold, serif font, with "K" in dark red and "2" in black. Below "K2", the word "Botanicals" is written in a smaller, black, serif font. The circle is surrounded by intricate, symmetrical scrollwork in red and white. Two stylized, winged figures, resembling phoenixes or dragons, are positioned on either side of the circle, facing outwards. The background is a dark, almost black, field filled with dense, repeating red and white floral and scroll patterns.

K2
Botanicals

K-2 “ SPICE “ (SYNTHETIC CANNABIS)

- **CREATED IN THE MID. 1990’s BY JOHN W. HUFFMAN (jwh), CLEMSON UNIVERSITY .**
- **CENTRALLY ACTIVE INGREDIENTS INCLUDE :
(jwh-018 , jwh-073 , jwh-397 , jwh-250 and cr-47497)**
- **THE SYNTHETIC CANNABIS IS SPRAYED ON APPROXIMATELY THREE (3) GRAMS OF DRIED VEG. MATTER .**

- **THE SYNTHETIC CANNABIS IS A FULL CANNABINOID RECEPTOR AGONIST.**
- **CONSIDERED 5 x's MORE POWERFUL THAN MARIJUANA (THC).**
- **MARKETED AS "HERBAL INCENSE" AND "HERBAL SMOKING BLENDS".**
- **SYNTHETIC CANNABIS DOES NOT TEST POSITIVE FOR CANNABINOIDS IN A REGULAR URINE SCREEN BUT IT METABOLITES CAN BE FOUND IN HUMAN URINE.**
- **ON MARCH 1, 2011, THE U.S. DEA CLASSIFIED ALL FIVE (5) SYNTHETIC CANNABINOIDS AS SCHEDULE I DRUGS.**

DELIRIANTS

“ INHALANTS ”

DELIRIANTS “ INHALANTS ”

- DELIRIANTS “ INHALANTS ” INCLUDE :
SOLVENTS, GLUES , GASOLINE AND FREON
BASED PRODUCTS .

DELIRIANTS “ INHALANTS ” FREQUENTLY
PRODUCE BIZARRE , VIVID AND FRIGHTENING
SENSORY HALLUCINATIONS DUE TO A SIGNIFICANT
LACK OF OXYGEN TO THE BRAIN , ALSO KNOWN AS :

* HYPOXIA (REDUCED O₂)

* ANOXIA (NO O₂) .

HALLUCINOGENS

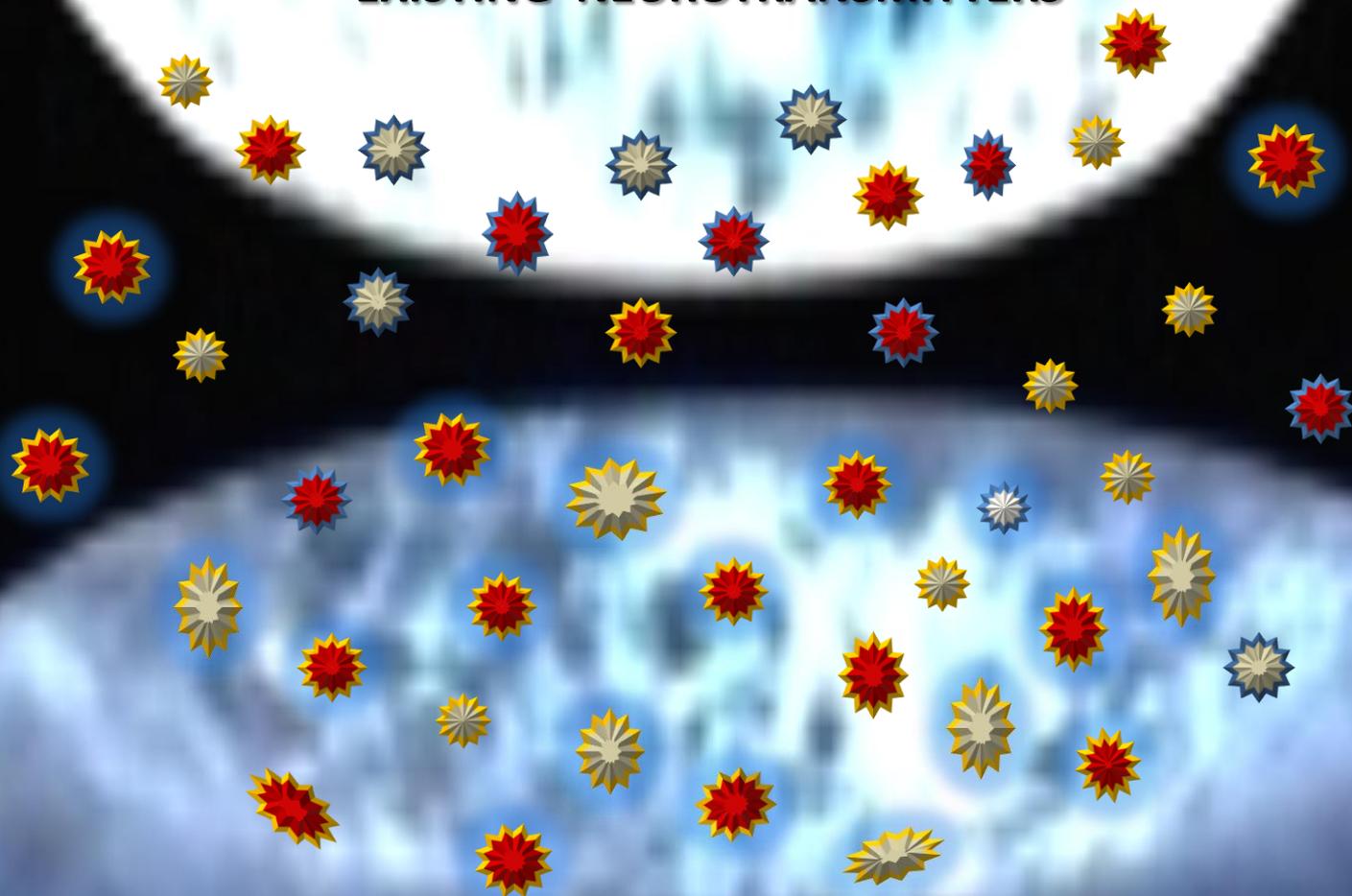
HALLUCINOGENS

HALLUCINOGENIC DRUGS INCLUDE :

1. LYSERGIC ACID DIETHYLAMIDE (LSD) “ Acid ” .
2. MESCALINE “ Found in Peyote cactus ” .
3. PEYOTE “ Cactus ” .
4. PSILOCYBIN “ Magic Mushrooms ” .
5. MDA and MDMA “ Ecstasy ”
6. PHENCYCLIDINE (PCP) “ Angel Dust ” .
7. KETAMINE Special “ K ” .

Remember: These drugs release the neurotransmitter Serotonin .

HALLUCINOGENIC DRUGS MIMIC EXISTING NEUROTRANSMITTERS



STIMULATE (Drugs that “ activate “ the brain)

* COCAINE ,

* AMPHETAMINES ,

* METHAMPHETAMINES

* MDMA

* MEPHEDRONE-Cathinone (MCAT, Bliss, Plant food)

STIMULANT DRUGS INCLUDE

THE FOLLOWING :

WEIGHT CONTROL , ANTI-SLEEP ,

ANTI - (ADD / ADHD) MEDICATIONS :

(AMPHETAMINES , PHENTERMINES) ...

(RITALIN , CYLERT AND ADDERALL).

OVER THE COUNTER (OTC)

PRODUCTS CONTAINING ...

EPHEDRINE / EPHEDRA OR

PSEUDOEPHEDRINE .

**MDMA “ ECSTASY ” OR “ DESIGNER ”
DRUGS THAT INCLUDE ANY OF THE
MENTIONED STIMULANT SUBSTANCES .**

**ILLICIT SUBSTANCES INCLUDING :
AMPHETAMINES , METHAMPHETAMINES
(D 1 – 4) , “ ICE ” ...**

COCAINE “ POWDER ” OR “ CRACK ” ...

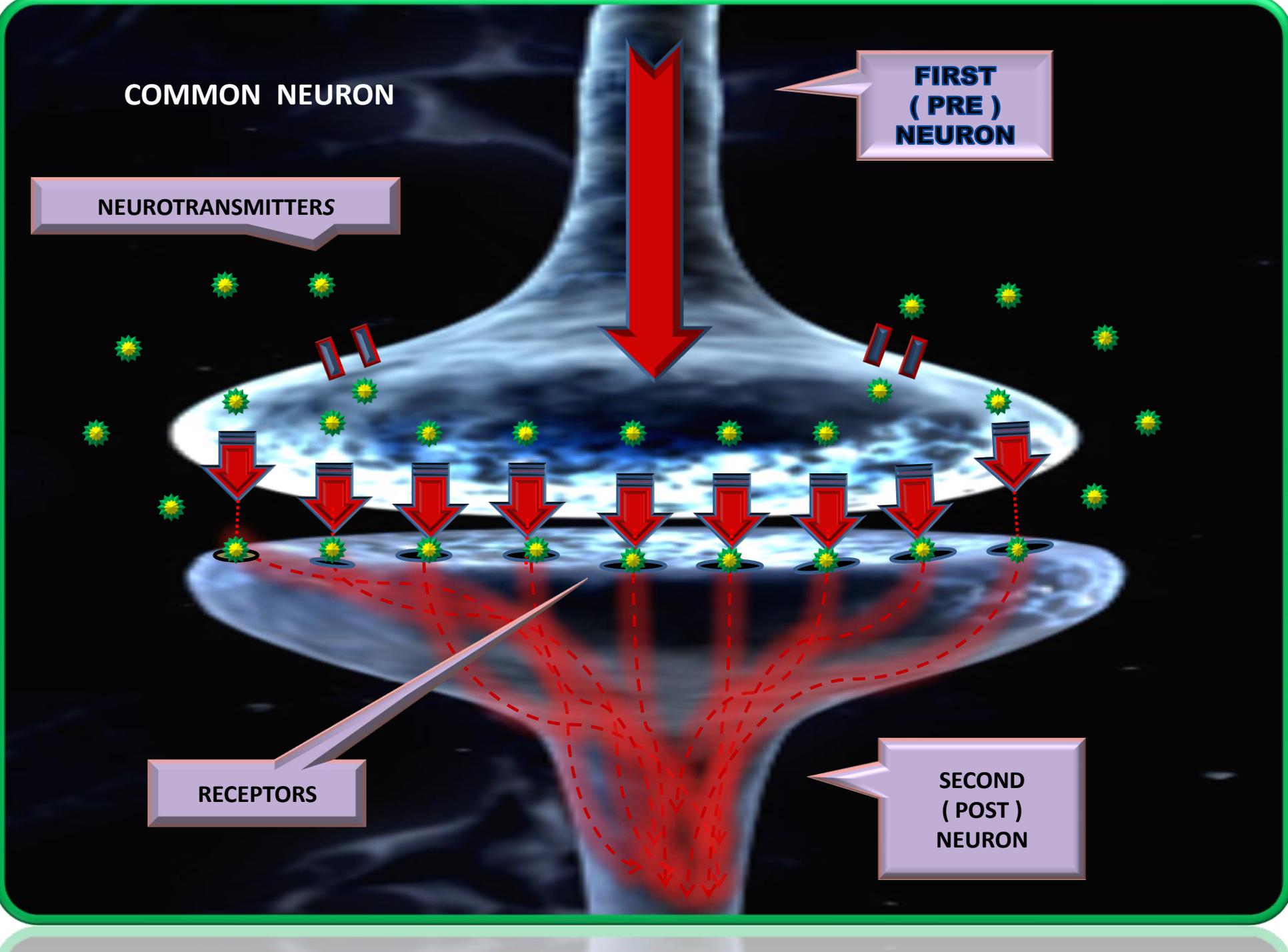
COMMON NEURON

**FIRST
(PRE)
NEURON**

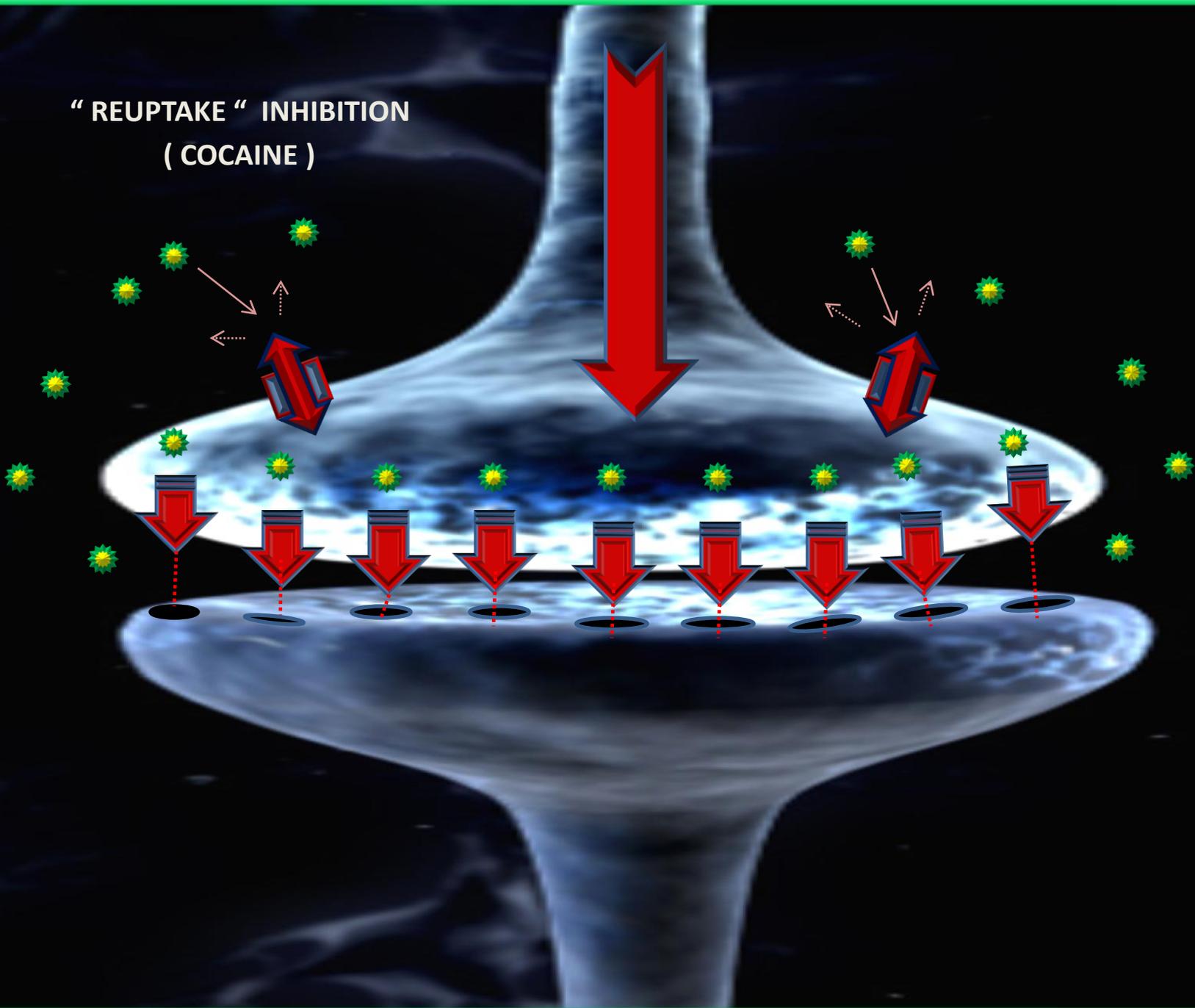
NEUROTRANSMITTERS

RECEPTORS

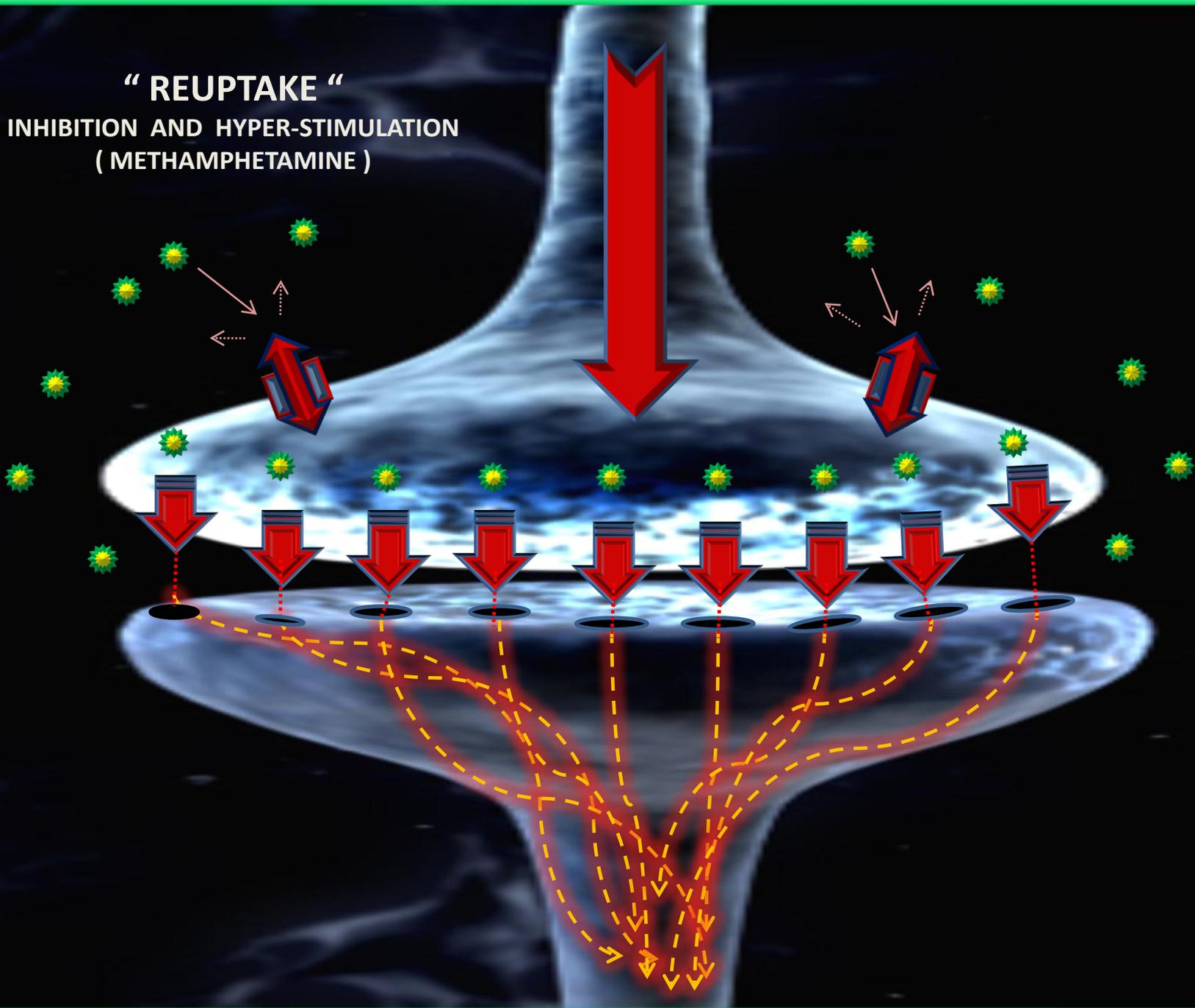
**SECOND
(POST)
NEURON**



“ REUPTAKE “ INHIBITION
(COCAINE)



“ REUPTAKE ”
INHIBITION AND HYPER-STIMULATION
(METHAMPHETAMINE)



PERCENTAGES OF DOPAMINE (DA) DURING THE FOLLOWING EVENTS

ASSUME THAT NORMAL BASELINE IS ZERO .

(0)

**SINCE DOPAMINE (DA) IS THE
BRAINS MOST POWERFUL “ PLEASURE ”
CHEMICAL . . . HOW MUCH DOPAMINE (DA)
IS TYPICALLY RELEASED DURING
FOLLOWING ACTIVITIES ???**

PERCENTAGES OF DOPAMINE (DA) RELEASED

APPROXIMATELY HOW MUCH (DA) IS
RELEASED DURING A SEXUAL ENCOUNTER ?

(%)

ABOVE (- 0 -) BASELINE !
... FOR APPROXIMATELY (20) MINUTES !

PERCENTAGES OF DOPAMINE (DA) RELEASED

APPROXIMATELY HOW MUCH (DA) IS
RELEASED WHEN USING MARIJUANA ?

(%)

ABOVE (- 0 -) BASELINE !...

... FOR APPROXIMATELY (2) HOURS !

PERCENTAGES OF DOPAMINE (DA) RELEASED

APPROXIMATELY HOW MUCH (DA) IS
RELEASED WHEN USING COCAINE ?

(%)

ABOVE (- 0 -) BASELINE !...

... “ CRACK ” COCAINE FOR
APPROXIMATELY (10 TO 15) MINUTES ...

... “ POWDER ” COCAINE FOR
APPROXIMATELY (20 TO 60) MINUTES .

PERCENTAGES OF DOPAMINE (DA) RELEASED

APPROXIMATELY HOW MUCH (DA)
IS RELEASED WHEN USING (D - 4)
METHAMPHETAMINE ?

(%)

ABOVE (- 0 -) BASELINE ! . . .

. . . FROM (12) TO (24) HOURS .

**DESIGNER “ HALLUCINOGENIC-STIMULANT “ DRUGS
(MDMA “ ECSTASY “)**



MDMA (METHYLENEDIIOXYMETHAMPHETAMINE)

- **MDMA (ECSTASY) IS THE MOST POPULAR RECREATIONAL DRUG .**
- **MDMA IS A POWERFUL SERITONERGIC (SEROTONIN “ 5HT” RELEASING) DRUG .**
- **MDMA BLOCKS THE REUPTAKE OF SEROTONIN SIMILAR TO SSRI ANTI-DEPRESSANT MEDICATIONS .**
- **GENERAL EFFECTS BEGAN APPROXIMATELY 30-60 MINUTES AFTER CONSUMPTION , MAINTAINING A PLATEAU FOR 2-3 HOURS , FOLLOWED BY A 2-3 HOUR COME DOWN .**

**DESIGNER “ HALLUCINOGENIC-STIMULANT “
DRUGS (MEPHEDRONE “ MCAT “)**



MEPHEDRONE (4-METHYLEPHEDRONE)

- **MEPHEDRONE IS A SYNTHETIC STIMULANT.**
- **MEPHEDRONE PRODUCES SIMILAR EFFECTS TO MDMA , AMPHETAMINES AND COCAINE.**
- **MEPHEDRONE CAN BE TAKEN :**

**ORALLY : INTENDED EFFECTS
OCCUR WITHIN 15-45 MINUTES.**

**NASALLY : INTENDED EFFECTS
OCCUR WITHIN 30 MINUTES.**

- **THE EFFECTS LAST BETWEEN 2 TO 3 HOURS AND ONLY 30 MINUTES WHEN TAKEN INTRAVENOUSLY.**

PUMP-IT POWDER OR “GERANAMINE” METHYLEHEXANAMINE



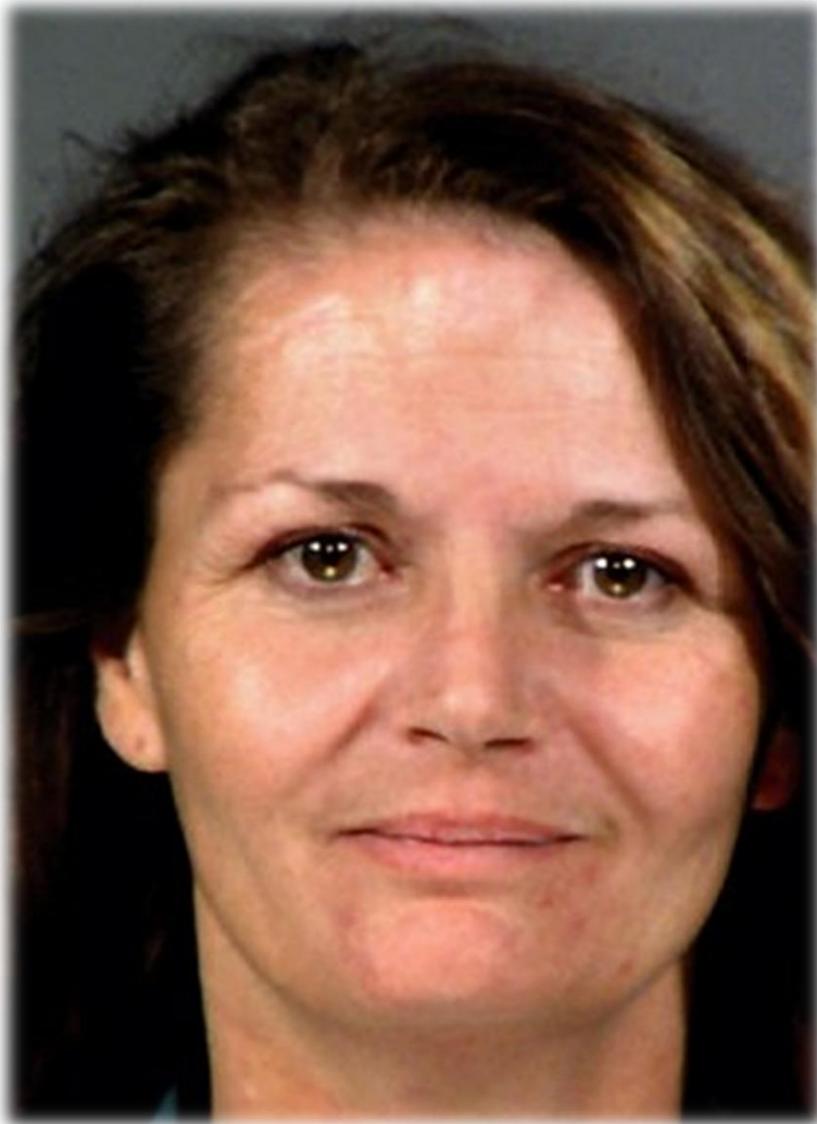
PUMP IT POWDER

- **THIS DRUG'S CENTRALLY ACTIVE SUBSTANCES ARE ACTUALLY FOUND IN THE GERANIUM PLANT .**
- **GERANAMINE IS CONSIDERED AN OLD TIME AMPHETAMINE RELATED STIMULANT .**
- **THE USE OR ABUSE OF THIS DRUG USUALLY RESULTS IN HIGH BLOOD PRESSURE, BODY TEMP. AND HEART RATE, DILATION OF PUPLES, ACCELERATED INTERNAL CLOCK, GOOSEFLESH (PILOERLECTIONS), SEIZURES, HALLUCINATIONS AND PARANORIA.**
- **RECENT REPORTS ARE THAT THIS SUBSTANCE PRODUCES BOTH PHYSICAL AND PSYCHOLOGICAL DEPENDENCY, SIMILAR TO "BATH SALTS", AND MORE POWERFUL THAN COCAINE AND METHAMPHETAMINE.**
- **GERANAMINE CAN BE CONSUMED BY EITHER SNORTING, SMOKING OR INTRAVENOUS INJECTION, USUALLY LASTING APPROXIMATELY 6-12 HOURS.**
- **AVERAGE COST IS \$30.00 PER CAN.**

EXTREME DEHYDRATION DUE TO ELEVATED BODY TEMPERATURE



FACIAL ULCERATIONS AND INFECTIOUS “ IMPETIGO ”



**EXTREME MALNUTRITION RESULTING IN
“ METH “ MOUTH**



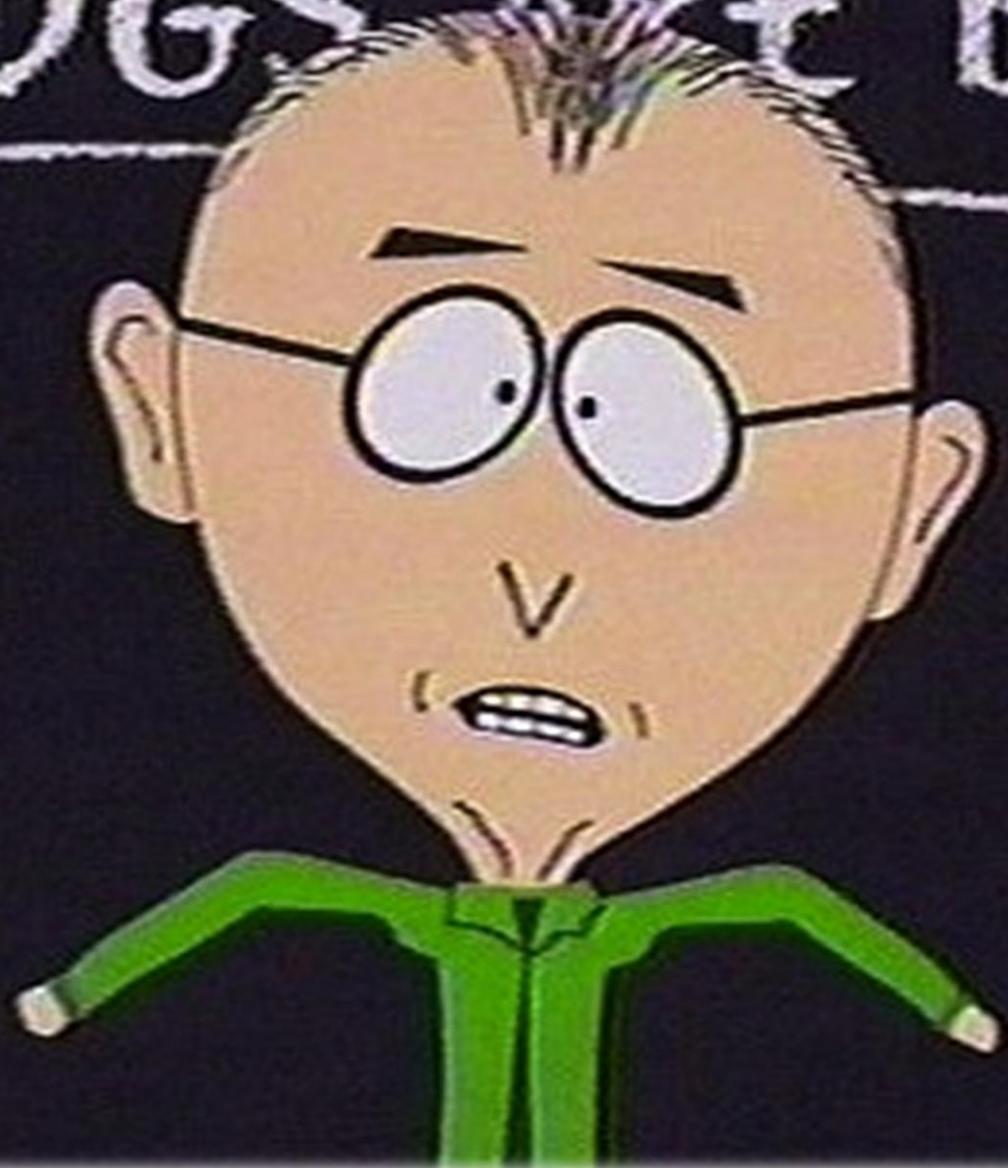
STEREOTYPICAL “ PICKING ” BEHAVIORS



FORMICATION “ METH “ BUGS



DRUGS ARE BAD



PRESENTATION OVERVIEW

- **General information about the impact of alcohol and drugs on the general population .**
- **Introduced the proper usages of common terms used in the field of dependency and treatment .**
- **Reviewed the brain , the typical chemicals involved in the development of addiction and dependency .**
- **Reviewed the “ Psychopharmacology ” of Depressant , Stimulant and Hallucinogenic drugs .**

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Recommend Readings

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Substance Abuse and Mental Health Services Administration

Center for Substance Abuse Treatment

TREATMENT IMPROVEMENT PROTOCOL

(TIP) SERIES

Rockwall II, 5600 Fishers Lane

Rockville, MD 20857

References

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- ◎ **Cooper, J., F. Bloom, and R. Roth. The Biochemical Basis of Neuropharmacology, 8th ed. Oxford, U.K.: Oxford University Press, 2003.**
- ◎ **Covey, S.R. The Seven Habits of Highly Effective People (1989). (ISBN 0-671-70863-5)**

- ◎ **Kandel, E., J. Schwartz, and T. Jessell. The Foundations of Neural Science, 4th ed. Boston, MA: McGraw Hill, 2000.**

- ◎ **Ray, O., Ksir, C. : Drugs Society, and Human Behavior, 7th ed., Mosby Publishing Co. (1996).**

- ◎ **Squire, L. : Memory and Brain, Oxford, U.K.: Oxford University Press, (1987).**

- ◎ **Whishaw. II, and B. Kolb. Fundamentals of Human Neuropsychology, 5th ed. New York: Worth Books, (2003).**