# The Solution That Kills

## A Closer Look at Addiction and Drugs of Choice

*Webinar Series Version*


Instructor

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Director

National Crisis Intervention Training Institute

Critical Response Division


Accredited by the State of Oklahoma

# Council on Law Enforcement Education and Training

Accreditation # 17-1003

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NCITI

National Crisis Intervention Training Institute

# National Crisis Intervention Training Institute, Inc.

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# National Crisis Intervention Training Institute

## ORGANIZATIONAL STRUCTURE

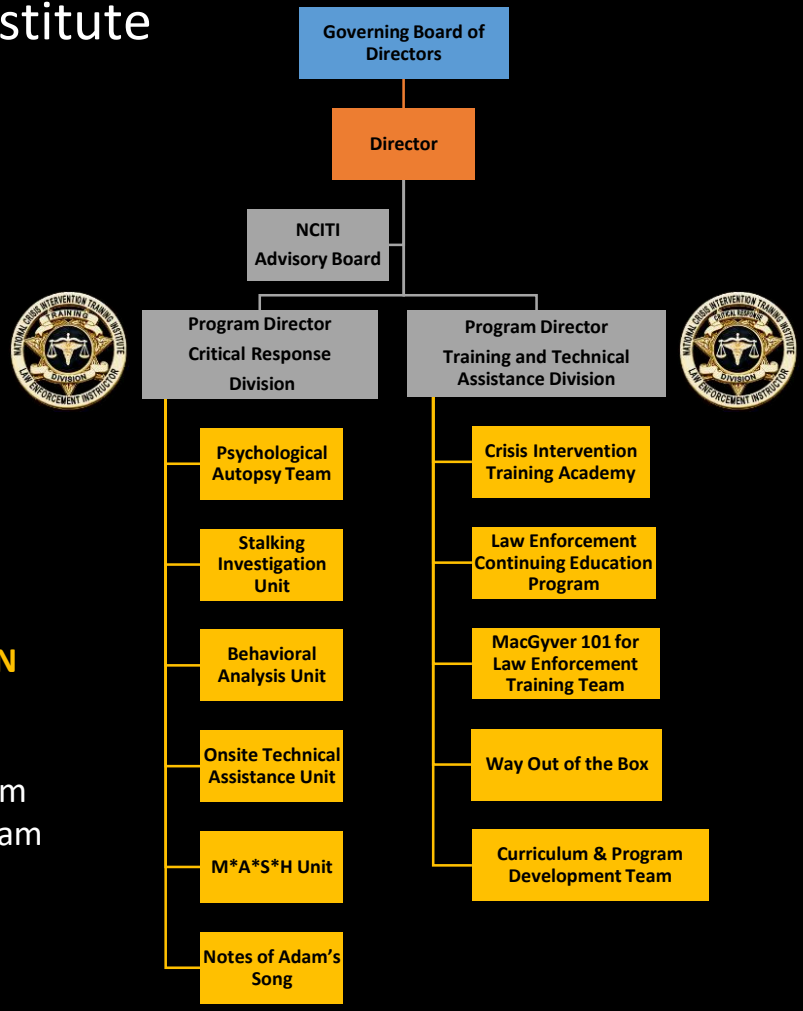
(NCITI, 2014)

### CRITICAL RESPONSE DIVISION

Psychological Autopsy Team
Stalking Investigation Unit
Behavioral Analysis Unit
Onsite Technical Assistance Unit
M*A*S*H Unit
Notes of Adam's Song

### TRAINING & TECHNICAL ASSISTANCE DIVISION

Crisis Intervention Training Academy
Law Enforcement Continuing Education Program
MacGyver 101 for Law Enforcement Training Team
Way Out of the Box
Curriculum & Program Development Team



# INTRODUCTION

# Law Enforcement Application of This Material

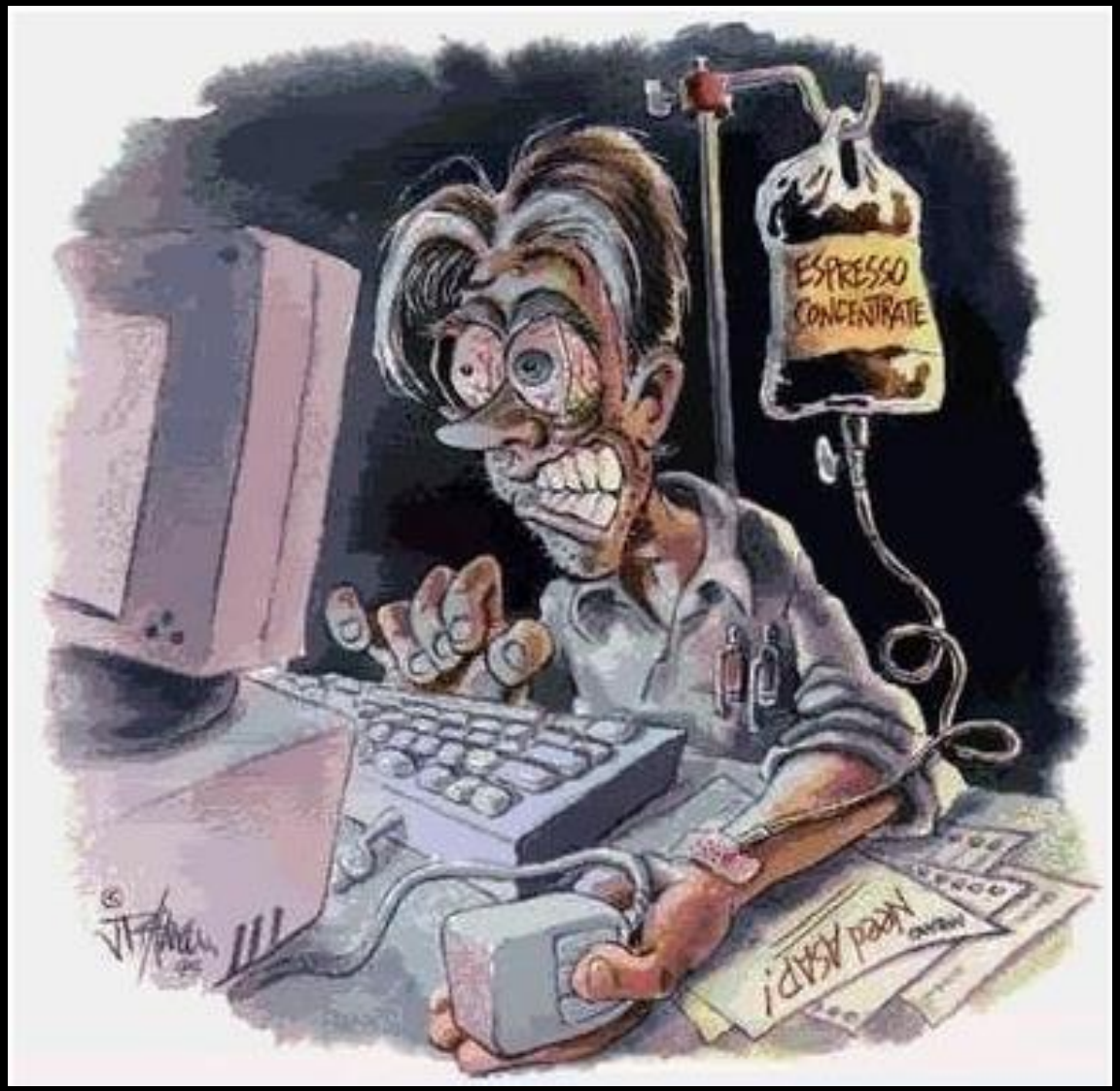
- Assist in field interviews of witnesses and victims either under the influence, or addicted to various drugs of choice.
- Aid in the identification of various categories of drugs of choice, in order to facilitate more effective investigation, interdiction, and enforcement of state and federal drug statutes.
- Recognizing problematic signs and symptoms of acute and protracted withdrawal.
- Better understand the motivational intent which influences or compels people to abuse mood/mind-altering substances.
- Better understand problems associated with the families of addicted individuals, and how those problems may effect law enforcement's efforts to intervene.
- Establishing addiction-related interrogatory themes during criminal interrogation.
- Understanding and predicting addictive behavior in persons encountered during the officer's course of duty.
- Understanding how addiction and substance abuse relates to associated criminal behavior.
- Predicting problems with informants and witnesses who are addicted to drugs.
- Prevention of "no shows" in criminal trials which rely upon addicted persons as witnesses.
- Identify and provide support for fellow officers who are impaired, and/or are addicted.
- ***Officer safety: Recognizing environmental and interpersonal hazards associated with addiction and substance abuse.***

# *Housekeeping Announcements*

# About the Instructor

- Founder and Co-Director of the National Crisis Intervention Training Institute / Director and Chief Field Forensic Investigator, NCITI's Critical Response Division.
- Former Chief of Police, Northwestern Oklahoma State University Police Department.
- Former Sergeant / Special Investigations / CIT Officer / Victim's Advocate: Mid-America Christian University Police Department.
- Veteran Detective (Norman, OK); specialized in investigation of crimes against children and covert child pornography investigations.
- Former Director, Department of Crimes Against Children, Children's Rights of America, Inc.
- Former Youth Crisis Counselor, Supervisor, then Director of the National Youth Crisis Hotline (Children's Rights of America, Inc.)
- Co-founded the "S.T.R.E.E.T. Outreach" (Specialized Techniques in Recovery, Engagement, Empowerment, and Tactical Outreach) program in Tampa and Atlanta, GA, under the auspices of Children's Rights of America, Inc.
- Former addictions counselor-in-training and paramedic.
- Developer of the Empathetic Interrogation Method, the Volunteer Applicant Screening Interview, NCITI Psychological Autopsy Technique, MACU PD's Stalking Investigation Unit Protocols, and the Substance Abuse Early Intervention Program.
- M.A.Ed. in Education, with emphasis upon the "Diverse Learner."
- Doctoral Researcher (all but dissertation) with primary research interests in crisis intervention methodology, detection of deception,, addictionology, and victimology.
- Author/Instructor of over 25 CLEET-accredited law enforcement courses.
- 73 Post Graduate Credits in PSY and HS Courses Related to Addictionology, Counseling, and Addiction Psychology.

# Addiction



# *Before we get started,*

*Remove your wristwatch and place it on the other wrist.*

# DEFINING "ADDICTION"

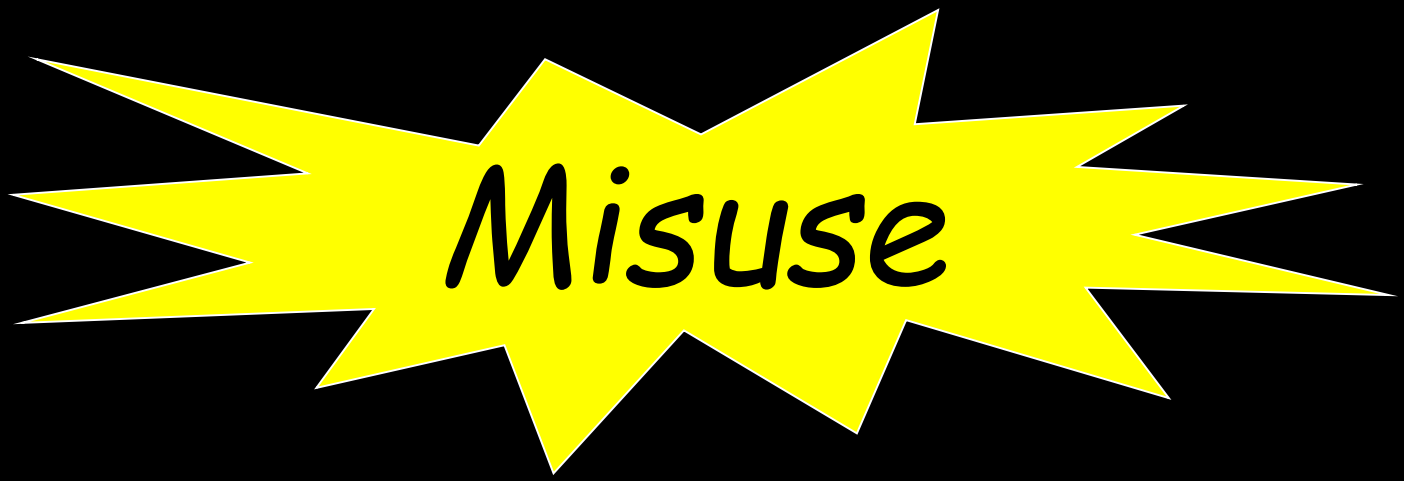
(Inaba & Cohen, 2014; Johnson & Bogan, 1996; Loos, 1993-1994)

# Addiction

Physical dependence of the body on (a) drug(s) of choice, joined with an obsession of the mind and a compulsion to keep using the drug.

# SOME ADDICTIONOLOGY TERMS AND DEFINITIONS

(Inaba & Cohen, 2014; Johnson & Bogan, 1996; Loos, 1993-1994)




- A **single occasion** of (**or a few isolated occasions**) taking a **drug:**
  - that is **not prescribed** to the person, and/or...
  - at a **greater dosage** than what is prescribed, and/or...
  - at a time **sooner** than the prescription calls for, and/or...
  - for a reason **other than the therapeutic indication** for the drug.


A repeated pattern of misuse.

# Dependence

When the body develops a physiological need for drug, characterized by uncomfortable signs and symptoms upon cessation of use.

A substance, activity, or relationship that is the suffering addict's primarily-preferred tool for providing a mood or mind-altering phenomenon are referred to as a

# Drugs of Choice may include things other than substances. For example

- Food.
- Sex.
- "Love."
- Gambling.
- Surgery.
- Plastic Surgery.
- Spending.
- Internet.
- Danger.
- Prostitution.
- Bulimia.
- Pain.

*What is*


*Did you hear the one about the Baptist, the Catholic, and the Suffering Alcoholic Who Died and Went to Hell?*

# THE “DISEASE CONCEPT”

(Inaba & Cohen, 2014; Johnson & Bogan, 1996; Loos, 1993-1994)

The currently-prevailing thought* and philosophy regarding addiction is called:


*Not everyone agrees that addiction is a “disease.”

Nor do they all agree on how it should be treated or managed.

# Four Practical Reasons to Regard Addiction as a "Disease"

- It helps to break down the barriers and stigma created by shame and self-condemnation.
- It falls within the definitional scope common to other primary diseases.
- It helps to facilitate the therapeutic process by allowing for accessing of clinical services.
- It facilitates a sense of personal responsibility for one's own recovery.

# What is a


*"A condition of abnormal vital function involving any structure, part, or system of an organism. A specific illness or disorder characterized by a recognizable set of signs and symptoms, attributed to heredity, infection, diet, or environment."*

Mosby's Pocket Dictionary of Medicine, Nursing, & Allied Health (3rd Ed.) 1998

*"Addiction can be described as a progressive, chronic, primary disease that is characterized by compulsion, loss of control, continued drug use despite adverse circumstances, and distortions in normal thinking… such as denial."*

Landry, M. (1994) Understanding drugs of abuse, Washington, DC, American Psychiatric Press

# Addiction
# is a primary disorder.

It isn't just symptomatic of another disorder or disease. It requires intervention and treatment in and of itself.

# INTERESTING QUESTION: Is "Type II Diabetes" a Disease?

- It is often preventable.
- It is often (at least partially) behaviorally-contracted.
- It is reversible, but not currently considered to be totally curable.
- It is treatable.
- It changes biology.
- Arguably, no one "chooses" to be diabetic.
- It is a natural, patho-biological consequence of eating behavior which is often compulsive.
- If left untreated, it can shorten lifespan, destroy quality of life, and eventually kill.

# How is Type II Diabetes Different from Addiction?

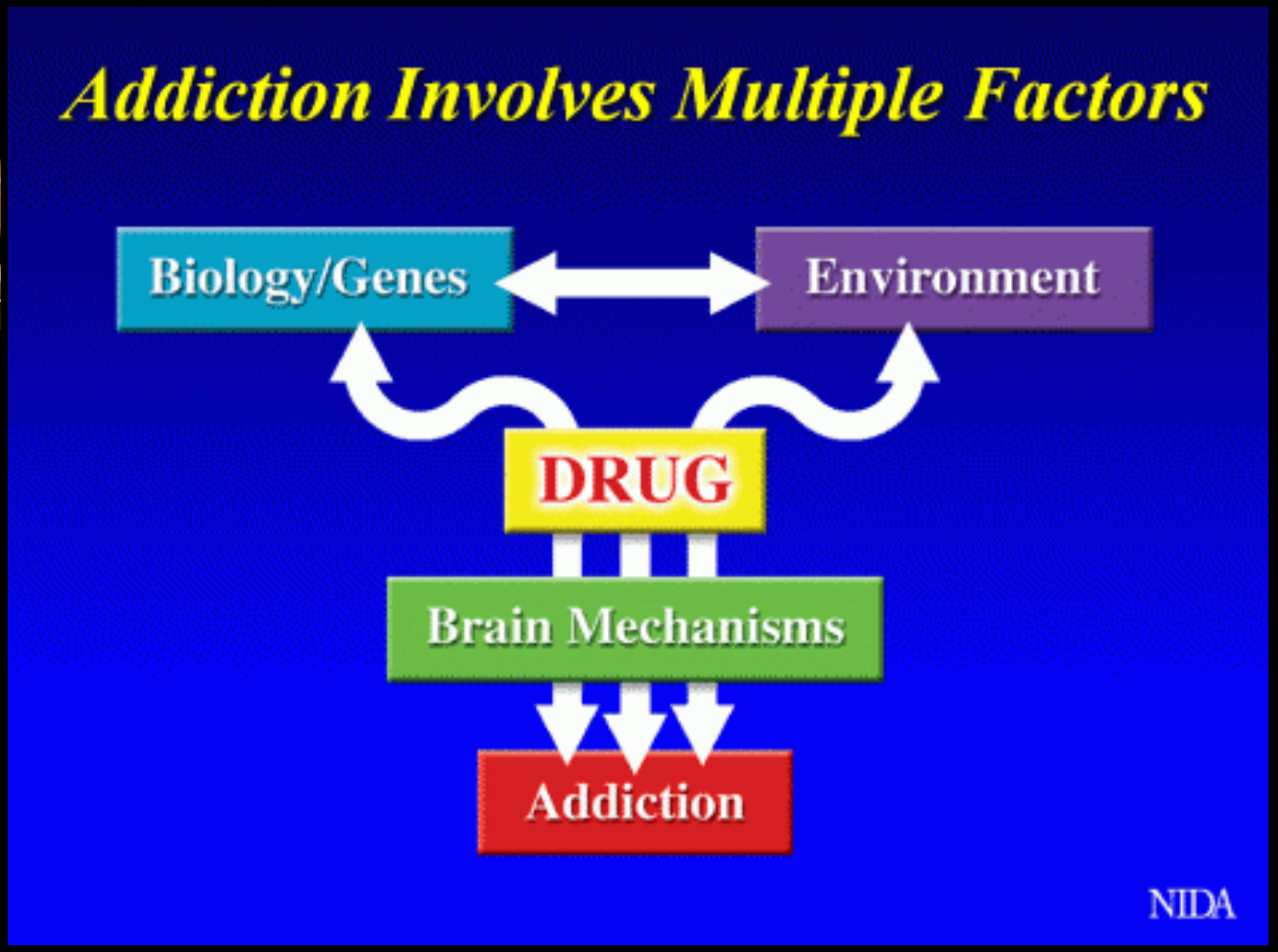
*Family members of people with Type II Diabetes are not likely to die from their loved one's disease, unless they acquire diabetes themselves.*

# MORE ABOUT ADDICTION

(Inaba & Cohen, 2014; Johnson, 2008; Johnson & Bogan, 1996; Loos, 1993-1994)

# *NATURE VERSUS NURTURE?*

*"NATURE"*




"NURTURE"

# What Causes Addiction?

(Carnes, 2016)

# Addiction Fits the Definition of a Disease

- It's pathological.
- It's a primary disorder. It requires intervention and treatment on its own.
- It's chronic. Its effects are long-term and often develop over time.
- It's progressive. If left untreated, it gets worse.
- It has a unique set of common signs and symptoms that are often found in people suffering from the same disorder.
- It's predictable in diagnosis and prognosis.
- It often leads to involuntary disability and impairment.
- It can progress to death.

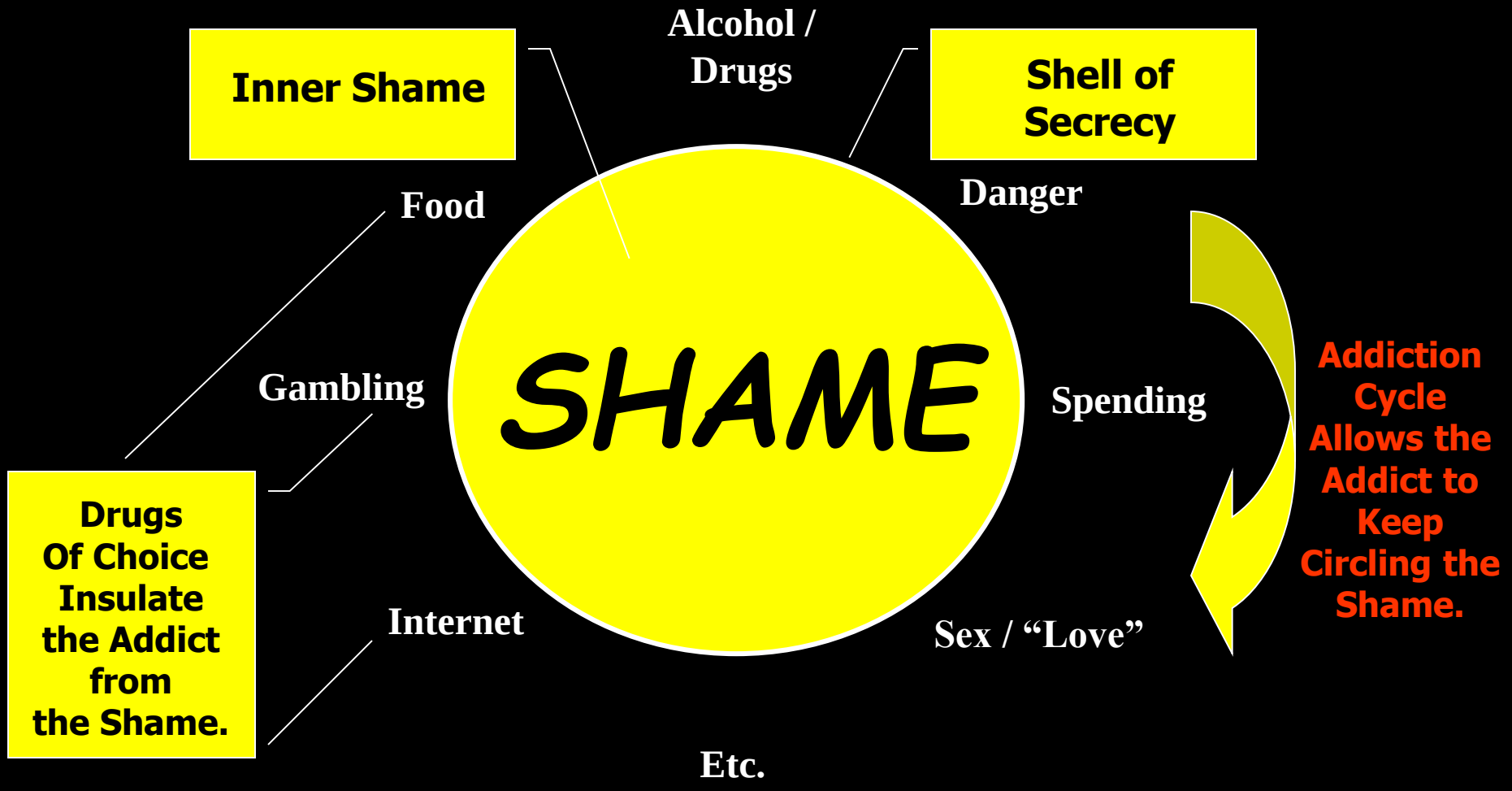
# Addiction is Also Characterized by

- Loss of control.
- Consequences that may be physical, cognitive, psychological, social, legal, professional, spiritual, emotional, and/or financial in nature.
- Continued use, even after consequences have been realized.
- Distortion of thinking.
- Denial.

# Diagnosis of Addiction is Often Made by Observing and Documenting

- Mis-using more than intended.
- Prior failing attempts to quit.
- Inordinate amount of time spent seeking, obtaining, using, and recovering from the influence of drugs.
- Mis-using at inappropriate times.
- Consequences.
- Continued use, despite prior consequences.
- Increased tolerance.
- Decreased tolerance in late stages of the disease.
- Withdrawal signs and symptoms.
- Mis-use to avoid withdrawal symptoms.

# Common Core to Various Addictions




J. Johnson 1986

# Addiction Fits Within a Pervasive Pattern of Learned Avoidant Behaviors.

# Bottom Line

*…basically, though, in most cases, people INITIALLY misuse and abuse drugs of choice because they WANT TO and*

*THEY CHOOSE TO.*

*Eventually, however, there comes a point where the addictive behavior causes life-disruptive consequences.*

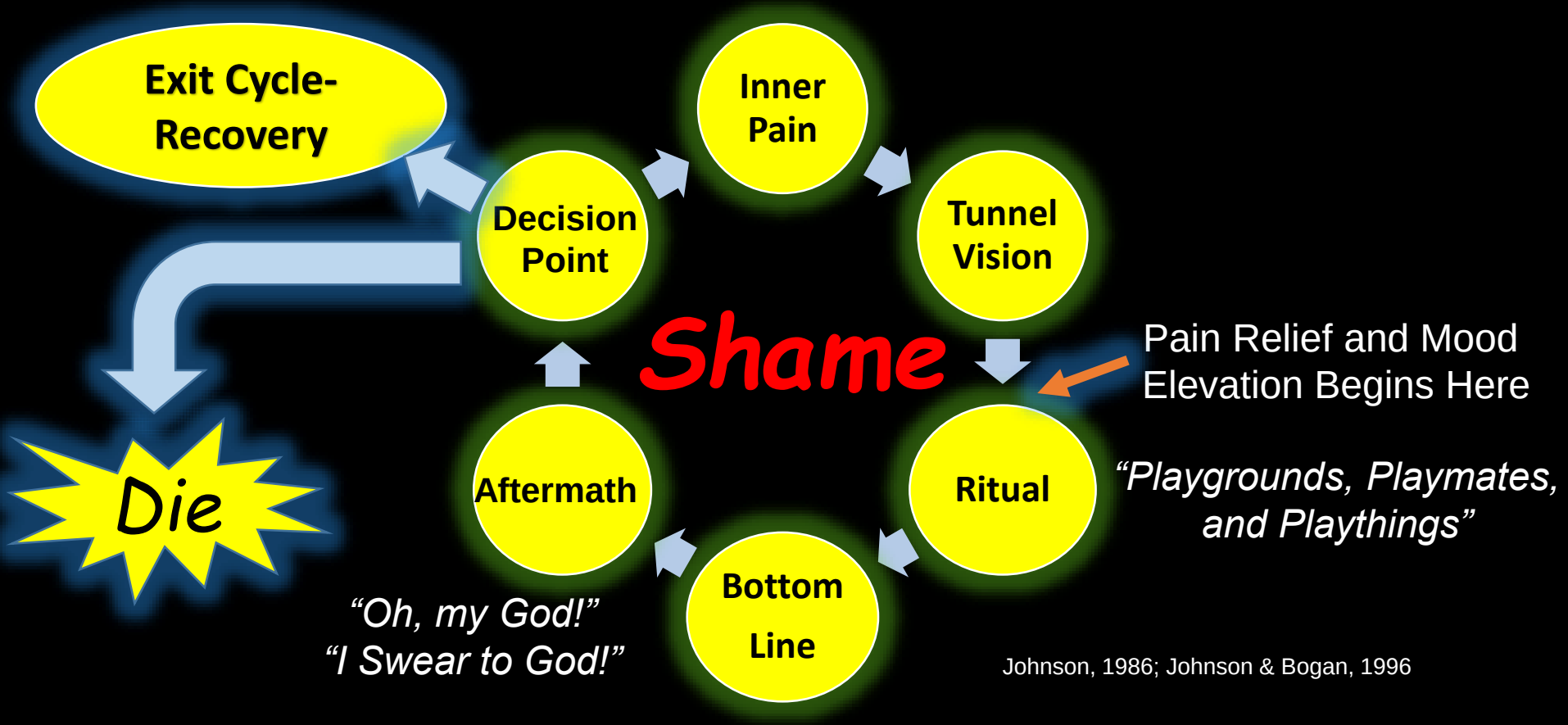
*At that point, the suffering addict may feel that he or she is trapped in the addiction, due to the overwhelming obsession and compulsion to continue abusing the drug(s) of choice.*

They no longer merely abuse drugs and alcohol to get “high.”

*They do it to feel normal.*

They become enmeshed in a destructive

# Addiction Cycle




Johnson, 1986; Johnson & Bogan, 1996

# Addict's False Core Beliefs

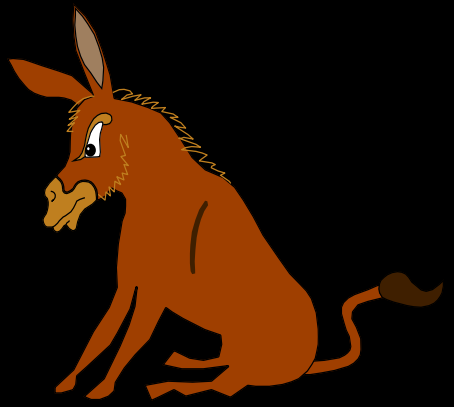
(Loos, 1993-1994; Johnson, 1994; Johnson & Bogan, 1996)

- *"I am basically a bad and unworthy person."*
  - self image.
- *"No one would love me as I am. If you knew me the way I know me, you wouldn't want to have anything to do with me."*
  - relationships.
- *"My needs are never going to be met if I have to depend on others." "[My drug of choice] is the only thing that can keep me safe."*
  - needs / faith.

# False Core of Beliefs (Cont'd)

- *"[My drug of choice] is my most important need."*
  - solution to pain.
- *"Pain is bad."*
  - conflict of wants vs. needs.
- *"I wouldn't have to use [my drug of choice] if_____."*
  - external locus of control.
- *"I don't have a problem with [my drug of choice.]"*
  - denial

# …and of course…



*“All I need is to use more will power.”*

(which according to the Disease Concept of Addiction, shows a confusion between weakness and powerlessness.)

# TIME OUT !
# How about a status report?

*How's your wrist feel? Can you still feel the watch? Weird, huh.*

*(more about your wristwatch later on. Bet you can't wait.)*

# ADDICTION IS A HOLISTIC PROBLEM

(Johnson, 2008; Johnson & Bogan, 1996; Loos, 2003-2004)

A drug of choice is

*not a problem*

to the suffering addict.

# It’s a solution!

# Remember, This Totally Holistic Disease Has a Myriad of Adverse Effects

- Physical.
- Cognitive.
- Psychological.
- Social.
- Legal.
- Professional.
- Financial.
- Emotional.
- Spiritual.
- Family.

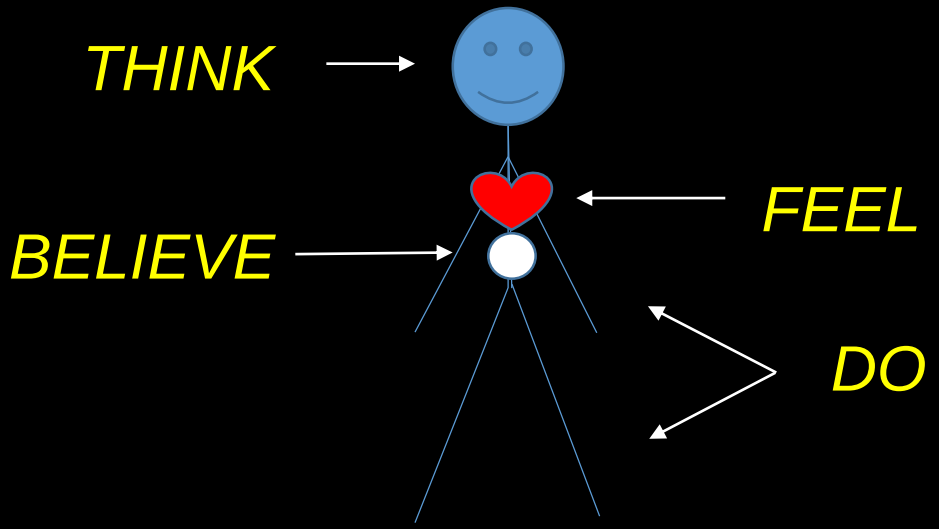
# It attacks our ability to

THINK

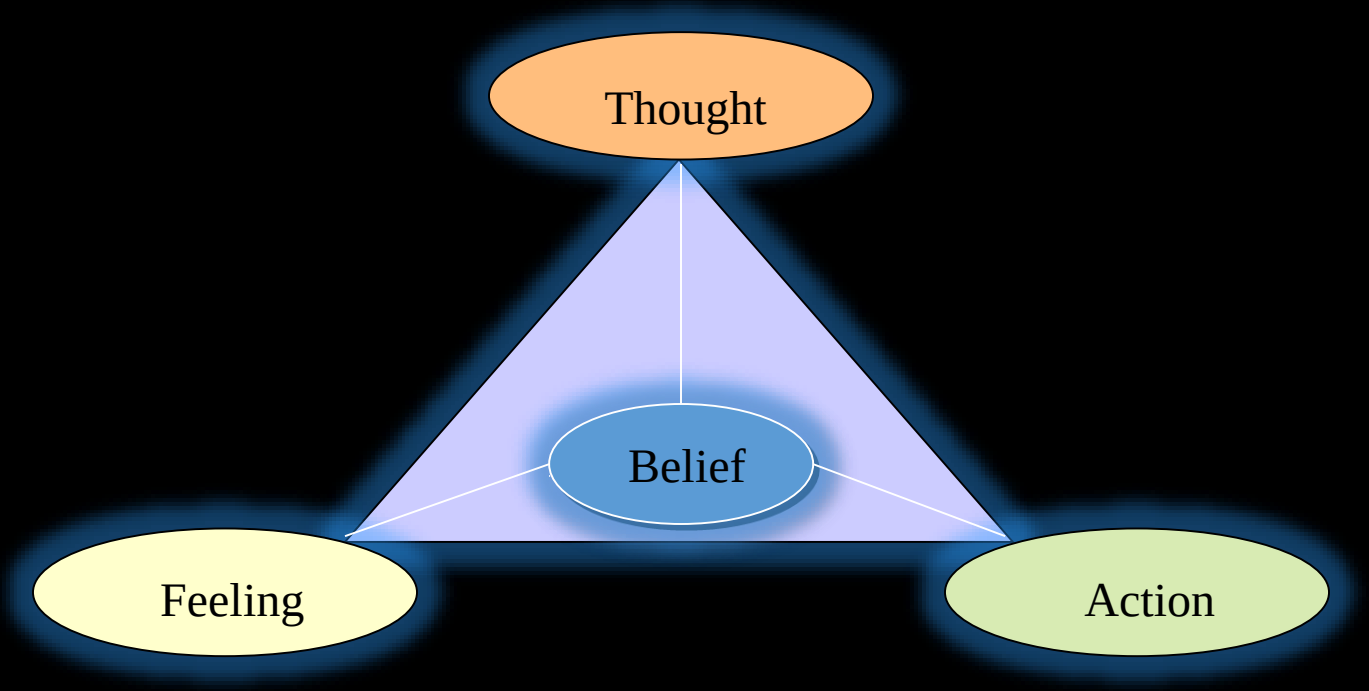
FEEL


BELIEVE

DO

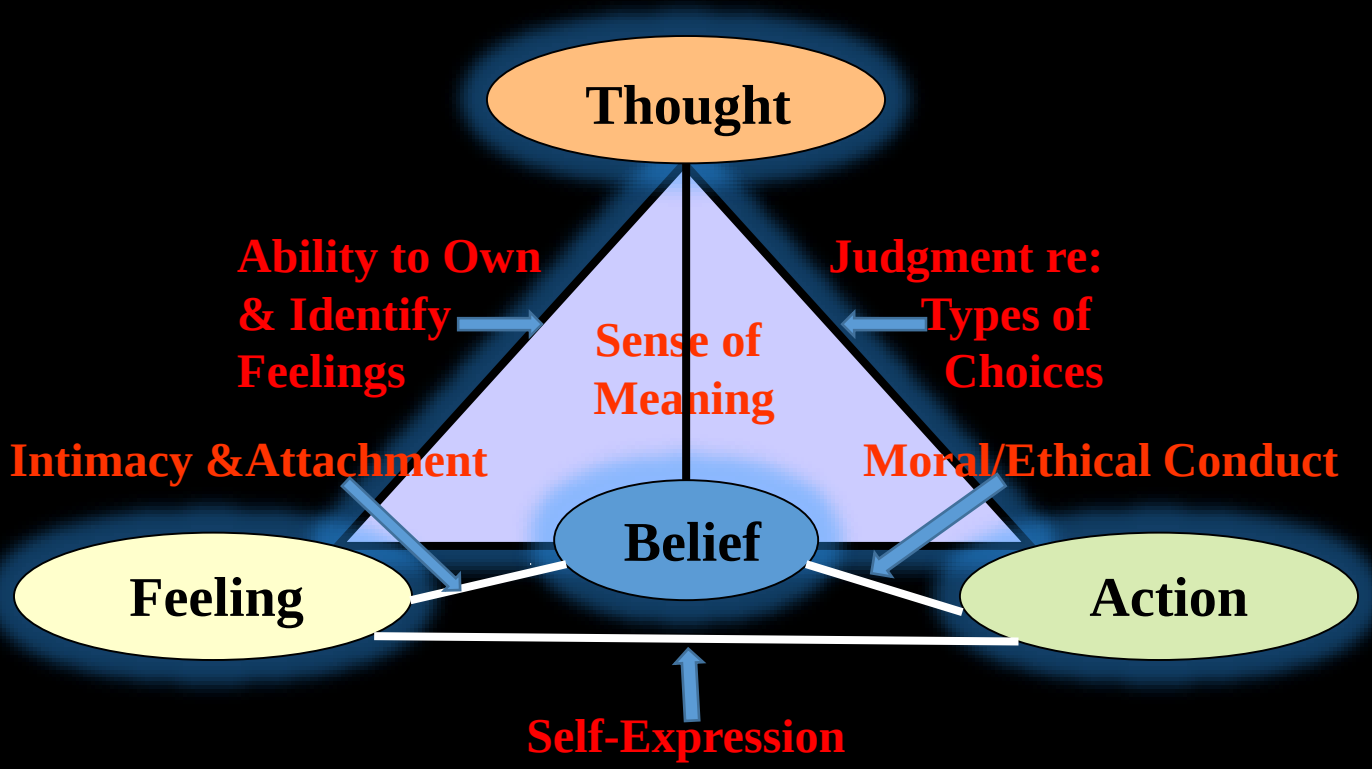


# Each of the four “systems” of the person interacts with the other three systems.




Loos, 1993

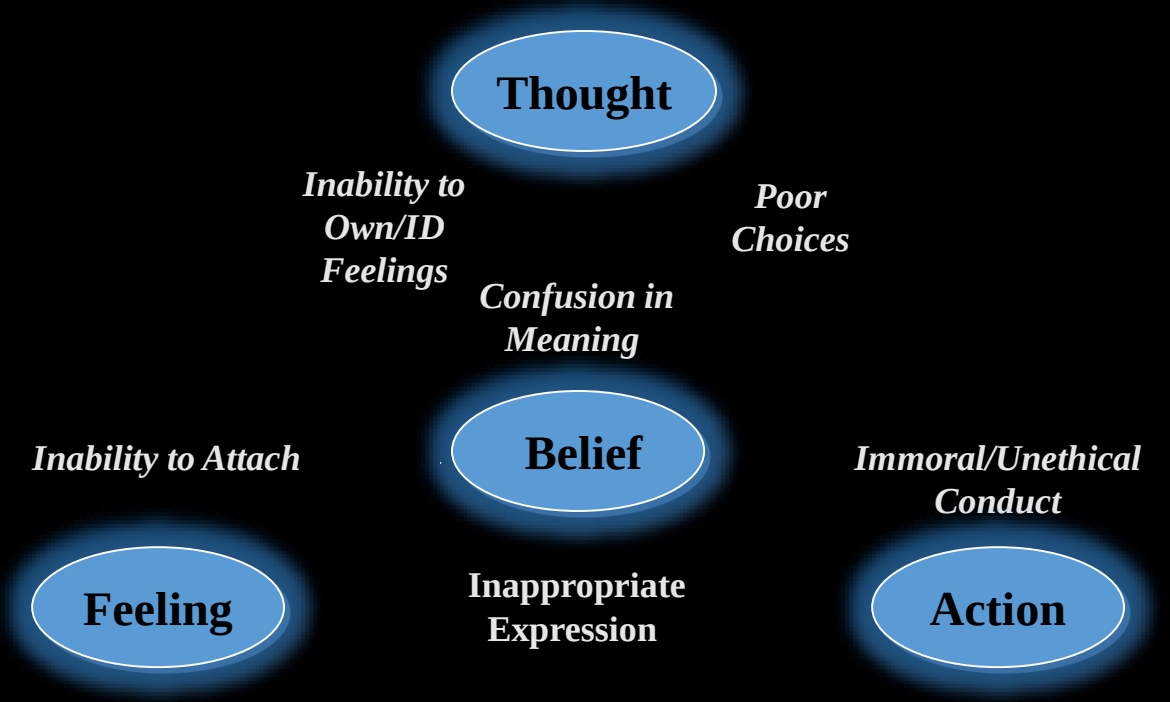
# Interconnection of these "systems" produce the following




***Addiction and Other Self-Destructive Mechanisms Attack Each of These!***

(Johnson, 2005; Johnson & Bogan, 1996; Loos, 1993)

# The connecting lines between the systems dissolve when saturated in alcohol (or any other drug of choice.) This leads to problems.




Loos, 1993

# COLLATERAL DAMAGE

(Johnson, 1994, 2008)

# Addiction Affects "Society" in General, Due to a Number of Factors

- Monetary cost of prevention, intervention, treatment, aftercare, interdiction, investigation, enforcement, incarceration, supervision, and community-based programs designed to address offenders, families, and other victims.
- Elevation in costs incurred by insurance companies, health providers, et cetera, to address the medical and mental health needs of persons afflicted with addiction.
- Loss of human resources (skills, contribution to work force, et cetera) due to debilitating effects upon the person suffering from addiction.
- Society is less safe due to drug-related activities of consumers, and those who benefit monetarily from drug trafficking.
- Associated crimes against persons which are directly or indirectly connected to drug trafficking.
- Property crimes which are drug-related.
- Myriad detrimental effects inflicted upon family, spouses, significant others, friends, work associates, et cetera.
- Escalation of prices of goods and services on the free market associated with "shrinkage," and other associated financial impact upon providers.
- AND SO ON…..AND SO ON.


Addiction is quite capable of damaging or destroying the lives of anyone who comes into contact with the addict. Especially family, significant others and spouses, and close friends.

# Family Roles Created by Addiction

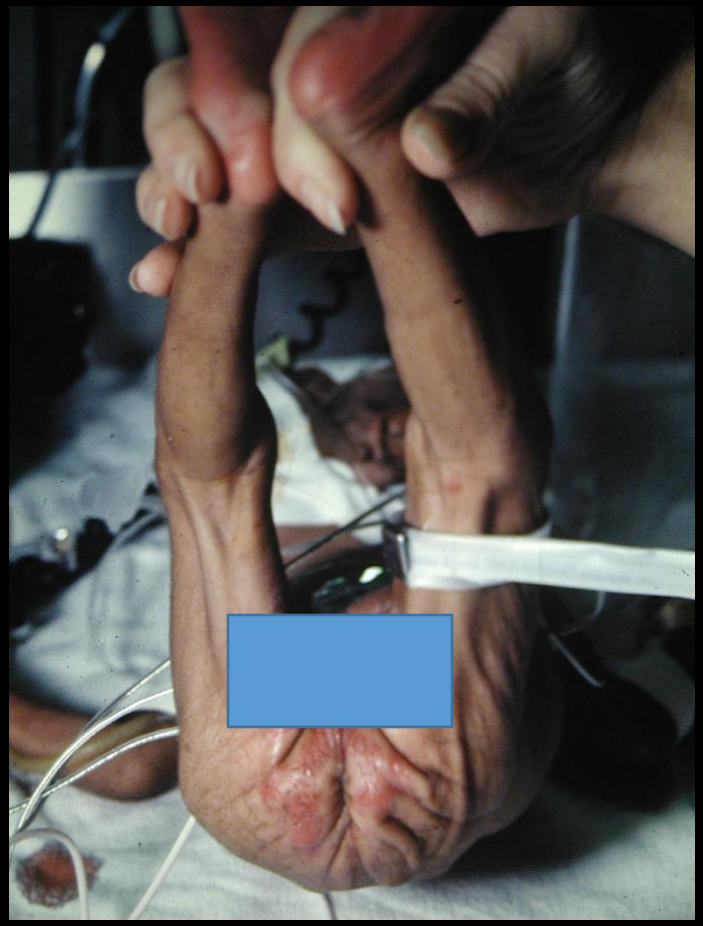
- Addict.
- Chief Enabler / Co-Addict.
- Hero.
- Scapegoat.
- Lost Child.
- Mascot.

# Classic Signs and Symptoms of a Diseased Family

- Denial.
- Isolation.
- Disorganization.
- Role confusion.
- Re-organization (formalization of modified roles.)
- Escape.
- Separation.
- Resistance to recovery.
- Endemic shame.

*Always running around,*
*Guessing at what "Normal" is.*

# Child Neglect and/or Abuse Is Often Related to Parent's Substance Abuse



# Joel Johnson - Relevant Post-Graduate Coursework

| | | |
|---|---|---|
| • Contemporary Issues in Compulsive and Addictive Behavior. | HS | |
| • Fundamentals of Addictive and Compulsive Behavior. | HS | |
| • Compulsive Behavior and Disturbance of Self. | | PSY |
| • Dual Diagnosis in Mental and Addictive Disorders. | | PSY |
| • Substance Abuse Therapies. | | PSY |
| • Psychopharmacology. | | PSY |
| • Family Systems Approach to Addictive Behavior. | | PSY |
| • Grief and Bereavement Counseling. | HS | |
| • Human Sexuality. | HS | |
| • Child and Adolescent Psychology. | | PSY |
| • Principles of Psychopathology. | | PSY |
| • The Family in Social Context. | HS | |
| • Contemporary Issues in Counseling Studies. | HS | |
| • Mental Health and Aging. | HS | |
| • Ethnic and Multicultural Issues in Psychology. | | PSY |
| • Theories of Psychotherapy. | | PSY |

*HS = 28 Post-Graduate Human Services Course Credits (4 Credits Each Course)*

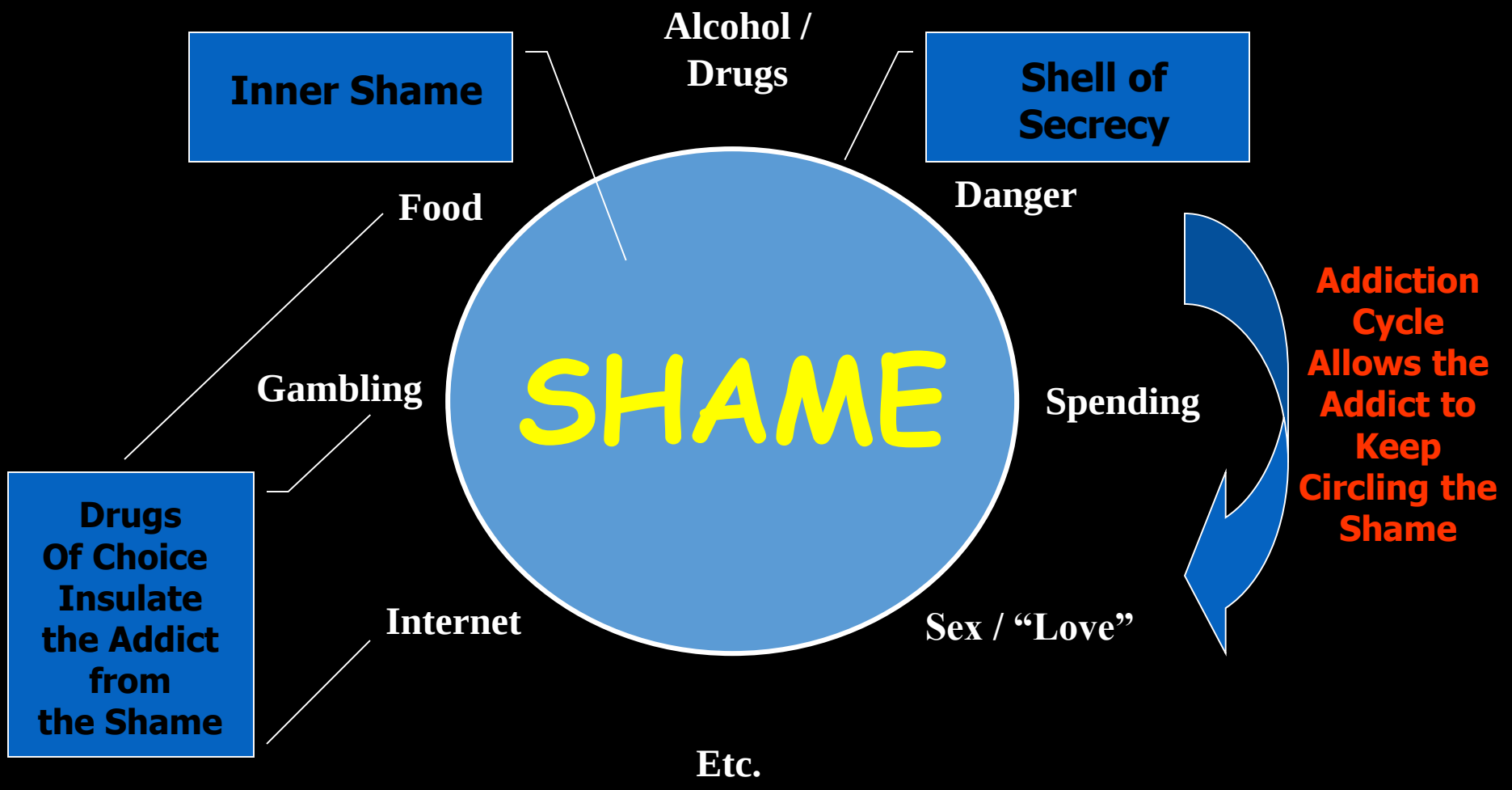
*PSY = 45 Post-Graduate Psychology Course Credits (5 Credits Each Course)*

BUT….205 N. Sunset Drive, Madill, OK,
*is where I learned my first lessons about alcoholism and the family.*

# The Difference in:

*EMBARRASSMENT* & SHAME

# Common Core to Various Addictions




J. Johnson 1986

# WHAT DO WE ASK TO AID INDIVIDUALS IN SELF-DETERMINING WHETHER OR NOT THEY HAVE A PROBLEM WITH SUBSTANCE ABUSE?

# Red Flag Indicators

(Johnson & Bogan, 1996; Loos, 1993-1994)

- Do you have a **family history** of alcohol/drug abuse or addiction (with non-biological as well as biological family members)?
- Have you suffered **consequences** as a result of alcohol/drug misuse or abuse?
- **Despite prior consequences, have you continued** to misuse/abuse?
- Do you have a **history of loss of control/intoxication?**
- Have you made **attempts to control** your use, misuse, or abuse of drugs or alcohol?
- Have you suffered **physical or psychological consequences** (withdrawal, blackouts, physical complications, etc.)?

# Red Flag Indicators (cont'd)

(Johnson & Bogan, 1996; Loos, 1993-1994)

- In the face of obvious evidence to the contrary, have you **denied a problem** with alcohol or drugs?
- Have you acquired a **tolerance** for alcohol or drugs? Can you appear to be relatively functional and intact after consuming excessive amounts of alcohol or drugs?
- Have you demonstrated a **change in performance** in school or at work, **discontinued** long-standing relationships, or **abruptly changed social patterns and acquaintances?**
- Is there a **history of you being annoyed** by others about drugs or alcohol, with or without attempts to get the person to seek help?
- Have you ever **attended, or been encouraged to attend,** Alcoholics Anonymous, Narcotics Anonymous, or any other 12-Step Recovery Group?

# And Finally

(Johnson & Bogan, 1996; Loos, 1993-1994)

- Does your **socialization** (friends, activities, etc.) **center around alcohol or drugs?**
- Do you spend **significant periods of time, effort, and/or expense** either seeking, planning, discussing, acquiring, using, misusing, or abusing drugs or alcohol?
- Have you ever **risked, or narrowly escaped serious consequences** in an attempt to acquire alcohol or drugs?
- Have you **engaged in behavior that he/she was morally opposed to,** in the acquisition, misuse, or abuse of drugs or alcohol?
- Have you made **prior attempts to quit** using alcohol or drugs?

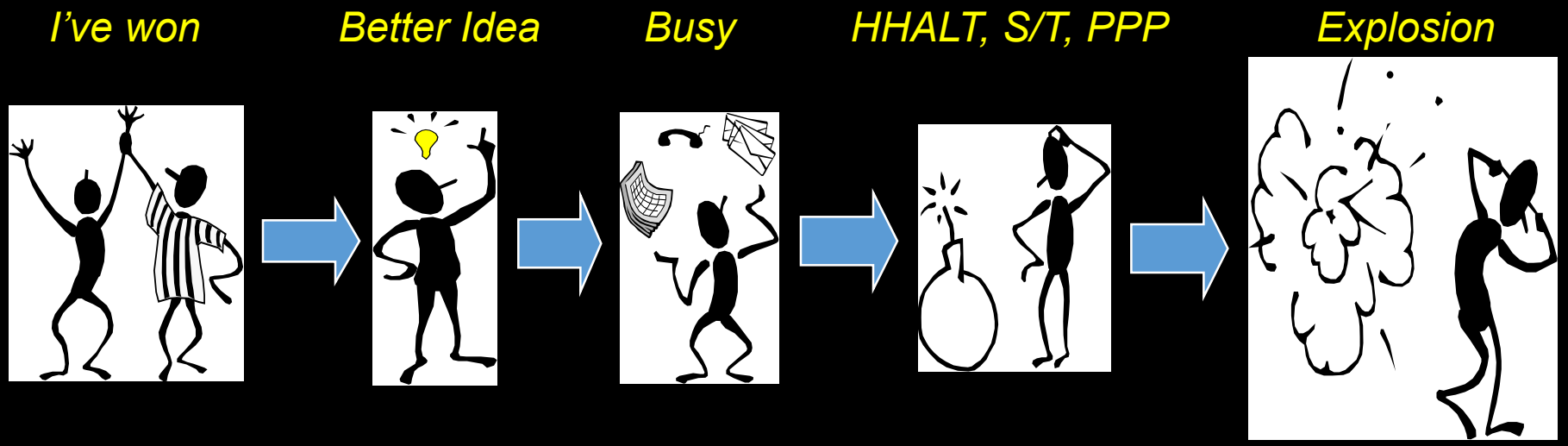
# RELAPSE IN A NUTSHELL

# Phases of Relapse Process

- 1. "I've won! I'm Bullet-proof."
- ***2. "I've got a better idea."***
- 3. Staying busy. Too busy.
- 4. Hurt, Hungry, Angry, Lonely, Tired.
- 5. Stinking thinking.
- 6. Returning to old rituals.
- 7. Bottom-line behavior – *Kaboom!!!*

*(Relapse is ALWAYS a process…NEVER an event)*

# .....And, so.....



# INVASION OF THE BODY SNATCHERS

# Invasion of the Body Snatchers

# Sexually-Trafficked Addicts

# COMPREHENSIVE RECOVERY MODEL

## *"RECOVERY UNLIMITED"*

*(Johnson, 2006)*

# Way Out of the Box Program Continuum

National Crisis Intervention Training Institute

## Year One

### Detox → Res Tx

Substance Tx Tract / 12 Step
WOOTB Basic Curricula
Communication Skills
Positive Confrontation Skills
Problem-solving Skills
Basic Cognitive Restruct.
Screening / Assessment / Referral Processes
Basic Menteeship

### IOP / WOOTB

Substance Tx Tract / 12 Step
WOOTB Intermed. Curric.
Life Management Skills
Financial/ Employment Skills
Intermed. Cognitive Restruct.
Advanced Screening / Assessment / Referral
Societal Integration
Intermed Menteeship
Anger Management p.r.n.
Parenting Course p.r.n.
G.Ed. p.r.n.

### Transitional Living (TLS)
### Working 20 hrs/wkly
### Virtual Business Internship

12 Step Program / Sober Living Support
Basic / Intermed Business Skills
Basic / Intermed Marketing Skills
Business-building Skills
Advanced Networking Skills
Intermediate Menteeship (cont'd).
G.Ed. p.r.n.

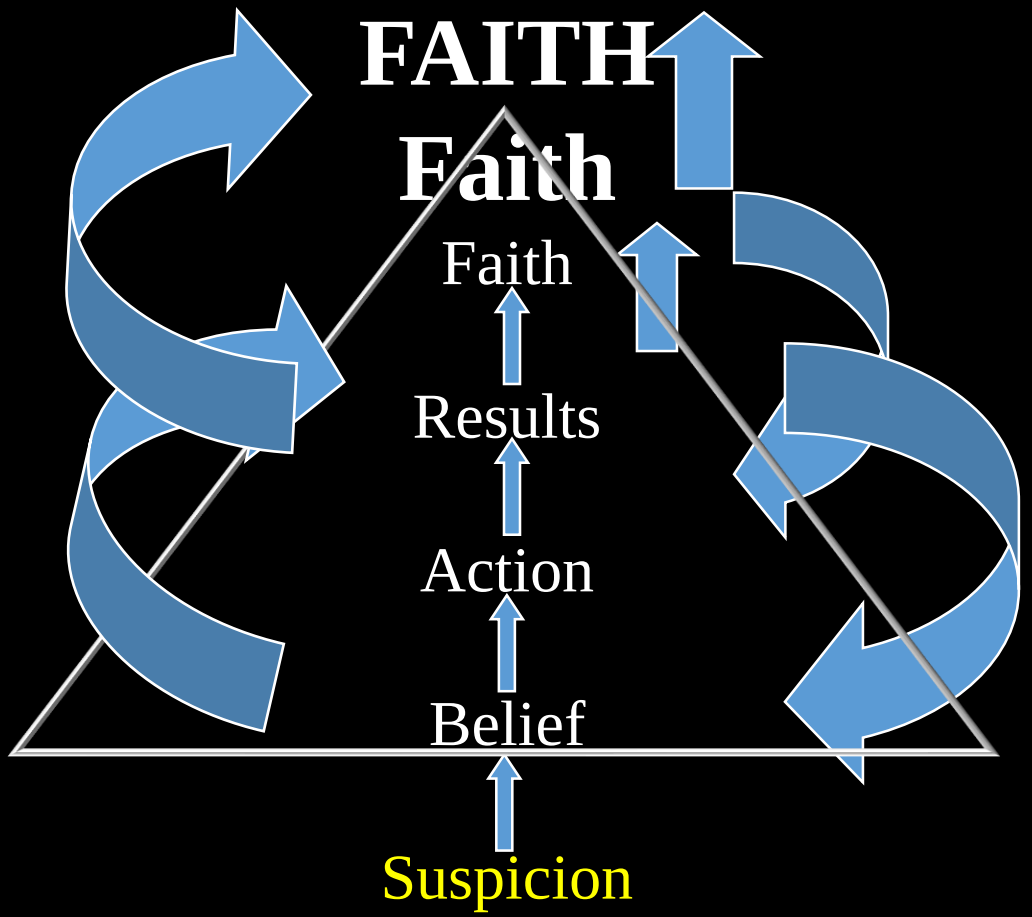
## Year Two

Outpatient Counseling
WOOTB Stellar Community

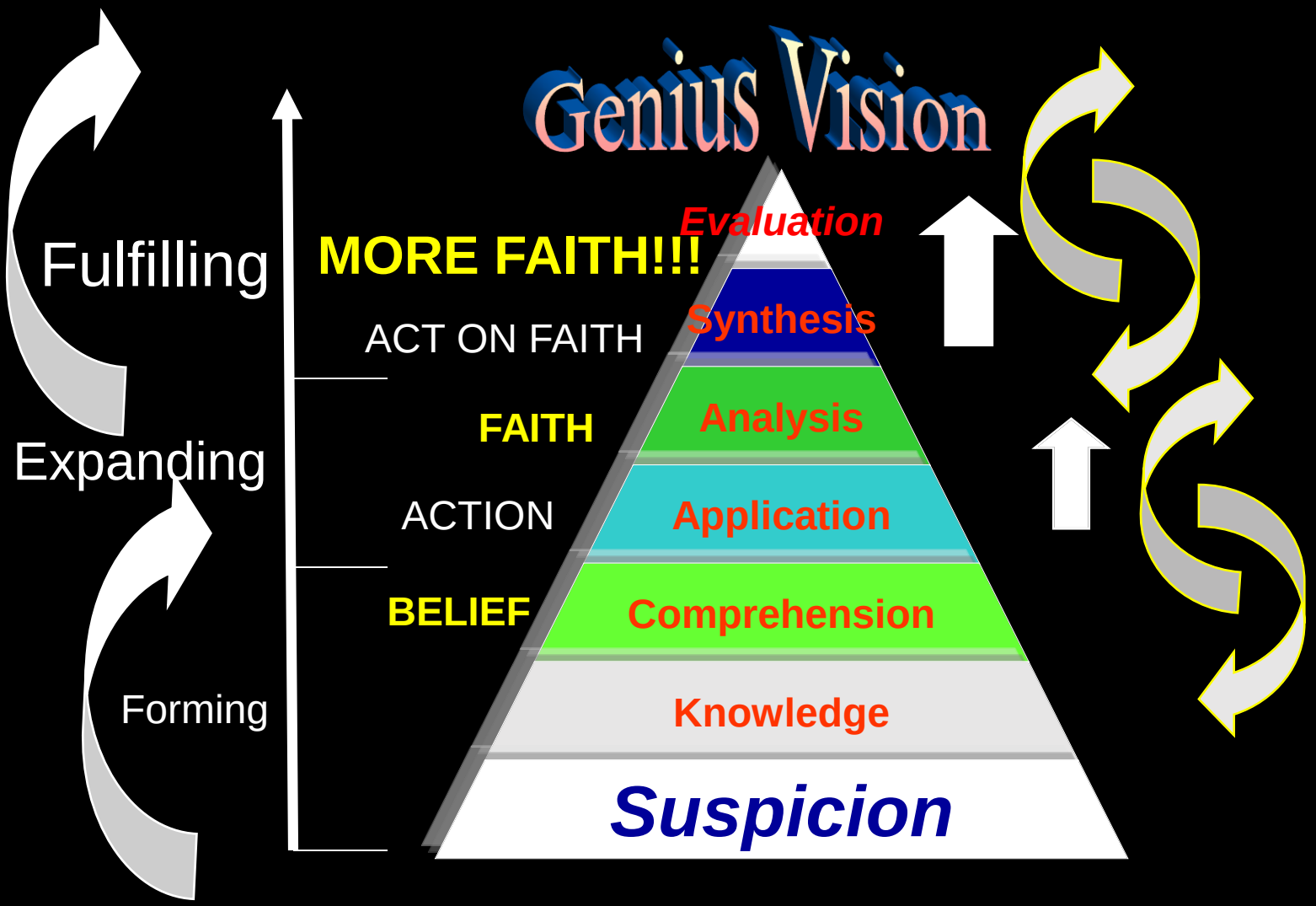
## Year Three

Mentee-to-Mentor Transition

# The Suspicion-to-Faith Process



# *Suspicion-to-Faith Continuum Meets Bloom's Taxonomy*



*QUESTIONS?*

# Drugs of Choice

# SOME PHARMACOLOGICAL TERMS

(Inaba & Cohen, 2014; Julien, 2001; Kee & Hayes, 1993)

# Route of Administration

"The path by which a drug, fluid, poison, or other substance is taken into the body. Routes of administration are generally classified by the location at which the substance is applied."

(Wikipedia, 2016)

# Routes of Administration

(Inaba & Cohen, 2014; Johnson & Bogan, 1996; Kee & Hayes, 2003)

## COMMON for Psychoactive Drugs / DOCs

- Smoking.
- Intravenously – through the vein.
- Inhalation / insufflation – Inhaled.
- Ingestion – Orally.
- Sub-labial – absorbed between cheek and gum.
- Subcutaneous – underneath the skin.
- Trans-mucosal – through mucous membrane.
- Transdermal – Through the skin.
- Rectal – through the rectum.
- Epidural – injected into epidural tissue.

## UNCOMMON Psychoactive Drugs / DOCs

- Topical – "local anesthetic."
- Sublingual – under the tongue.
- Intra-cardiac – injected into the heart.
- Intra-arterially – injected into the artery.
- Intracerebro-ventricular – into the cerebral ventricle.
- Enteral – through the intestines.
- Parentally – Any way other than through the GI.
- Intra-vesical – into urinary bladder.
- Intravetrial – into the eye.
- Enteral – Directly into intestinal tract.
- Intracerebral – Injected into brain.
- Intramuscular.
- Intraarticular – into joint space.
- Intracavernous – Into base of penis.
- Intraosseous – Into the bone.
- Intrathecal – Into spinal cord.
- Intravaginal – Into the vagina.

# Onset of Action

How long it takes a drug to start to “take effect.”

# Duration of Effect

How long the effect(s) of a drug last.

# Average Duration of Effect of Various "Families" of Psychoactive Drugs

(Varies, Depending on Substance, Dosage, and Route of Administration)

(Inaba & Cohen, 2014; Kee & Hayes, 2003; NHTSA/IACP, 2015)

- CNS Depressants - 1-16 hours.
- Volatile Inhalants – 5 minutes to 8 hours.
- Dissociative Anesthetics – 4-6 hours.
- Cannabinoids – 2-3 hours.
- CNS Stimulants – 5 minutes to 12 hours.
- Hallucinogens and Psychedelics – Varies, Depending on Hallucination.
- Narcotic Analgesics – 4-24 hours.
- Tricyclic Antidepressants – Long-Acting (24-hours for therapeutic effect; unpredictable intoxicating duration of effect.

# General Principle:

The more rapid the onset of action, the shorter the duration of effect.

# Onset of Action and Duration of Effect May Be Affected By

- Dosage.
- Route of Administration.
- Tolerance.
- Personal Metabolism.
- Energy Level.
- Other Drugs “On Board.”
- Pathophysiology.
- Et Cetera.

# Withdrawal

Physiological syndrome including sets of uncomfortable or endangering signs and symptoms caused by cessation of the introduction of a mood/mind-altering substance into the body.

# Top Drugs Which May Cause Life-Threatening Withdrawal Symptoms

- Alcohol (the MOST dangerous).
- “Pain-killers” (Prescription Opioids and Opiates).
- Heroin and Other Non-prescription Opiates.

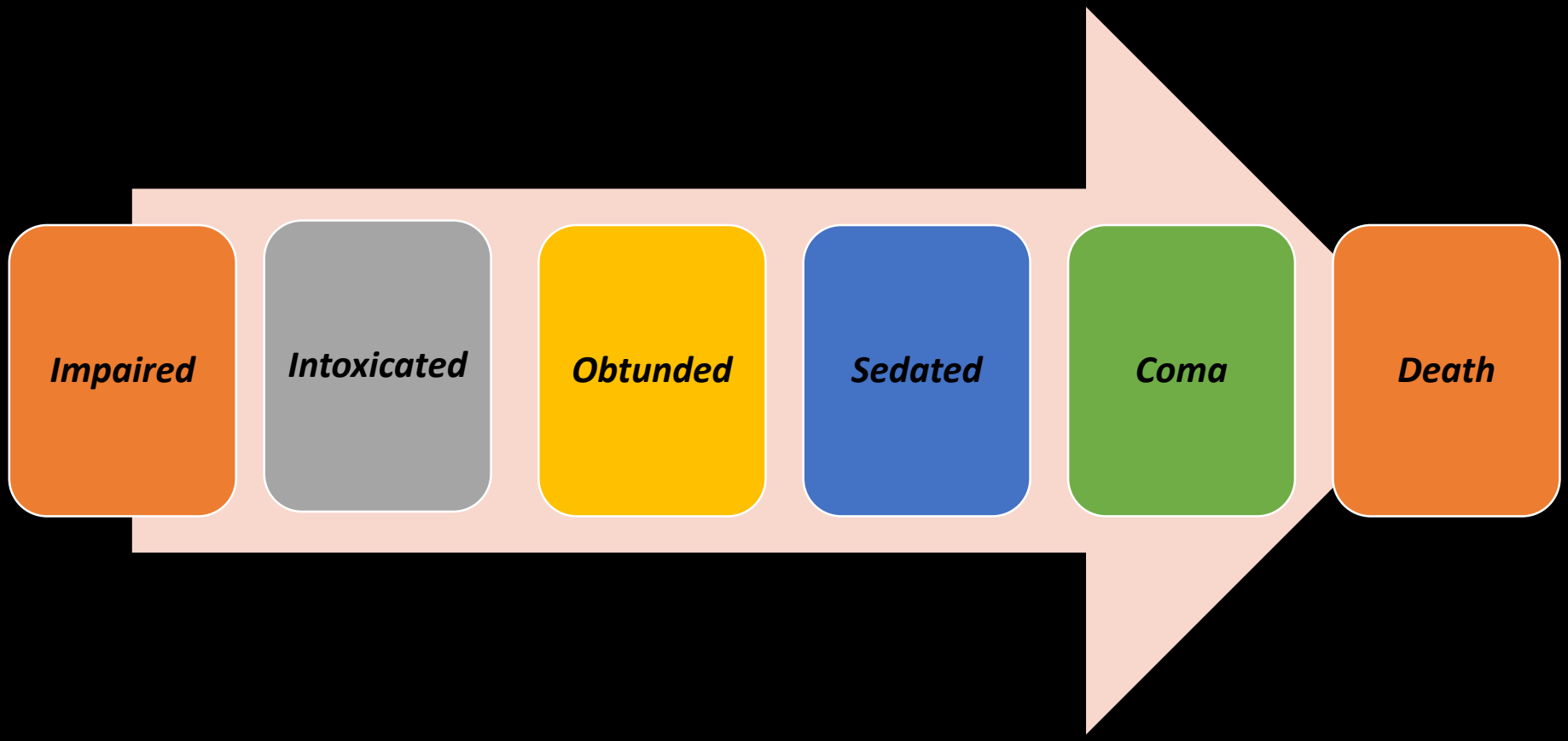

Taking a sufficient quantity of drug to cause detrimental side effects or adverse reactions which may or may not become life-threatening.

# Overdose Signs and Symptoms Per "Family" of Psychoactive Drugs

(NHTSA/IACP, 2015)

- CNS Depressants – Shallow breathing, cold and clammy skin, dilated pupils, rapid and weak pulse, and coma.
- Volatile Inhalants – Coma.
- Dissociative Anesthetics – Long, intense trip.
- Cannabinoids – Fatigue, Paranoia.
- CNS Stimulants – Agitation, Increased Body Temperature, Hallucinations, Convulsions.
- Hallucinogens and Psychedelics – Long, intense trip.
- Narcotic Analgesics – Slow, shallow breathing, clammy skin, coma, convulsions.
- Tricyclic Antidepressants – fever, cardiac dysrhythmias, fainting, seizures, coma, hypoventilation.

# Overdose Continuum



# Some Life-Threatening Physical Problems Associated with Overdose

- Respiratory and/or cardiac depression.
- Respiratory and/or cardiac arrest.
- Severe hypotension.
- Inhibition to hepatic and renal functions (liver and kidneys).
- Aspiration of vomit.
- Cerebral Vascular Accident ("Stroke").
- Convulsions / seizures.

# Synergistic Effect

1 + 1 = 4

Two substances combined with one another multiply the effect of each substance.

e.g. 1 ounce of alcohol combined with 1 narcotic painkiller = the effect of 2 ounces of alcohol and 2 narcotic painkillers.

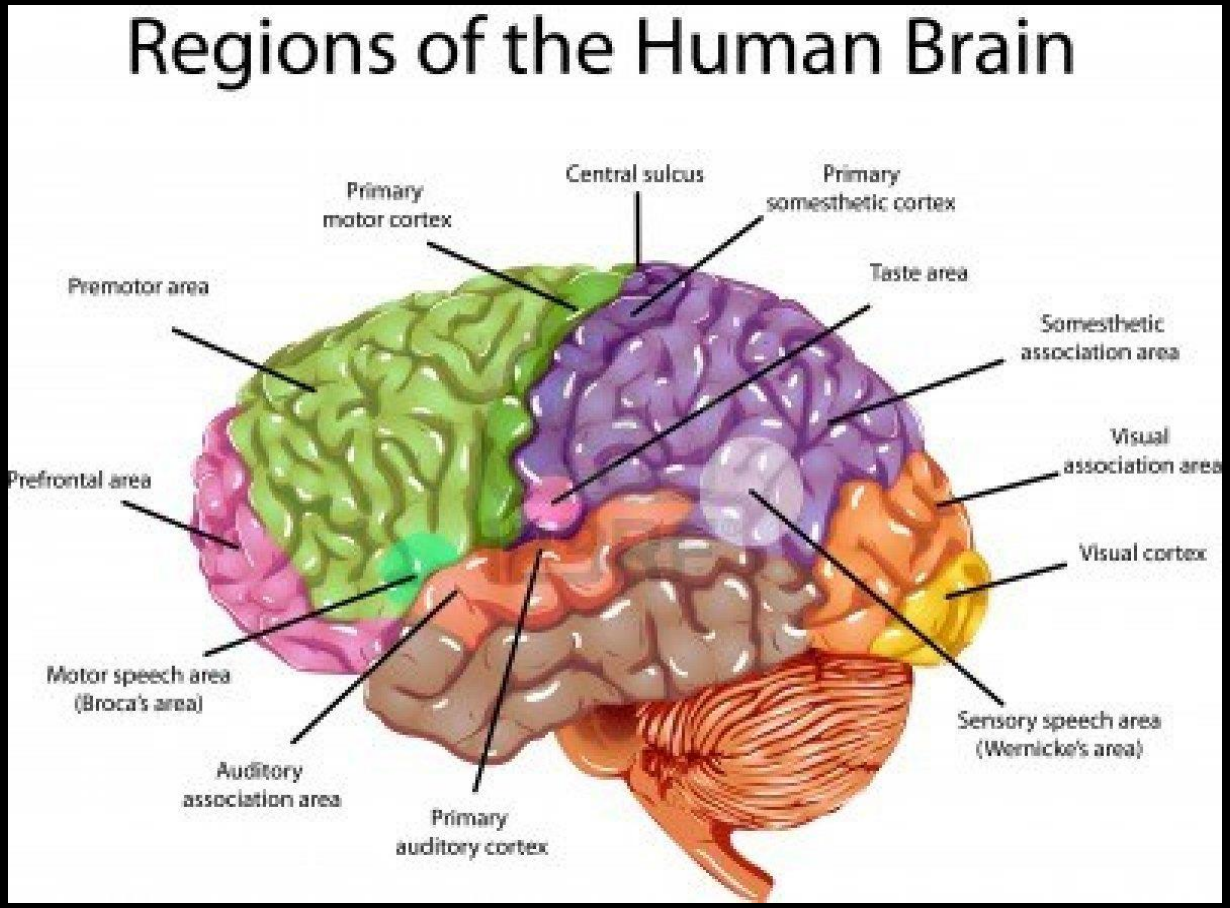
# Drug Effects Are Determined By

- Type and classification of drug.
- Dosage.
- Delivery system.
- Route of administration.
- Rate of delivery.
- Rate of absorption.
- Other “on board” substances.
- Individual physiological state.
- Psychosomatic state.
- Target area(s).

# DRUGS AND THE BRAIN

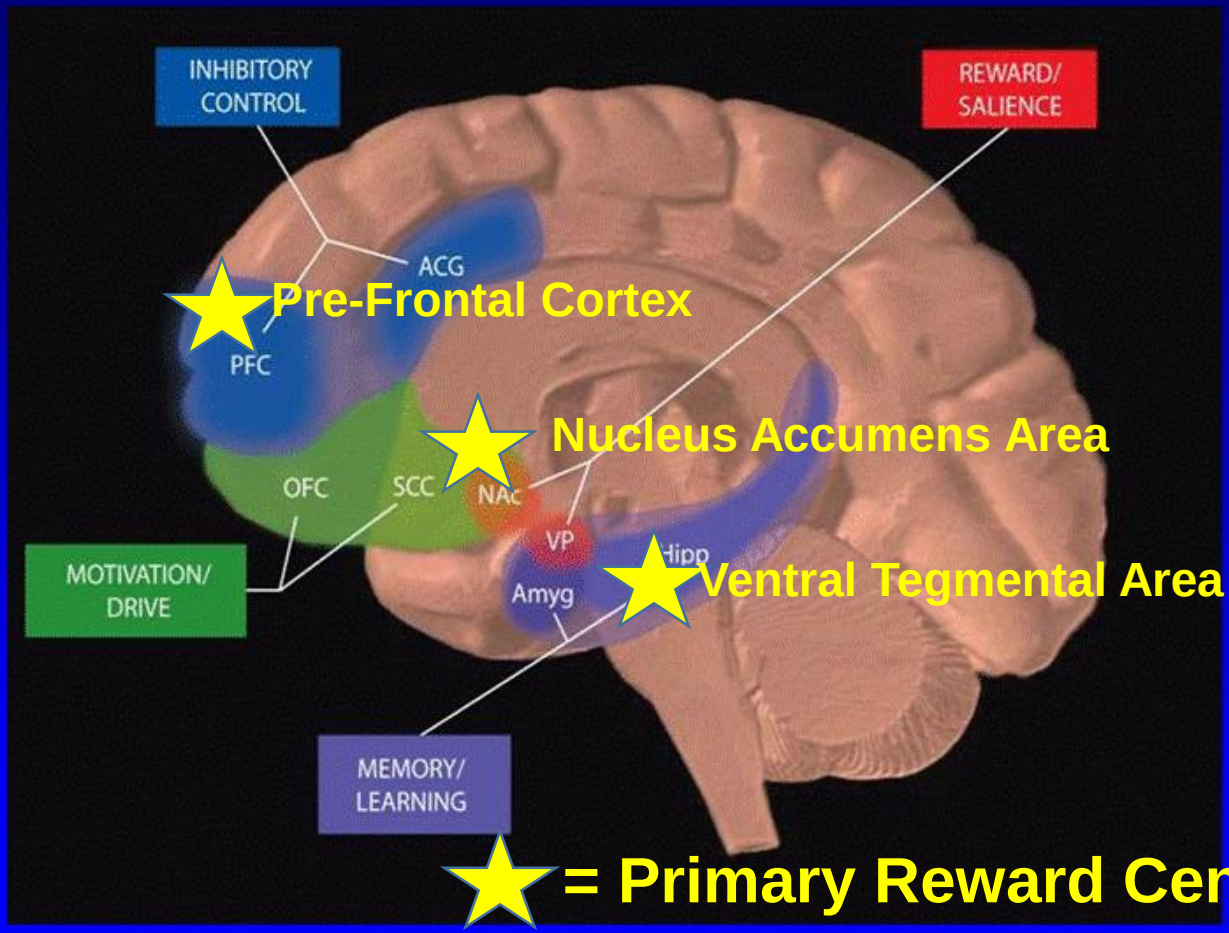
(Inaba & Cohen, 2014; Julien, 2001; NIDA, 2014)

# *The Brain is the One Organ of the Body that Can't Take a Joke!*




**AIR** **WATER** **GLUCOSE**

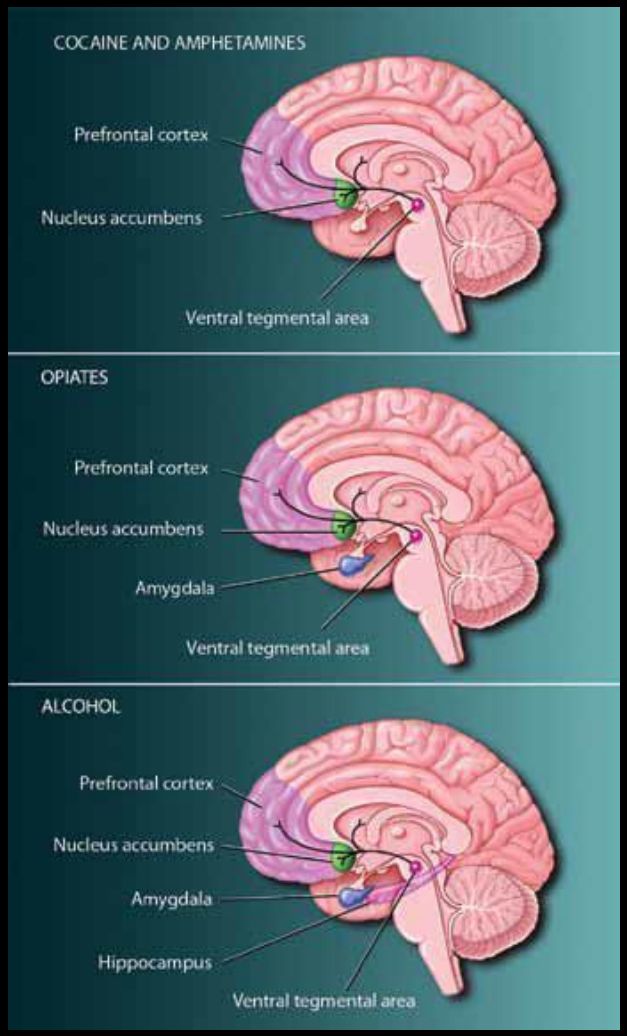
# *Circuits Involved In Drug Abuse and Addiction*

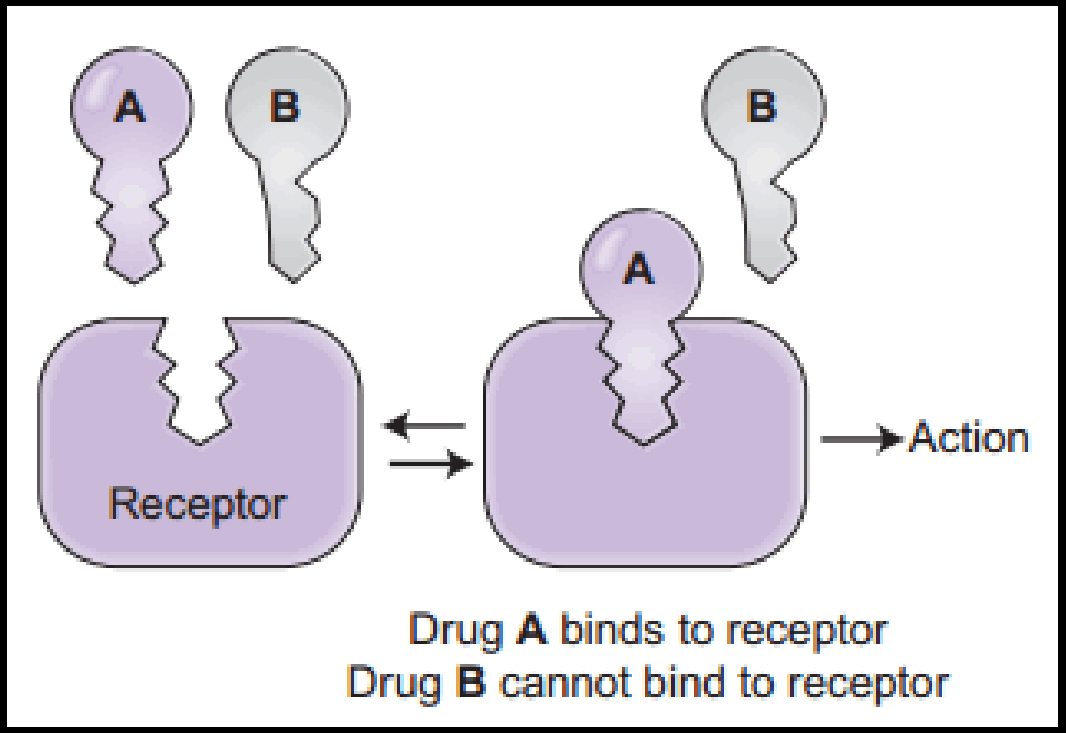



**All of these brain regions must be considered in developing strategies to effectively treat addiction**

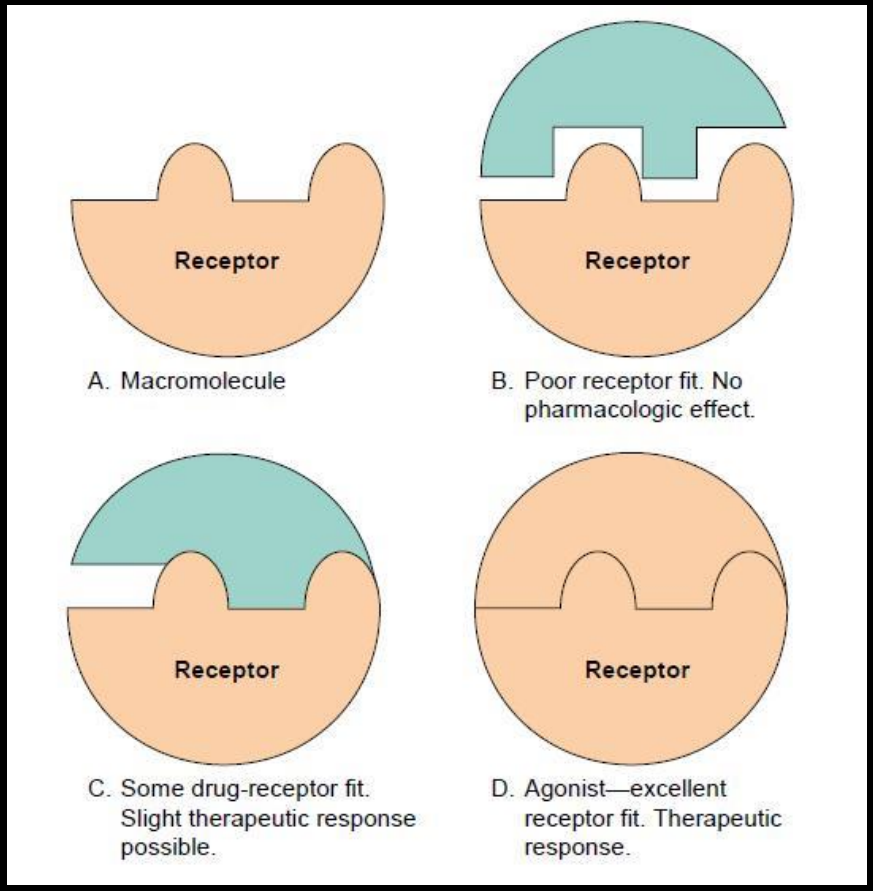
NIDA

# Specific Targets Vary, Depending on the Receptor Sites Which the Drugs Are Primarily Attracted To



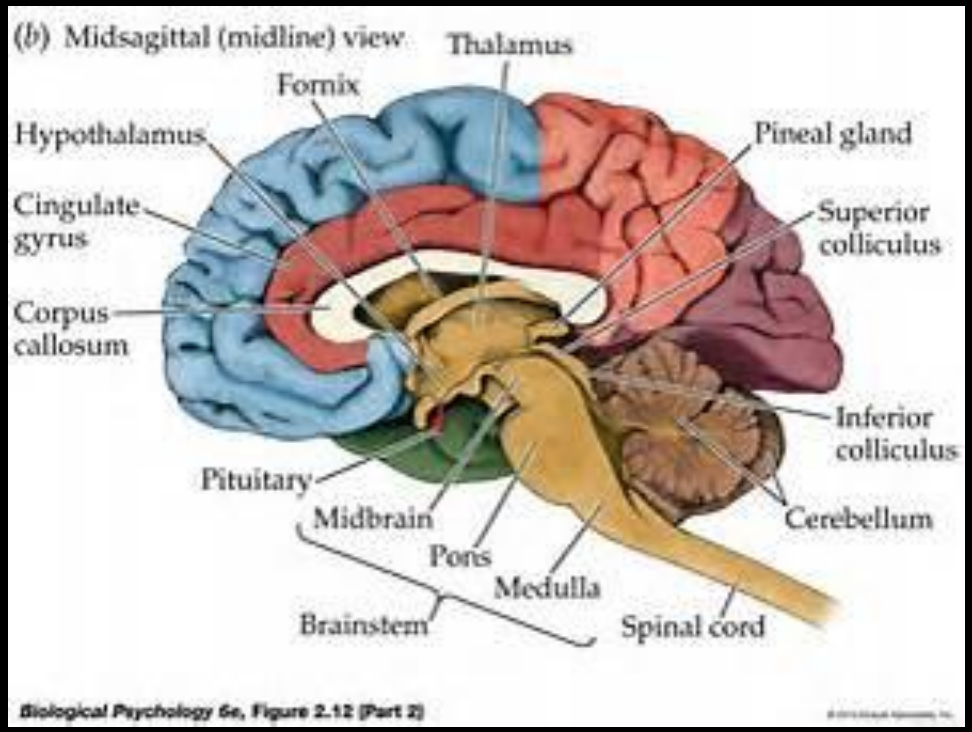
# For Example: Cocaine Tricks the Dopamine Receptor Sites



# ...Into Believing...

# Some Psychoactive Substances Have Primary Secondary, Tertiary, and Terminal Targets in the Brain

(Inaba & Cohen, 2014; Julien, 2001)

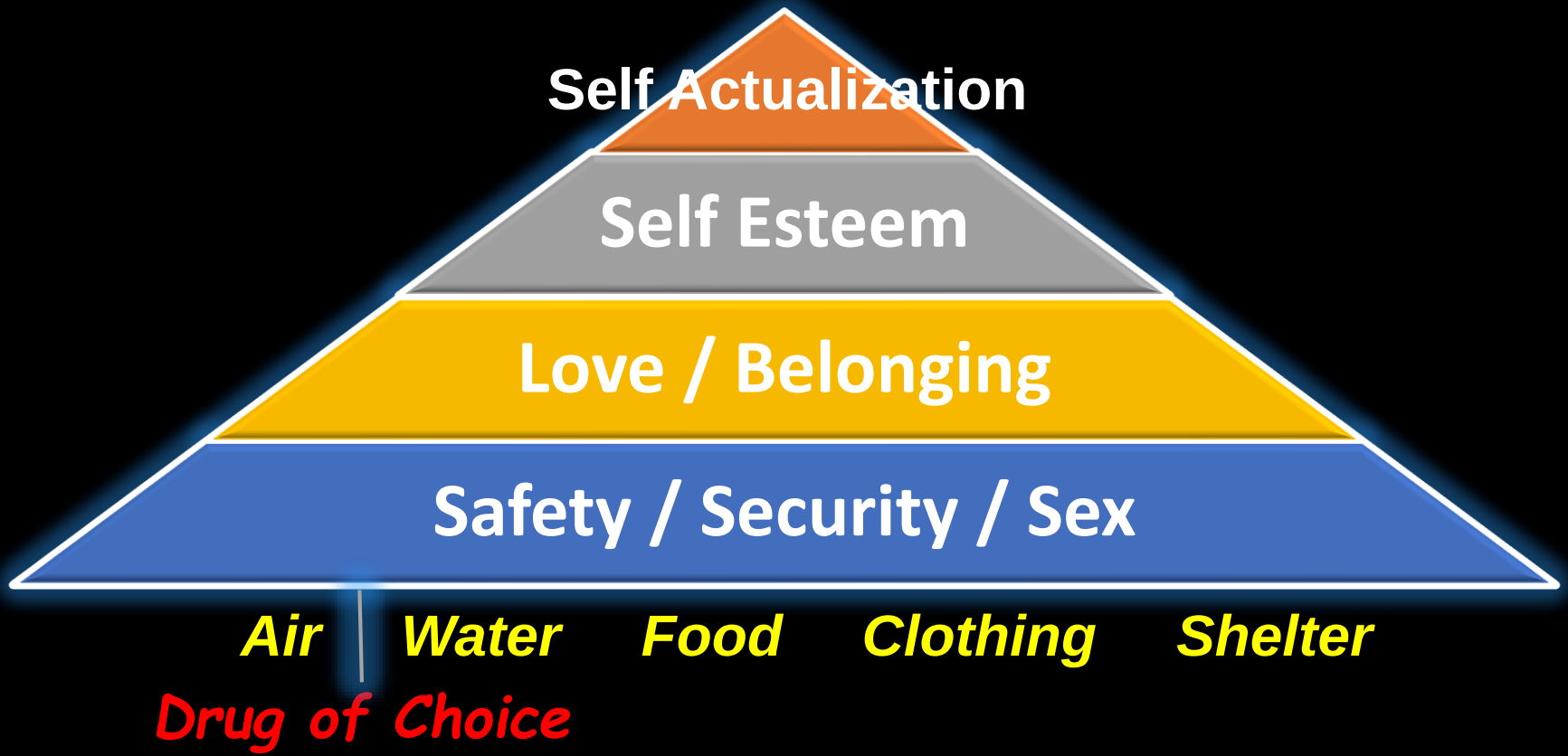



- Cerebrum - alcohol, sedatives, etc.
- Medulla Oblongata - alcohol, barbiturates, and other sedatives.
- Thalamus - some tranquilizers and analgesics.
- Hypothalamus - CNS stimulants.
- Cerebellum - alcohol.
- Reticular Formation - alcohol, barbiturates and other depressants. Stimulants, such as caffeine.
- Limbic - tranquilizers.

# The Brain Needs Psychoactive Drugs Like Paris Hilton Needs Another Hole in the Head

# …..AND YET…..

## Maslow's Hierarchy of Needs (with a Twist)



# ABOUT “DRUGS OF CHOICE”

(Inaba & Cohen, 2014; Kuhn, 2014; NHTSA/IACP, 2015)

# Classifications of Commonly-Misused or Abused Drugs

- Narcotics.
- Barbiturates.
- Non-barbiturate sedatives and hypnotics.
- Tranquilizers.
- CNS Stimulants.
- Barbiturate / Stimulant combinations.
- Cannabinoids.
- "Designer Drugs."
- Hallucinogens.
- Amphetamine-related psychedelics.
- Volatile Inhalants.
- Vasodilators.
- Antidepressants.
- Gastrointestinal medications.

# Categories of Psychoactive Substances, Per DRE and ARIDE Classifications

(NHTSA / IACP, 2015)

- CNS Depressants.
- Volatile Inhalants.
- Dissociative Anesthetics.
- Cannabinoids.
- CNS Stimulants.
- Hallucinogens.
- Narcotic Analgesics.

# Legal Classifications of "Scheduled" Drugs

(Controlled Substances Act ; Title 21 Code of Federal Regulations)

- Schedule I -- No currently-accepted medical use / high potential for abuse (e.g. heroin, cocaine, LSD, marijuana, peyote, methaqualone).
- Schedule II -- Current medical use / High potential for abuse (e.g. amphetamine, methamphetamine, hydrocodone).
- Schedule III -- Current medical use / Potential for abuse less than Schedule II drugs (e.g. Didrex, Ketamine, anabolic steroids).
- Schedule IV -- Current medical use / Low potential for abuse (e.g. Xanax, Soma, Klonopin, Tranxene, Valium, Restoril, Halcion).
- Schedule V -- Current medical use / Low potential for abuse / containing low quantity of narcotic (cough preparations, et cetera).

# CNS DEPRESSANTS

(Inaba & Cohen, 2014; Julien, 2001; Kee & Hayes, 1993; Kuhn, 2014; NHTSA/IACP, 2015)

# Depressants

- Drugs that lower energy level of the nervous system.
- Many are consumed illegally.
- Low doses of depressants can induce relaxation and "happiness," with feelings of cheerfulness, alertness and increased animation. *Scientists aren't sure why.*

# Sedatives and Hypnotics

- Induce sleep.
- Used therapeutically to reduce CNS activity.
- Sedatives specifically reduce desire for physical activity.
- Hypnotics - induce and maintain sleep by reducing anxiety and tension caused by excessive tiredness.

# CNS DEPRESSANT
# Common Diagnostic Signs and Symptoms of Intoxication (Inaba& Cohen, 2014; NHTSA/IACP, 2015)

- Lack of Coordination.
- Disorientation, Sluggishness, Drowsiness, Unconsciousness.
- Thick, Slurred Speech.
- Poor Fine and Gross Motor Coordination.
- Staggered Gait.
- Droopy Eyes.
- Horizontal Gaze Nystagmus.
- Vertical Gaze Nystagmus (in higher-than-normal dosages).
- Lack of Convergence.
- Normal Pupil Size; Soma and Quaalude May Dilate.
- Slow Pupil Reaction to Light.
- Depressed Heart Rate; Quaalude and ETOH May Elevate.
- Lowered Blood Pressure; ETOH Abuse May Cause Chronically-Elevated BP.
- Body Temperature Usually Normal.

# CNS DEPRESSANT
# Common Routes of Administration

- Orally Ingested.
- Injection…Usually Intravenously.

# Sedatives and Sedative-Hypnotics by "Family"

- Barbiturates: pentobarbital, phenobarbital, secobarbital, etc.
- Non-barbiturates: chloral hydrate, methyprylon, etc.
- Benzodiazepines: flurazepam, temazepam, triazolam.
- Alcohol: Primarily Ethanol.

# Commonly-Misused or Abused Barbiturates

- Phenobarbitol.
- Amytal and Amytal Sodium.
- Nembutal.
- Seconal.
- Tuinal.
- Butisol.

# Barbiturates

- Oldest and largest of sedative-hypnotics.
- Induce non-specific depression of CNS.
- Well-absorbed orally.
- Symptoms usually occur w/i 30-60 min.
- Duration =
  - secobarbital: 2-4 hrs.
  - pentobarbital: 4-6 hrs.
  - phenobarbital: 6-12 hrs.

# Barbiturates (cont'd)

- Prolonged and excessive use leads to tolerance and physical dependence.
- Cross-tolerant with alcohol.
- Overdose causes cardiovascular and CNS depression.
- Most frequent drug used in suicide attempts.
- Potentiate other depressant drugs.
- Manufactured both legally and illegally.

# Commonly-Misused or Abused Non-Barbiturate Sedatives and Hypnotics

- Chloral hydrate.
  - Combined w/ alcohol to make “Mickey Finn.” aka “knockout drops.”
- Doriden.
- Noludar 300.
- Placidyl.
- Methaqualone.
- Belladonna.
- Soma.
- Quaalude

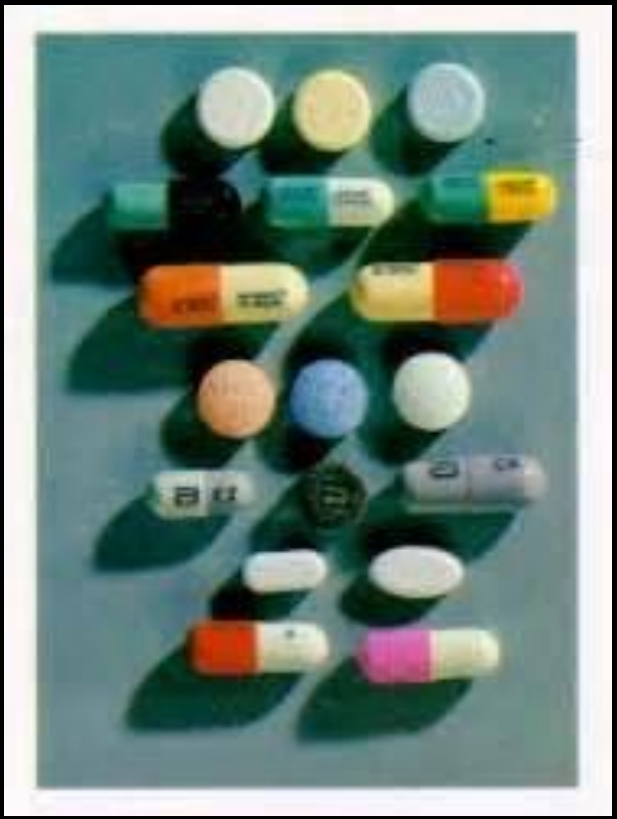
} DILATED PUPILS

# More about Non-Barbiturates

- Were produced as alternatives to barbiturates, but were found to be as problematic.
- Chloral hydrate similar to alcohol. It is metabolized similarly in liver.
- Produces less REM sleep suppression than barbiturates, so therefore commonly prescribed to elderly patients.

# Commonly-Misused or Abused Tranquilizers

- Valium.
- Librium.
- Ativan.
- Xanax.
- Miltown.
- Vistaril.



# Minor Tranquilizers

- Date back to the mid 1950's.
- Term used to differentiate them from "major" tranquilizers, such as Thorazine, used to treat psychotic patients.
- Name is misnomer:  these drugs are not minor in their effects.
- The first to appear on the market was meprobamate (Miltown).

# One Theory Suggests

First parts of the brain to be depressed are inhibitory centers that normally act to dampen mood.

As dosages increase, more and more parts of the nervous system are slowed down.

Still higher doses can cause coma, and total shutdown of vital centers of the brain.

In this sense, depressants are more dangerous than stimulants.
Also, they cause a wider variety of effects.

Much more popular as recreational drugs and tranquilizers are members of the *Benzodiazepine* family.

# Benzodiazepines

- Anti-anxiety drugs that increase the inhibitory effect of gamma-aminobutyric acid (aka “GABA,” a neurotransmitter in the CNS)
- lipid-soluble. Readily enter the CNS. Well-absorbed after oral administration.
- Don’t interfere w/ REM.
- Potentiate other CNS depressant drugs.

# Commonly-Misused or Abused Central-Acting / Long-Acting Benzodiazepines

- Librium.
- Clonopin.
- Tranxene.
- Valium.
- Dalmane.
- Centrax.

# Commonly-Misused or Abused Short-Acting Benzodiazepines

- Xanax.
- Ativan.
- Restoril.
- Halcion.

# *Caution!*

Alcohol, sedatives and tranquilizers potentiate the action and adverse effects of all skeletal muscle relaxants.

# GHB

- An endogenous “downer,” made in small amounts in the brain as a  metabolite of the sedative neurotransmitter GABA.
- 1960’s studies showed it to be a safe sleep inducer that doesn’t cause tolerance or addiction.
- In early 1990’s it became popular with bodybuilders due to pituitary stimulation.
- Was often sold unregulated in health food catalogs, etc. (posing as a nutrient.)
- A “synthetic sedative.”

# GHB (Cont'd)


- 5+ ml of GHB dissolved in warm water and taken on empty stomach results in effect akin to ETOH or methaqualone intoxication.
- GHB increases rather than suppresses dreaming, and induces what resembles natural sleep.
- Dangerous due to overdose likelihood. Now regulated by FDA. OTC GHB is now black market.
- 5% of the drug is excreted in the urine; primary metabolism is via the liver. Detection in urine difficult after 24 hours.

# Alcohol (Ethanol)

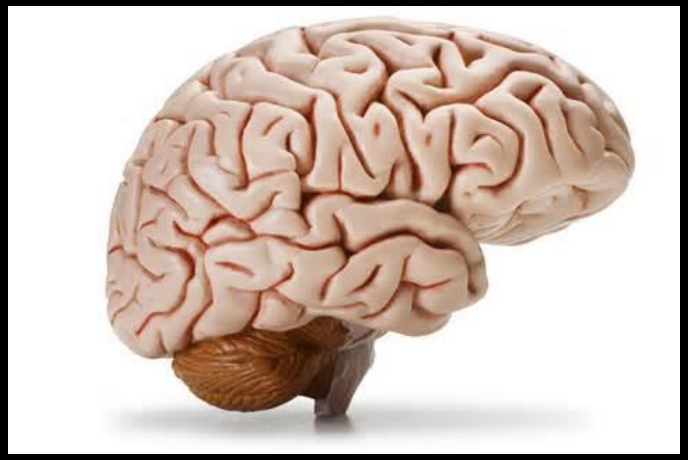
# Alcohol (ETOH)

- Most widely-used sedative-hypnotic.
- CNS depressant.
- “Feel disinhibited” due to depression of inhibitory areas within the brain.
- Progressively, excitatory and inhibitory fibers are depressed, leading to sedation, hypnosis and possibly coma.
- Also has analgesic and antipyretic effect.

# Alcohol (cont'd)

- Vasodilation due to depression of vasomotor centers in CNS.
- Many adverse and toxic effects of longterm and/or excessive alcohol abuse.
- Distributed to all tissues due to absorption throughout entire GI tract.
- Metabolized in constant state in liver. (10-15mL pure ETOH: hr.)
- Is transferred to the fetus in utero….often with devastating effects.

# Think of Your Brain as a Sponge.



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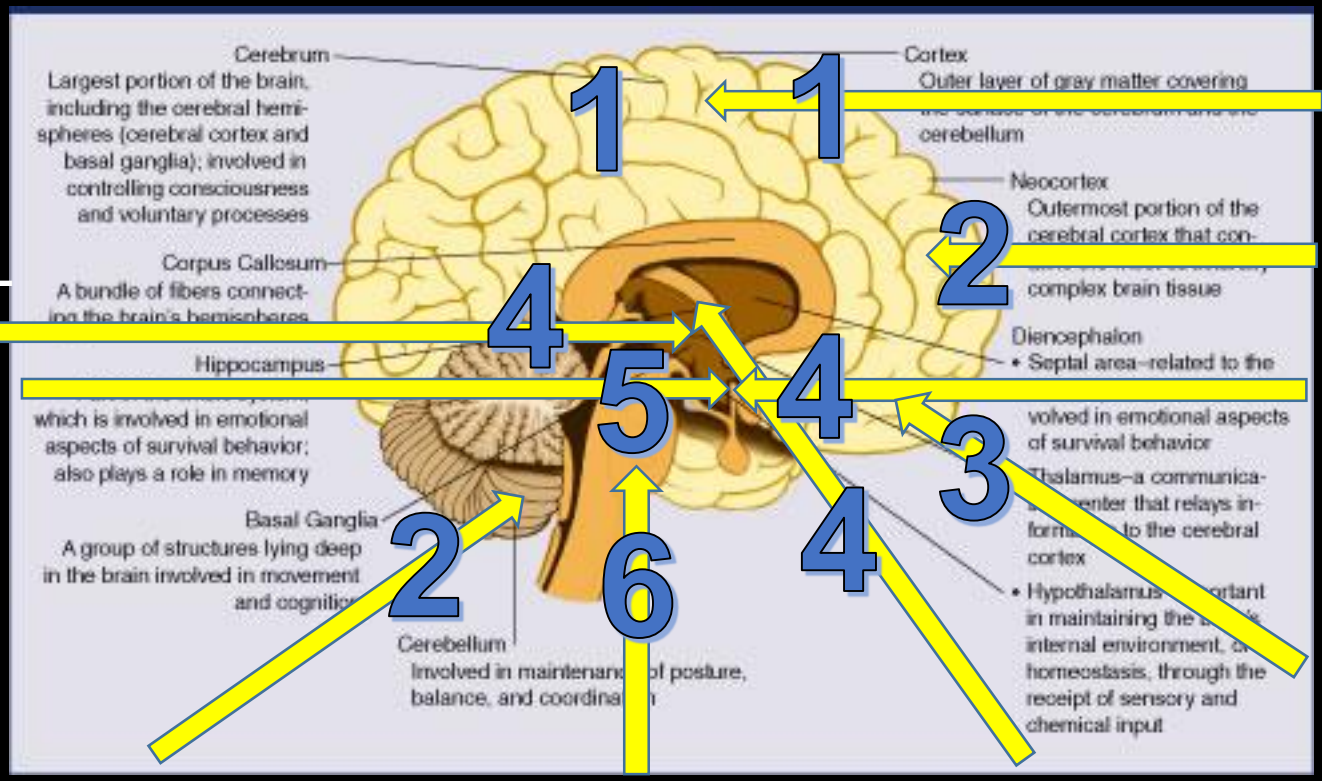
# Alcohol Saturates the Cerebral Cortex First

Think of it as “Bird Shot.”

As opposed to Cocaine, for example, which specifically targets the midbrain first, in a more concentrated, almost-instantaneous powerful point of impact.

Think of Cocaine as a “12 Gauge Shotgun Slug.”

# Eventually, Alcohol Gets Around.




**JUDGMENT**

**SELF-CONTROL**

**HABITUAL ACTION**

**SLEEP**

**APPETITES**

**DRIVE TO DRINK**

**COORDINATION and BALANCE**

**HEART RATE and RESPIRATION**

**MEMORY and RECALL (BLACKOUTS)**

*Ever wonder how an extremely intoxicated individual can remember how to drive home, but can't remember getting there?*

# FETAL ALCOHOL SYNDROME

Fetal damage resulting from alcohol ingestion by the mother
Often vary, depending upon frequency and volume of consumption, and in what trimester(s) the mother drank.

# Discussion

Why do you think there is common differentiation made between alcohol and other CNS Depressants?

*“Drugs and Alcohol”*

# Possible Reasons

- Legality.
- Society's view of alcohol vs. other sedative-hypnotics.
- Alcohol usually used recreationally, not as a medication.
- Barbiturates and other depressants are non-caloric, unlike alcohol, which is caloric. The body cannot burn those depressants as fuel, but must metabolize them in other ways.

# Reasons (cont'd)

- The body treats alcohol like a poison….because it is.
- Other depressants are not as toxic over time as alcohol.
- Tolerance occurs with both, but with a difference:
  - Tolerance to the effects on mood occurs faster than tolerance to the lethal dose.
  - People therefore run a greater risk of accidentally killing themselves with depressants other than alcohol than with alcohol.

# VOLATILE INHALANTS

(Inaba & Cohen, 2014; Julien, 2001; Kee & Hayes, 1993; NHTSA/IACP, 2015)

# VOLATILE INHALANT
# Common Diagnostic Signs and Symptoms of Intoxication (Inaba & Cohen, 2014; NHTSA / IACP, 2015)

- Lack of Coordination.
- Disorientation, Sluggishness, Drowsiness, Unconsciousness.
- Thick, Slurred Speech.
- Poor Fine and Gross Motor Coordination.
- Staggered Gait.
- Droopy Eyes.
- Paint Residue Around Nose and Mouth; Bag with Residue In H
- Horizontal Gaze Nystagmus.
- Vertical Gaze Nystagmus (in higher-than-normal dosages).
- Lack of Convergence.
- Normal Pupil Size; Sometimes May Dilate.
- Slow Pupil Reaction to Light.
- Increased Heart Rate.
- Lowered Blood Pressure with Anesthetic Gases; Elevated PB with Solvents and Aerosols.
- Body Temperature may be Elevated, Lowered, or Normal.

# VOLATILE INHALANT
# Common Route of Administration

- Inhalation.

# Commonly-Misused or Abused Volatile Inhalants

- Spray paints (Especially Krylon gold or silver metallic).
- Aerosols.
- Airplane Glue.
- Solvent.
- Gasoline and other Petroleum derivatives.
- Ether.
- Nitrous Oxide.


# Commonly-Misused or Abused Vasodilators

- Amyl Nitrite.
- Butyl Nitrite.


# Amyl Nitrite

Commonly used to treat angina pectoris, is often abused due to its radical vaso-dilative effects. It has rapid onset of action, and short duration of effect.

It was a prescription drug until 1960, then converted to OTC, gaining in popularity as a recreational drug.  In 1969, FDA reimposed the prescription requirement.

# Butyl Nitrite and Isobutyl Nitrite

"Locker Room" and "Rush"

non-prescription chemical relative of amyl nitrite.

Similar effects.

# Commonly-Misused or Abused Amphetamine-related Psychedelics

- MDA.
- STP.
- AMMDA.
- MDM.
- DOEM.
- PMA.
- TMA.
- DOB.

# DISSOCIATIVE ANESTHETICS

(Inaba & Cohen, 2014; Julien, 2001; Kee & Hayes, 1993; Kuhn, 2014; NHTSA/IACP, 2015)

# DISSOCIATIVE ANESTHETIC
# Common Diagnostic Signs and Symptoms of Intoxication (Inaba & Cohen, 2014; NHTSA / IACP, 2015)

- Sweating.
- Warm Skin.
- Bland Stare.
- Speech Difficulty; Incomplete Verbal Responses; Repetitive Speech.
- Increased Pain Threshold.
- Cyclical Behavior; Confused and Agitated; Often Violent/Combative; Chemical Odor.
- "Moon Walking."
- Horizontal Gaze Nystagmus.
- Vertical Gaze Nystagmus.
- Lack of Convergence.
- Normal Pupil Size; Normal Pupil Reaction to Light.
- Elevated Heart Rate and Elevated Blood Pressure.
- Elevated Body Temperature.

# DISSOCIATIVE ANESTHETIC
# Common Routes of Administration

- Orally Ingested.
- Smoked.
- Inhaled.
- Eye Drops.

# Commonly-Abused Dissociative Anesthetics

- Ketamine ("Special K").
- PCP (Phencyclidine).
- DXM (Dextromethorphan).

# Ketamine

- Dissociative anesthetic often used in surgery. It creates a “trance-like state,” pain relief, and amnesia.
- Commonly abused by impaired medical professionals.
- Side effects of abuse may include agitation, confusion, and psychosis. It can also cause elevated blood pressure, or rarely, low blood pressure.
- Classified as an NMDA receptor antagonist, but also acts on opioid receptors.
- In a 2005-2013 study in England and Wales, approximately 10+ people a year died as a result of ketamine abuse, due to accidental poisonings, drownings, traffic accidents, and suicides.

# PCP

- Phencyclidine (a.k.a. “angel dust”) is a dissociative anesthetic on the market from 1950-1965. Taken off market due to high incidence of hallucinogenic side effects.
- Still used as “horse tranquilizer” by veterinarians; therefore it is Schedule II, rather than Schedule I.
- Replaced by ketamine due to efficacy and safety.
- Ingested, smoked, inhaled, or injected.
- Often used to “lace” tobacco and marijuana cigarettes.
- Behavioral effects vary by dosage. Very unpredictable.
- May induce extreme strength, violence, psychosis, self-mutilating behavior, et cetera.
- Commonly addictive.

# PCP

- Though it functions as a tranquilizer for horses, it has paradoxical effects on humans.
- ACTS like a powerful CNS stimulant, but also has CNS depressant, analgesic, anticonvulsant and hallucinogenic properties. HIGHLY UNPREDICTABLE!
- Primarily psychologically-dependent prone (powerfully).

# DXM

- Common ingredient in “over-the-counter” cough suppressant cold medicines.
- No psychoactive effects when taken in therapeutic dosage.
- DXM is often combined with APAP (acetaminophen a.k.a. Tylenol).
- Strong dissociative properties when taken in high dosages, well above therapeutic limit. This is particularly dangerous, due to APAP-poisoning.
- Euphoria, Closed-Eye Hallucinations, psychosis, psychological dependence (often not physical).
- Sudden withdrawal from chronic abuse → depression, irritability, cravings, lethargy, body aches, and unpleasant tingling.
- High dosages may result in false positive for PCP and opiates.
- Overdose – Give naloxone IV.

# DXM Effects

- First Plateau (1.5-2.5 mg/kg).
  - Euphoria, auditory changes, change in perception of gravity.
- Second Plateau (2.5-7.5 mg/kg).
  - Intense euphoria, vivid imagination, closed-eyed hallucinations.
- Third and Fourth Plateau (600 mg or 7.5 mg/kg).
  - Profound alteration of consciousness, out-of-body experiences, temporary psychosis.
  - Lethal dosage may be between 50 and 500 mg/kg.

# CANNABINOIDS

(Inaba & Cohen, 2014; Julien, 2001; Kee & Hayes, 1993; Kuhn, 2014; NHTSA/IACP, 2015)

# CANNABINOID
# Common Diagnostic Signs and Symptoms of Intoxication (Inaba & Cohen, 2014; NHTSA / IACP, 2015)

- Reddened Eyes.
- Odor of Marijuana.
- Body and/or Eye Tremors.
- Relaxed Inhibitions.
- Increased Appetite.
- Impaired Perception of Time and Distance.
- Possible Paranoia; Disorientation; Hallucinations.
- Gaze Nystagmus Usually Not Present With No Other Drugs "On Board."
- Lack of Convergence.
- Dilated or Normal Pupil Size.
- Normal Pupil Reaction to Light.
- Increased Heart Rate and Elevated Blood Pressure
- Body Temperature may be Elevated, Lowered, or Normal.

# CANNABINOID
# Most Common Routes of Administration

- Inhalation / Smoking.
- Feel effects within minutes.
- Smoking is fastest.
- Peaks at 10-30 minutes.
- Duration of effect – 2-3 hours.
- Oral Ingestion.
- Slower absorption.
- Longer duration of effect.
- Transdermal Absorption
- Patches.

# Pharmacokinetic Rule of Thumb

*"The longer the ONSET OF ACTION, the shorter the DURATION OF EFFECT."*

# Decarboxylation Required to Get High

## THC Potency Percentages Vary

(DRE, 2019)

- 1990's – 3.7% average.
- 2013 – 9.6% average.
- 2015 – 18.7% average.
- 2016 – 17.1% average. "What happened?"

# Commonly-Misused or Abused Cannabinoids

- Marijuana.
- Hashish.
- THC (Delta-9-Tetrahydrocannibinol).
- Hash Oil.
- "Smash."
- Synthetic Cannabinoids.
- Super-Critical $CO_2$ Oil *(Not likely to see made in OK: Requires super-expensive equipment)*

# Marijuana

- Ancient drug, derived from cannabis sativa ("High"), cannabis indica ("Stoned") and ruderalis plants, as well as hybrid plants , which commonly combine sativa and indica, at varying comparative potencies.
- Unique chemical structure, insoluble in water, but soluble in oil. Therefore absorbed unevenly when eaten, then stay in body a long time, accumulating in body fat.
- Technically not a stimulant or depressant; it has features of both.
- Psychedelic properties are different from other hallucinogens.

# Sativa versus Indica Plants

**Cannabis Sativa**

- "High."
- Taller plant (up to 25').
- Thinner leaves.
- Longer flowering period.
- Higher yield per plant.
- Requires more light than Indica.

**Cannabis Indica**

- "Stoned."
- More sedating.
- 2' – 6' height, on average.
- Broader, fatter leaves.
- Better grown indoors.
- Higher levels of THC.
- Increased pain relief.

# Cannabis Ruderalis

- Grows wild.
- Low potency.

# Hybrids
## (Customized for Specific Effects)
(DRE, 2016)

- Sativa + Sativa.
- Sativa + Indica (Sativa Dominant).
- Indica + Indica.
- Indica + Sativa (Indica Dominant).

# Metabolites
(DRE, 2016)

- Hydroxy THC leaves blood plasma in 6 hrs. In Recreational Marijuana and other Cannabinoids) – Psychoactive.
- Carboxy THC remains in blood stream for days, weeks, months.  Used to make therapeutic CBD Oil) – Non-Psychoactive.

THC and CBD are found in the
TRICHOMES
of the marijuana plant.
Trichomes are small, hairlike outgrowths, growing from the epidermis of a plant. They are typically unicellular and glandular.

# Marijuana and other Cannibinoids

- From the cannabis sativa plant.  Active ingredient: THC (Delta-9 Tetrahydrocannabinol).
- Intoxicating effects vary, depending on individual metabolism, level of THC, method of absorption.

# Synthetic Cannabinoids


- Spice.
- K2.
- Incense.
- Fake Weed.
- Yucatan Fire.
- Indian Warrior.
- Wild Dagger.
- Genie.
- Skunk.
- Moon Rocks.
- Zohai.
- Black Mamba.
- Lion’s Tail.
- Pinaca.

# Synthetic Cannabis Traits

- Designer drug made with herbs, incense, or other leafy materials, sprayed with lab-synthesized chemicals.
- Psychoactive effects mimic the effects of Tetrahydrocannabinol (THC).
- Emerged on American market circa 2008.
- Often marketed as incense, et cetera, “Not for human consumption.”
- In June, 2012, nationwide ban on sales was enacted in U.S.
- Included in both smoked and edible forms.
- Some forms are stronger than natural marijuana, with more devastating side effects and adverse reactions.
- The 5 active chemicals in Synthetic Cannabinoids are listed as Schedule I illicit substances.

# SPICE / K2 – “Designer Drug”


- Highly dangerous synthetic cannabinoid.
- Now Schedule I.
- Bond to both CB1 and CB2 receptors.
- More powerful than phytocannabinoids (plant derivative).
- Highly unpredictable side effects and adverse reactions.

# Concentrates
## (Have No Odor or Taste)
## (DRE, 2016)

- Hash – Dried, pressed Trichomes. 30-50% average THC in 2013. Produced largely in Morocco, Afghanistan, and Nepal).

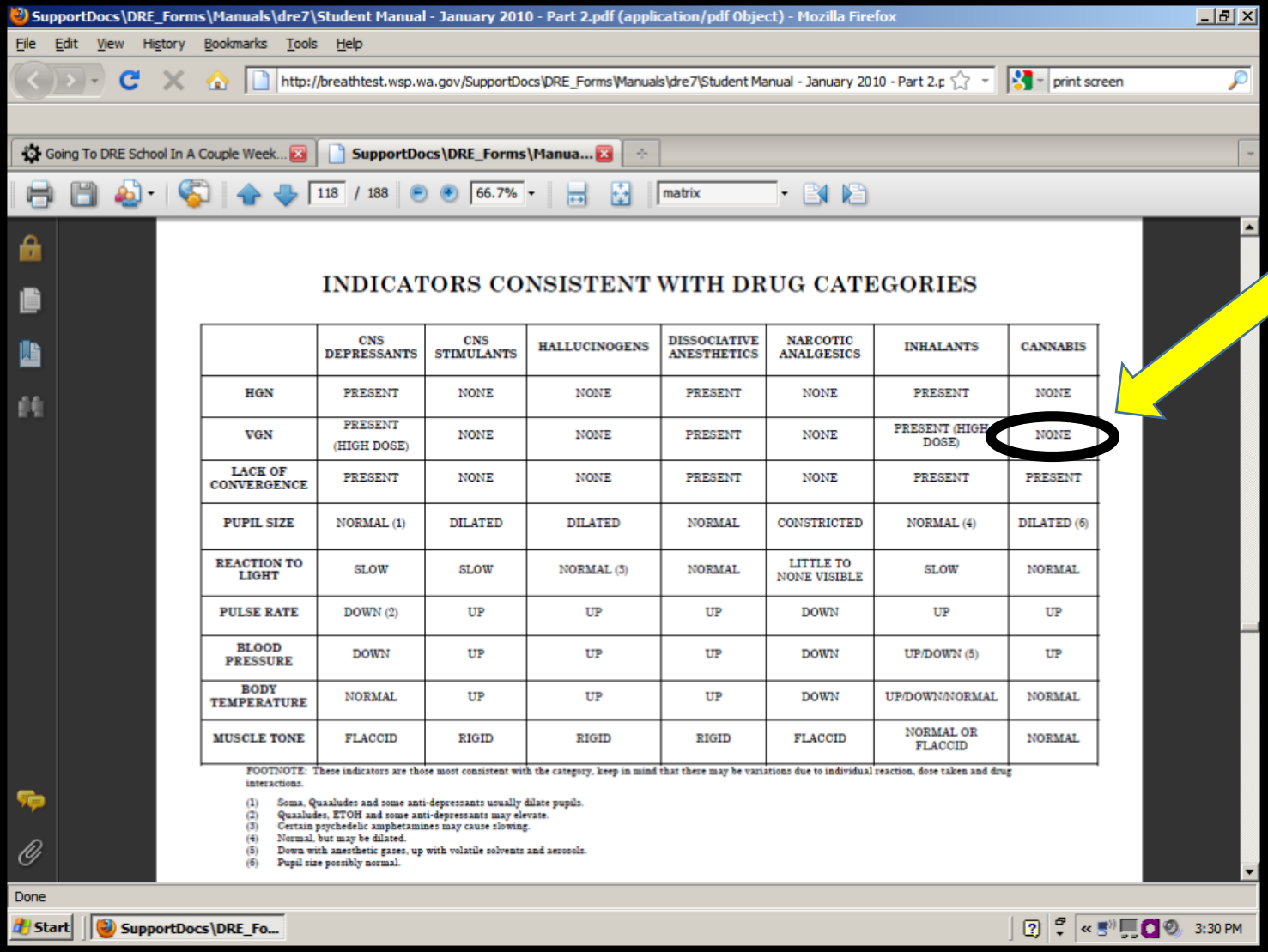
## Other Resin Concentrates

- Keif.
- Rosin.
- BHO.
- Crumble.
- Wax.
- Budder.
- Shatter.
- Live Resin (looks crystalline).
- CO2 Oil.
- Various Distillates, such as “Cream of the Crop.”

# BUDDER

- Paste-like substance made from THC and other derivatives from cannabis plants.
- Made by soaking cannabis plants in solvents such as BUTANE, to form a paste which can be hardened.
- Extremely potent.
- Commonly smoked and vaporized.


# Be Cautious Using DRE Matrix




## INDICATORS CONSISTENT WITH DRUG CATEGORIES

| | CNS DEPRESSANTS | CNS STIMULANTS | HALLUCINOGENS | DISSOCIATIVE ANESTHETICS | NARCOTIC ANALGESICS | INHALANTS | CANNABIS |
|---|---|---|---|---|---|---|---|
| HGN | PRESENT | NONE | NONE | PRESENT | NONE | PRESENT | NONE |
| VGN | PRESENT (HIGH DOSE) | NONE | NONE | PRESENT | NONE | PRESENT (HIGH DOSE) | NONE |
| LACK OF CONVERGENCE | PRESENT | NONE | NONE | PRESENT | NONE | PRESENT | PRESENT |
| PUPIL SIZE | NORMAL (1) | DILATED | DILATED | NORMAL | CONSTRICTED | NORMAL (4) | DILATED (6) |
| REACTION TO LIGHT | SLOW | SLOW | NORMAL (3) | NORMAL | LITTLE TO NONE VISIBLE | SLOW | NORMAL |
| PULSE RATE | DOWN (2) | UP | UP | UP | DOWN | UP | UP |
| BLOOD PRESSURE | DOWN | UP | UP | UP | DOWN | UP/DOWN (5) | UP |
| BODY TEMPERATURE | NORMAL | UP | UP | UP | DOWN | UP/DOWN/NORMAL | NORMAL |
| MUSCLE TONE | FLACCID | RIGID | RIGID | RIGID | FLACCID | NORMAL OR FLACCID | NORMAL |

FOOTNOTE: These indicators are those most consistent with the category, keep in mind that there may be variations due to individual reaction, dose taken and drug interactions.

(1) Soma, Quaaludes and some anti-depressants usually dilate pupils.
(2) Quaaludes, ETOH and some anti-depressants may elevate.
(3) Certain psychedelic amphetamines may cause slowing.
(4) Normal, but may be dilated.
(5) Down with anesthetic gases, up with volatile solvents and aerosols.
(6) Pupil size possibly normal.

Example

# “Dilantin Toxicity”

- Dilantin is an Anti-Epileptic Drug (AED), commonly used to treat epilepsy, and sometimes other seizure disorders.
- Dilantin toxicity can produce VGN, without HGN.
- Cannabis blocks Cytochrome P-450, a hepatic enzyme, which can result in higher blood levels of Dilantin.


+

*Is it possible that one or more of the other 25 AEDs might also cause VGN when at toxic levels?*

# New Oklahoma Statutes re: Medicinal Marijuana Allow For
(With License)

- Less than 3 ounces of Marijuana.
- 6 Plants (seedlings and mature plants).
- 1 ounce of Concentrated Marijuana.
- 72 ounces of Edible Marijuana foods.
- 1.5 ounces of Medical Marijuana.

*But NOT on State Properties, such as NWOSU.*

# CNS STIMULANTS

(DEA, 2008; Inaba & Cohen, 2014; Johnson, 2005; Johnson, 2008; Julien, 2001; Karch, 1998; KCI.org, 2008; Kee & Hayes, 1993; Kuhn, 2014; ONDCP, 2008; NHTSA/IACP, 2015; Sanchez & Harrison, 2004)

# CNS STIMULANT
# Common Diagnostic Signs and Symptoms of Intoxication (Inaba & Cohen, 2014; NHTSA / IACP, 2015)

- Restlessness.
- Body Tremors.
- Excited and/or Euphoric State; Irritability; Increased Alertness; Anxious; Insomnia.
- Talkative; Often Rapid Speech; Tangential Thinking.
- Bruxism (Grinding Teeth).
- Dry Mouth.
- Redness Around Nasal Area; Runny Nose.
- Anorexia and/or Loss of Appetite.
- Gaze Nystagmus Usually Not Present With No Other Drugs "On Board."
- NO Lack of Convergence.
- Dilated Pupils.
- Slow Pupil Reaction to Light.
- Increased Heart Rate and Elevated Blood Pressure.
- Elevated Body Temperature.

# CNS STIMULANT
# Common Routes of Administration

- Smoking.
- Inhalation (Snorting).
- Injection.

# Commonly-Misused or Abused CNS Stimulants

- Cocaine.
- Crystal Methamphetamine.
- “Crank.”
- PCP.
- Benzedrine.
- Dexedrine.
- Biphetamine.
- Preludin.
- Caffeine.
- Nicotine.
- OTC analeptics.

# Caffeine

- Documentation re: stimulant effect of coffee goes back over a thousand years.
- Caffeine was first extracted from coffee in 1821.
- Extracted / refined caffeine is less powerful than raw caffeine in coffee.
- It is a stimulant, a diuretic and a genitourinary irritant. It can cause headaches, heart palpitations, anxiety and insomnia.
- Withdrawal may include lethargy, irritability, vascular headaches, nausea and vomiting.

# More About Withdrawal from Caffeine

- Onset is usually 24-36 hrs. after last consumption.
- Usually lasts 36-72 hrs.
- Immediately remedied if caffeine is taken in any form.

# Caffeine Is Also Found in Other Plant Products

- Cacao.
- Cola.

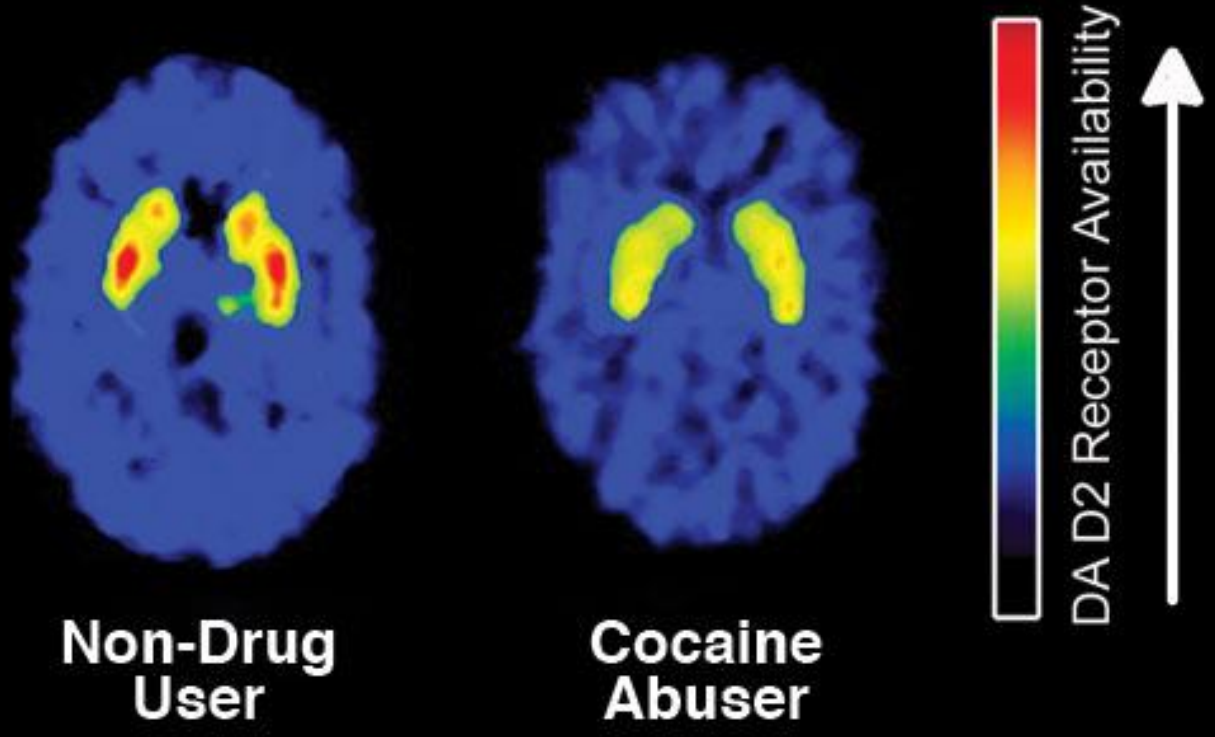
# Cocaine


- Derived from coca leaves, which contain low concentrations of cocaine. (0.5%)
- Coca contains 14 drugs, cocaine being the most prominent.
- When refined / processed, it is inhaled or smoked for its CNS stimulant effects.
- Cocaine, when applied to mucous membranes, is also a topical anesthetic. (for this reason it was initially mis-classified as a narcotic.)
- Cocaine is Schedule II due to its anesthetic form.

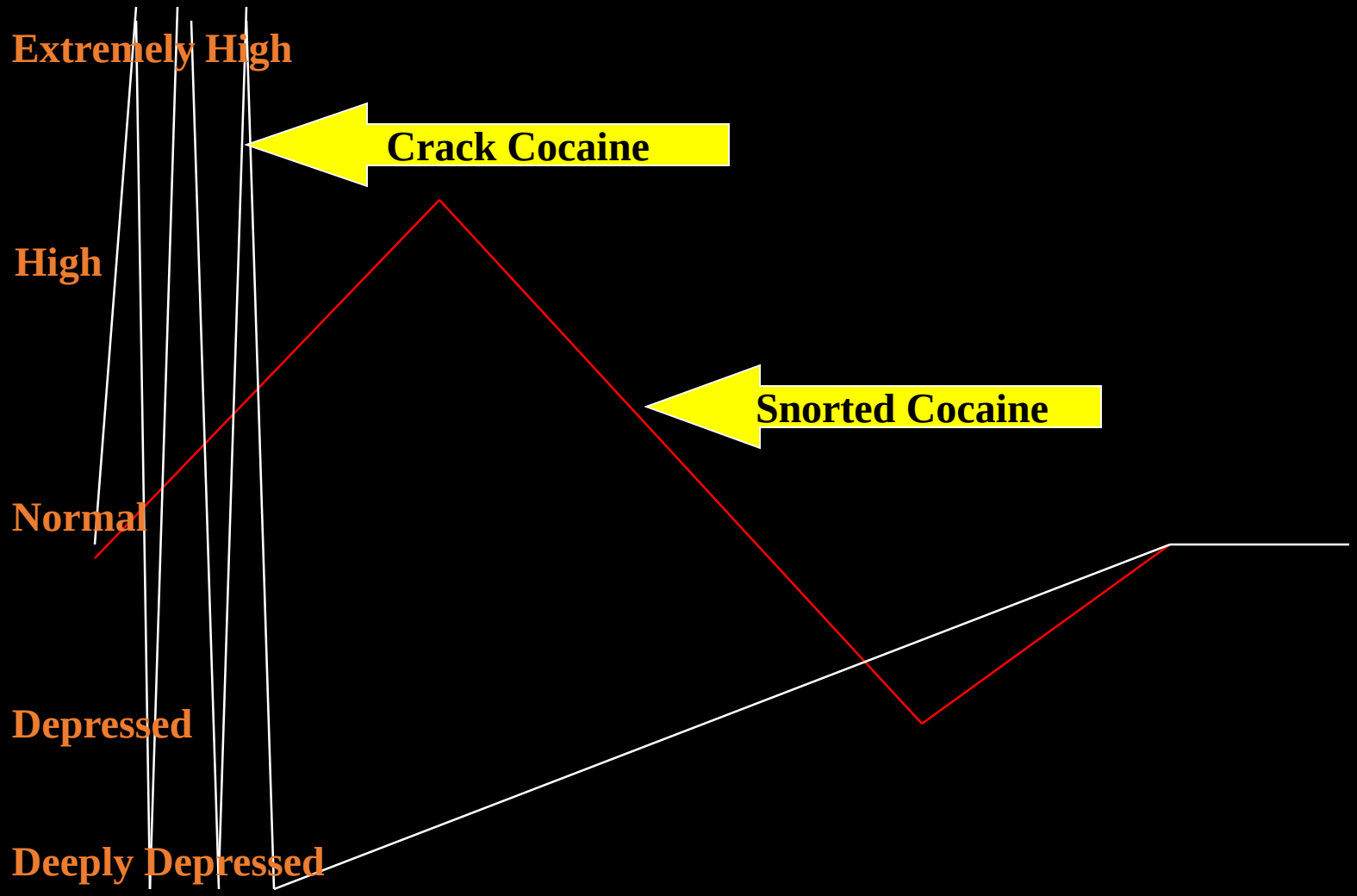
# More About Cocaine

- Combustion temperature is too high to smoke unmitigated cocaine. It is therefore mixed with baking soda (crack cocaine) or a combustible gas, such as ether (free basing) to allow for combustion.
- Extremely addictive, cocaine also is capable of producing hallucinations, delusional thinking, as well as sundry adverse reactions such as cardiac dysrhythmias. Cocaine overdose is often fatal.

# Cocaine Tricks the Brain



# Comparison of Crack Cocaine and Snorted Cocaine Effects



# *Bottom* Line….Don't Do *Crack*. Please Excuse BOTH *Buns*….uh, I Mean PUNS.

***Off-Duty Plumber***

# Nicotine

Alkaloid drug in tobacco that stimulates ganglionic receptors.

# Nicotinic-1 Receptors

Cholinergic receptors at both sympathetic and parasympathetic ganglia.

So, nicotine is a “near-perfect drug of choice” because it cuts both ways…providing stimulation to both the sympathetic and parasympathetic nervous systems.

*Too bad it’s a poison.*

# Nicotinic-2 Receptors

Cholinergic receptors located at the neuromuscular junction of skeletal muscles.

# Amphetamines

- Synthetic stimulants invented in Germany in the 1930's.
- chemical structure resembles epinephrine and norepinephrine.
- Effects resemble cocaine, but are much longer-lasting.
- Methedrine (methamphetamine), Dexedrine (dextroamphetamine) are similar to the parent compound. Ritalin (methylphenidate) has a different chemical structure, but is similar.

# Amphetamines I.V.

First emerged in the 1960's.

Extremely devastating effects.

# BATH SALTS – “Designer Drug”

- Ivory Wave.
- Vanilla Sky.
- Cloud Nine.
- Blue Silk.
- Charge Plus.
- White Rush.
- White Night.
- Star Dust.
- Snow Leopard.
- Lunar Wave.
- Pure Ivory.
- Ocean Burst.
- Sextasy.
- Meow Meow.
- Energy-1.
- Charlie Drone.
- Hurricane Charlie.
- Scar Face.
- White Lightning.
- Ocean Snow.

# BATH SALTS TRAITS

- Designer Drugs.
- Psychoactive Bath Salts (PABS) are not a hygiene product.
- Contain mephedrone, methylone, and/or MDVP. All are Schedule I drugs.
- CNS stimulants.
- Chemical structure similar to cathenones found in methamphetamine.
- High potential for abuse.
- Formerly available in convenience stores, head shops, et cetera.
- May be snorted, smoked, orally ingested, and inserted anally.
- Peak rush 1.5 hours / effects last 3-4 hours / hard crash.
- Linked to suicidal thinking.
- Illegal since July, 2012. Contains Mephedrone, MDPV, and/or Methylone./ Now labelled Schedule I.

# Bath Salts


# Bath Salts Victims


# FLAKKA

- CNS Stimulant Designer Drug.
- Aka “Gravel.”
- New popular form: Looks like Sour Patch Kids candy.
- Potentially deadly.
- Can cause insanity, homicidal rage, paranoia.
- Vaping, smoking, inhaling, eating.

# New on the Scene: Kratom

- A.k.a. mitragyna speciose, a tropical evergreen plant indigenous to Thailand, Indonesia, Malaysia, Myanmar, and Papua New Guinea.
- The drug is mostly abused by oral ingestion in the form of a tablet, capsule, or extract.
- Kratom leaves may also be dried, powdered, chewed, smoked, or ingested as a tea.
- The effects of kratom in low doses produce stimulant-like effects with users reporting increased alertness, physical energy, talkativeness, and pain relief. At high doses, users report sedative-like effects. Several cases of psychosis have been reported. Confusion is common.


# From Method to Madness:
## A Closer Look at Methamphetamine and its Victims

# *“Attention, Walmart Shoppers!”*

# One-Stop Shopping at Walmart

# Walmart Tweaker

# *No Wonder. Correlation?*

## *"People of Walmart"*

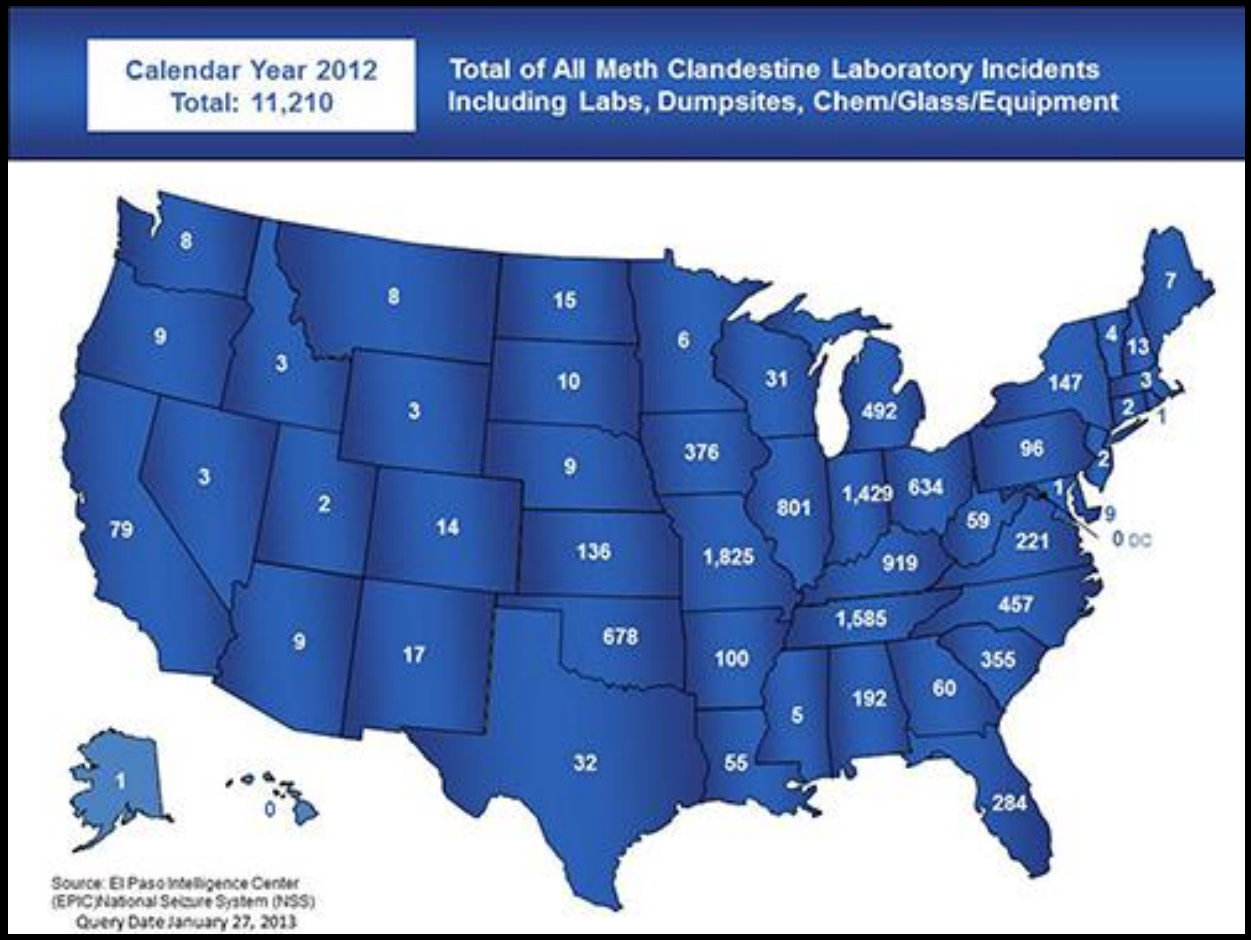



# The Methamphetamine Epidemic

# IN 2012

- Oklahoma had approximately 1.2% of the Nation's population.
- Approximately 6% of the  Nation's clandestine lab incidents occurred in Oklahoma.
- Missouri had approximately 1.6% of the Nation's population.
- Approximately 16% of the Nation's clandestine lab incidents occurred in Missouri.

# 2012 Clandestine Lab Incidents
(State-by-State)



# Arkansas/Missouri/Oklahoma/Kansas (4.94% of National Population)

## Clandestine Lab Incidents versus National Incidents

MO/AR/OK/KS

1999: 2516 (33.89%)

2000: 2172 (23.92%)

2001: 4242 (31.34%)

2002: 4879 (30.12%)

2003: 5370 (30.95%)

2004: 4831 (28.16%)

2005: 3190 (25.31%)

2006: 2039 (27.77%)

2007: 1604 (31.64%)

- NATIONAL
- 1999: 7438
- 2000: 9092
- 2001: 13537
- 2002: 16212
- 2003: 17356
- 2004: 17170
- 2005: 12619
- 2006: 7347
- 2007: 5080

DEA, 2008; Wikipedia, 2008c

# About the Drug


**Meth**amphetamine, in its various forms, and by any other name, would smell as sweet….uh, well, not exactly sweet…at least when it's cooking.

- Meth.
- Crystal.
- Tina.
- Ice.
- Shabu.
- Boo.
- Zip.
- Tweak.
- Base.
- Billy.
- Yaba.
- Glass.
- Crazy medicine.
- Chalk.
- Go Fast.
- Crank/
- Ice Cream.

AND MANY MORE

KCI Contributors, 2008

# Chemical Differences

- **“Crank”** = methamphetamine sulfate.
- **“Crystal”** = dextro methamphetamine hydrochloride.
- **“Ice”** = dextro isomer methamphetamine.

# Routes of Administration

## Help Determine Rate of Absorption, Onset of Action, and Duration of Effect

- Smoking: gets the drug to the brain faster.
- Injecting: more intense “high” than snorting or swallowing; causes pain, abscesses, infection, disease transmission, et cetera.
- Snorting: causes irritation and pain in nasal mucosa.
- Ingestion (Eating or drinking): takes longer to reach brain.

Inaba & Cohen, 2014; Julien, 2001; Kee & Hayes, 1993

# Methamphetamine Is In a Class All Its Own

# “Ice” = Optical isomer Methamphetamine


- “Ice” possesses mirror-like images of atomic bonds which = right- and left-handed isomers.
- Therefore two individual isomers may have different effects on the brain and body.
- Dextro- (right-handed) isomer methamphetamine is 2-4 times stronger brain stimulant than levo (left-handed) isomer methamphetamine base.
- However, levo- (left-handed) isomer is 2-4 times stronger stimulant on the heart, blood vessels, nasal sinuses, et cetera.

# The Strength-versus-Purity Riddle

- Pure, left-handed pseudo-ephedrine (used in manufacturing methamphetamine) will be transformed to pure right-handed or dextro isomer methamphetamine base.
- This form is stronger, longer-lasting, and more smoke-able than “crank” or “crystal” methamphetamine.
- It’s also less toxic.
- Therefore, much of what is sold as methamphetamine sulfate or dextro methamphetamine hydrochloride is actually dextro isomer methamphetamine (“ice”).
- This explains why street methamphetamine has increased in strength, even with street purity remaining the same.
- (Inaba & Cohen, 2014; Johnson, 2008)

# “Hillbilly Meth”


*Yeeee, Doggies! Who needs a truck! Let’s **RUN** to Beverleee!*

Straight from the “Heartland.”

# “P2P Method”

Historically, the most common method of manufacturing illicit methamphetamine.

Today, there are over 300 methods used; many of them are not as volatile as P2P, and more difficult to detect, due to being more odor-free.

(Inaba & Cohen, 2014); Johnson, 2008)

# There are over 300 ways to “cook” methamphetamine. Some common items/substances used include

- Cold medicines containing precursor chemicals, such as ephedrine or pseudo-ephedrine.
- Rock salt.
- Red phosphorus road flares.
- Battery acid.
- Lighter fluid.
- Pool acid.
- Coffee filters.
- Plastic tubing and mason jars.
- Et cetera.

(Inaba & Cohen, 2014; Johnson, 2008)

# Smurfs.

## ATTENTION
## METH OFFENDERS

According to Oklahoma Statute, it is a ***felony*** for meth offenders to purchase/possess pseudoephedrine products for themselves or for others to purchase pseudoephedrine for them.

A meth offender is someone who, on or after Nov. 1, 2010, was ***convicted*** or serving a term of ***probation*** for a meth- related crime.

To purchase pseudoephedrine products, you must attest that you are not subject to the Meth Registry Act.

For more information, see Title 63, Okla. Stat. Sections 2-212, 2-701.

Gotta love 'em.

# Ephedrine

- Often smuggled from China into the United States via Mexico or Canada.
- Extracted from the ephedra bush, grown in China.
- Some is synthesized in Germany.
- Some ephedrine is converted in Mexico, then smuggled in.
- Some is smuggled in, then converted here in the United States.

(Inaba & Cohen, 2014; Johnson, 2008)

# Some Things Methamphetamine and Cocaine Have in Common

- Both were originally legal drugs.
- Both are powerful central nervous system psycho/motor stimulants.
- Both are powerful positive re-enforcers.
- Prolonged use can cause long-lasting decrease in dopamine and serotonin.
- Both have extremely long protracted withdrawal periods.
- Long-term neuro-toxicity, causing reduction in brain tissue density (frontal lobes and basal ganglia).
- Both can induce psychotic symptoms.
- Both stimulate catecholamine release and block catecholamine reuptake.

Inaba & Cohen, 2014; Johnson, 2008; Julien, 2001; Kee & Hayes, 1993

# Methamphetamine versus Cocaine

## METHAMPHETAMINE

- Blocks catecholamine metabolism.
- Much longer duration of effect.
- 50% of the drug leaves the body in 12 hours.
- Made from legal items and substances.
- Derived from chemicals.
- Domestically and foreign-made.
- Can be orally consumed.
- Methamphetamine-induced psychosis lasts much longer.
- Different type of “rush.”
- Protracted withdrawal up to 2 years. (with occasional UMS).
- People rarely convert to cocaine.

## COCAINE

- Doesn’t block catecholamine metabolism.
- Much shorter duration of effect.
- 50% of the drug leaves the body in 1 hour.
- Made from illegal substance.
- Derived from a plant (coca).
- Primary processing and plant growth of foreign origin.
- Cocaine-induced psychosis shorter in duration.
- Different type of “rush.”
- Easier to overdose.
- Protracted withdrawal up to 1 year or more (with occasional UMS).
- People commonly convert to meth.

Inaba & Cohen, 2004; Johnson, 2008; Julien, 2001; Kee & Hayes, 1993

# About the Drug's Effects, Side Effects, and Adverse Reactions


# Meth Effects Per Dosage

(Julien, 1001; Kee & Hayes, 1993)

## LOW: 2.5 to 20 mg

- Increased blood pressure.
- Slowed heart rate.
- Relaxed bronchial muscles.
- CNS stimulation.
- Increased alertness, euphoria, excitement, wakefulness, reduced fatigue, loss of appetite, mood elevation, increased motor and speech activity, feeling of power, increased task performance, high intensity energy output.

## MODERATE: 20-50 mg

- All of the above, plus…
- Stimulation of respiration.
- Slight tremors.
- Restlessness.
- Greater increase in motor fatigue.
- Suppression of appetite.
- Sleep deprivation.

# High Dosage Effects (over 50mgs)

(Julien, 1001; Kee & Hayes, 1993)

- **All the above, plus…**
- **Continual, purposeless, repetitive acts.**
- **Sudden outbursts of anger and aggression.**
- **Violence.**
- **Paranoid delusions.**
- **Severe anorexia.**

# So What's the Attraction?

*Ever think about the fact that there's SOMETHING out there that finds this attractive?*

*Want to have a new lease on life?*
*Want more energy? Want to be more focused? Want great sex? Want to lose weight? Want to be cool?*
*WANT TO FORGET HOW YOU FEEL?*
*Want to forget how TO feel?*

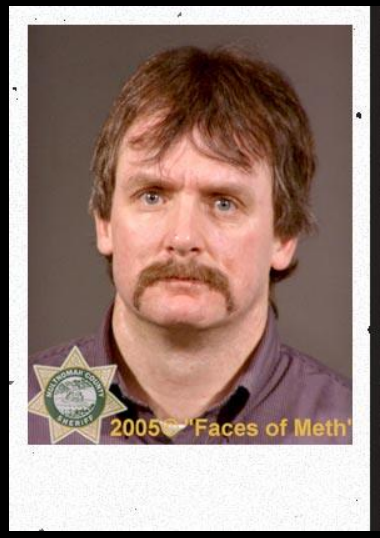

The life of a methamphetamine user is VERY glamorous.

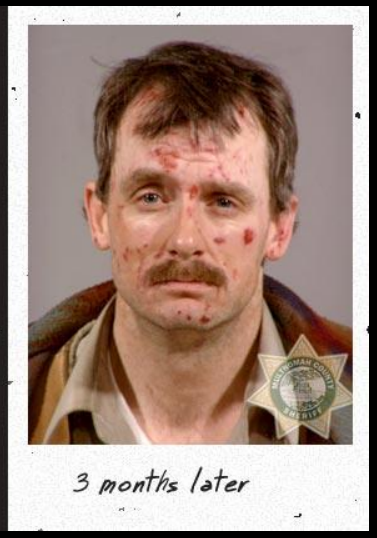
# Methamphetamine will take you from “Mere Mortal,” to “Superman,” to a “Walking Skeleton,” to “Mortality”


From the print ad campaign from the Partnership for a Drug Free America.

# Methamphetamine promises to change your life, change who you are…and it keeps its promise!

**Try Meth! It's great! I'm not just a client…I love it so much, I bought the company!**





# If it does nothing else, it does WONDERS for your complexion!

Yes, methamphetamine is VERY glamorous.

In fact, MANY famous people down through history took methamphetamine daily. This guy, for instance

- He took Pervitin tablets daily (It was a brand name for a form of methamphetamine).
- He was also given regular injections of methamphetamine by his personal physician, Dr. Theodor Morell.

Wikipedia Contributors, 2008a, 2008b

# How Meth Works and What It Does

# What Methamphetamine Does Chemically in the Body

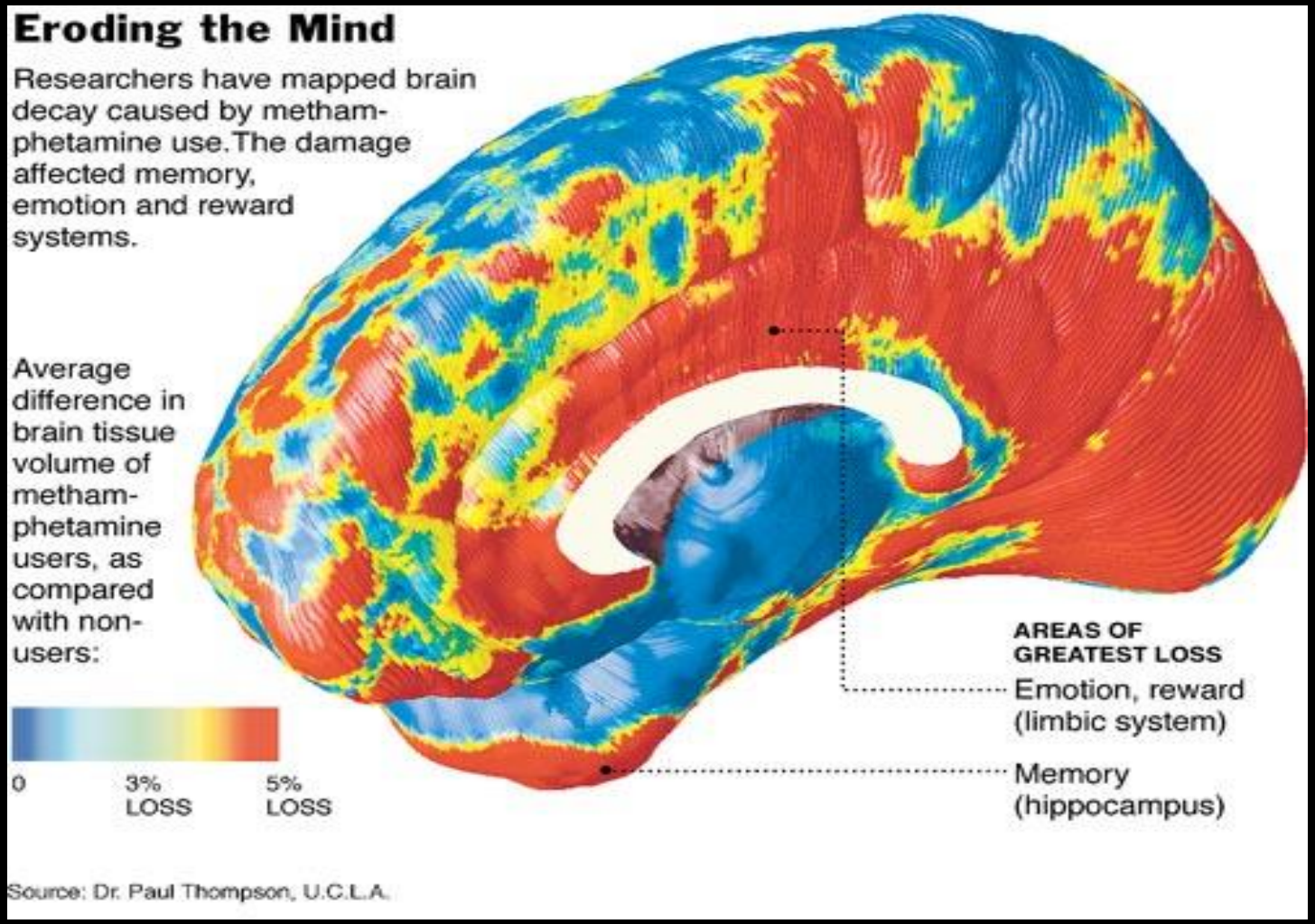
- Increases levels of catecholamine neurotransmitters (epinephrine, norepinephrine, and dopamine).
- Stimulates the release of catecholamines.
- Blocks catecholamine reuptake in the sending neurons.
- Blocks catecholamine metabolism.
- Creates MUCH longer duration of effect than cocaine due to its unique blocking of catecholamine metabolism.

(Inaba & Cohen, 2014)

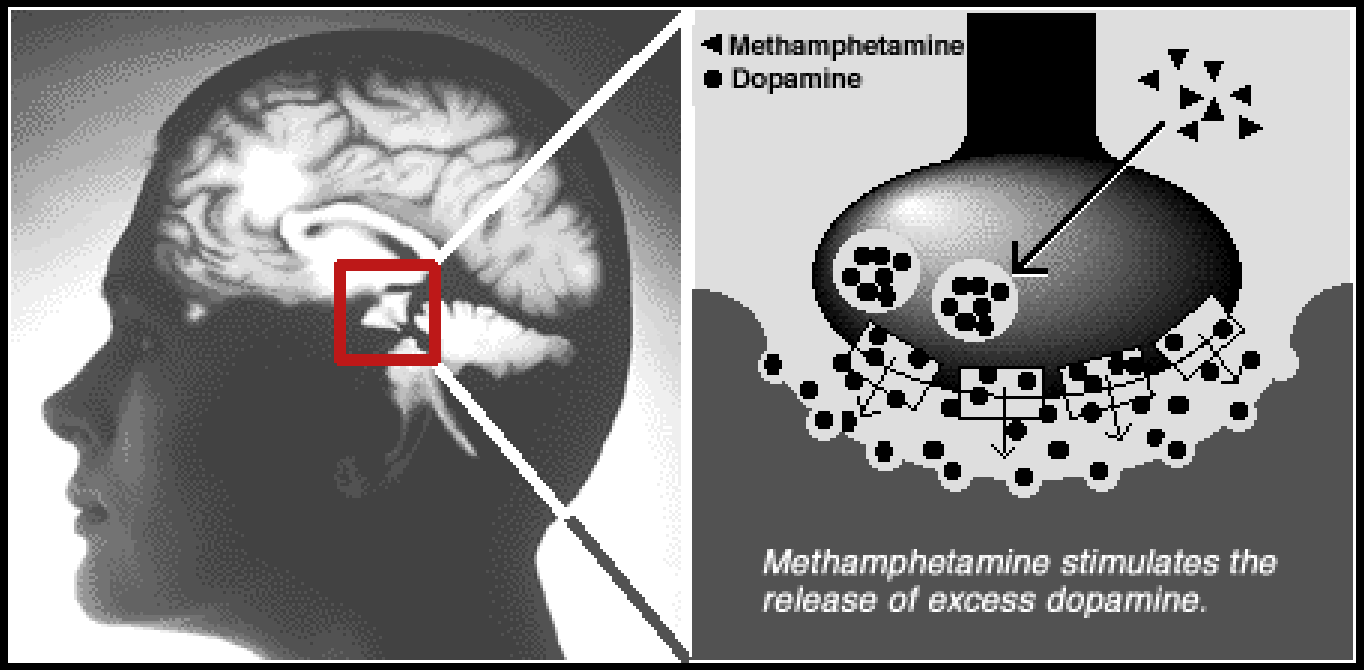
# Therefore, Methamphetamine

- Facilitates the release of energy chemicals, infusing extra, unneeded energy.
- Hyperactivity, hyper-alertness, et cetera, occur as the body tries to use the energy.
- Nerve cells become depleted of their own energy chemicals.
- Body becomes exhausted and demands more energy.
- Craving for more and more stimulants develops.
- If not received, depletion leads to depression, exhaustion, et cetera.
- Chemical imbalance leads to intense craving, in order to avoid the "crash."
- Causes degeneration of serotonin fibers in the brain.
- More powerfully creates long-term dependence (even after cessation of use) on an artificial means of keep dopamine and norepinephrine activity at a level which creates feelings of pleasure, or even normalcy. (Inaba & Cohen, 2014)

# *This is your brain on meth. Get it?*



# Methamphetamine Causes Increase In Release of Excess Dopamine




**Protracted dopamine imbalance leads to relapse-facilitating problems.**

For example,

U.M.S.

"Ugly Mood Swing"

(often occurs close to 3 months' and 9 months' abstinence)

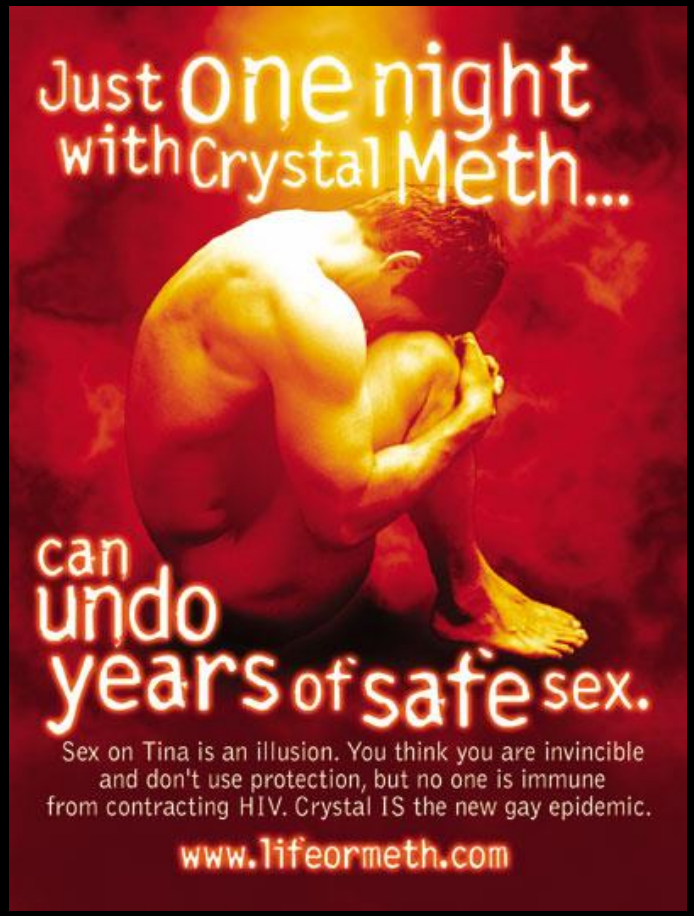
# Additional Chronic Adverse Reactions and Problems

- Psychosis and other abnormal mental conditions.
- Extreme weight loss.
- Skin sores.
- Infections.
- Severe dental disease.
- Social and family deterioration.
- Criminal trouble.
- HIV/AIDS and other STD's.
- Death.

Julien, 2001; Kee & Hayes, 1993

# Methamphetamine is a two-faced "soul eater."

# Meth, AIDS/HIV, and other STD's




# Just Another Day on Craigslist

**Ice cream lady - w4m**

**Ice cream lady - w4m hide this posting**

Ice Cream girl back in business. If u need the fire and a wet mouth hit me up. I'm hosting. Send pics in first email or I won't read your message

**Who needs the ice cream man - m4w**

Serving ice cream cones all night. Anysize. Shoot me an email and ill send u my cell

**Married str8 guy here curious and about ice cream - m4m**

You must be discreet. be clean cut and straight acting and play be pashent with me. I'm not sure what I would be in to but I'm curious. and I am curious about the ice cream thing to. I had it before. but not with someone before.

**Looking to skate with a nice guy - w4m**

Hey there so I'm looking to skate with a fun guy must be respectful and not a jerk. Let's hang out and see what happens not looking for pic collectors I'm a very buetiful blk woman just looking for some much needed fun

# Some Effects Occur Quicker Than Others… But They WILL Occur


Morgue Photo

# Lesions, Abscesses, and Sores, Oh, My!

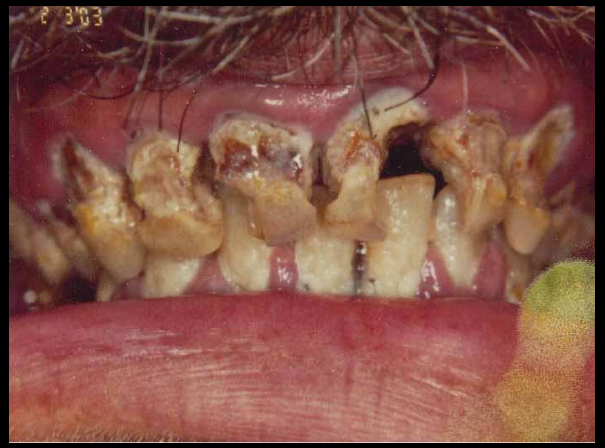
# Most People Have 32 Teeth…

# …Some Have Nine.

It's Simple Math ~~Math~~ METH

# "Meth Mouth"

**Fig. 3.** Typical pattern of caries seen in a chronic methamphetamine user.



# Why “Meth Mouth” Occurs

- **Dry mouth; too little saliva to protect teeth by neutralizing acids, killing bacteria, et cetera.**
- **Craving for high-caloric, sugared drinks.**
- **Damaged blood vessels that nourish gum tissue.**
- **Grinding and clenching of teeth.**
- **Duration of the drug’s effect, lifestyle, et cetera, interferes with cleaning teeth.**

*Some professionals (the Instructor, included) assert that "meth mouth" is also caused by direct exposure to the drug's chemistry, which may include additional contaminants resulting from the manufacturing process (lithium, muriatic and sulfuric acids, red phosphorus and lye, et cetera) which may destroy tooth enamel and soften tooth tissue to the point of being "chalklike."*

This is not universally agreed upon. However, considering the severe, sometimes-rapid rate of deterioration, this remains a strong possibility.

Johnson & Bogan, 1996

# Sex and Early Meth Abuse

- Quickly results in elevated tolerance.
- Produces intense euphoria, feelings of well-being, incredibly intense pleasure, and feelings that mimic exaggerated feelings of sexual gratification.
- Can increase sexual pleasure and endurance.
- Shooting or smoking often becomes a substitute for sexual activity.


(Inaba & Cohen, 2004)

Problems often quickly develop (and remain), due to continued increased dopamine production

- Violence.
- Suspiciousness.
- Paranoia.
- Misinterpretation of others' actions.
- Loss of contact with reality.
- Hallucinations.
- Speech problems.
- Schizophrenia-type symptoms.
- Prolonged psychotic features (long after cessation).

(Inaba & Cohen, 2014)

# Collateral Damage

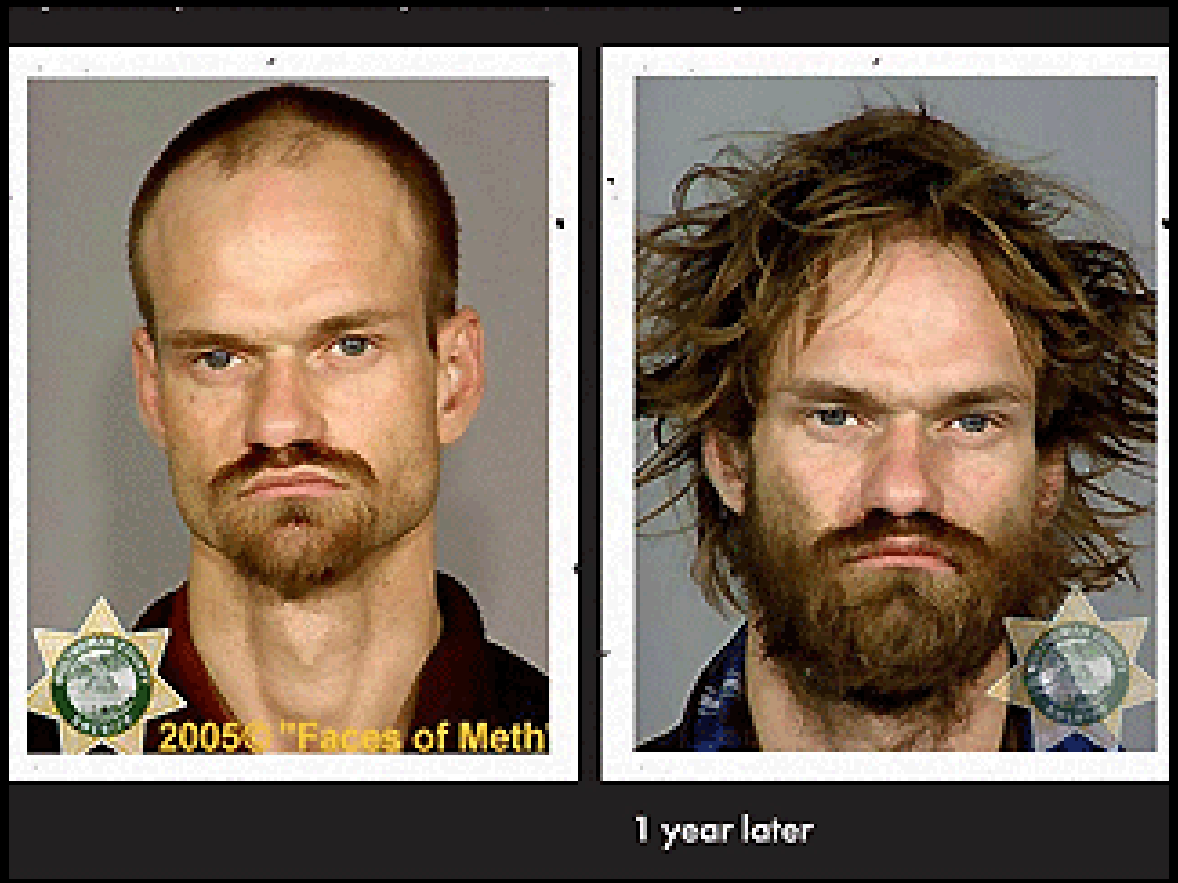


# Crimes Commonly Linked to Methamphetamine

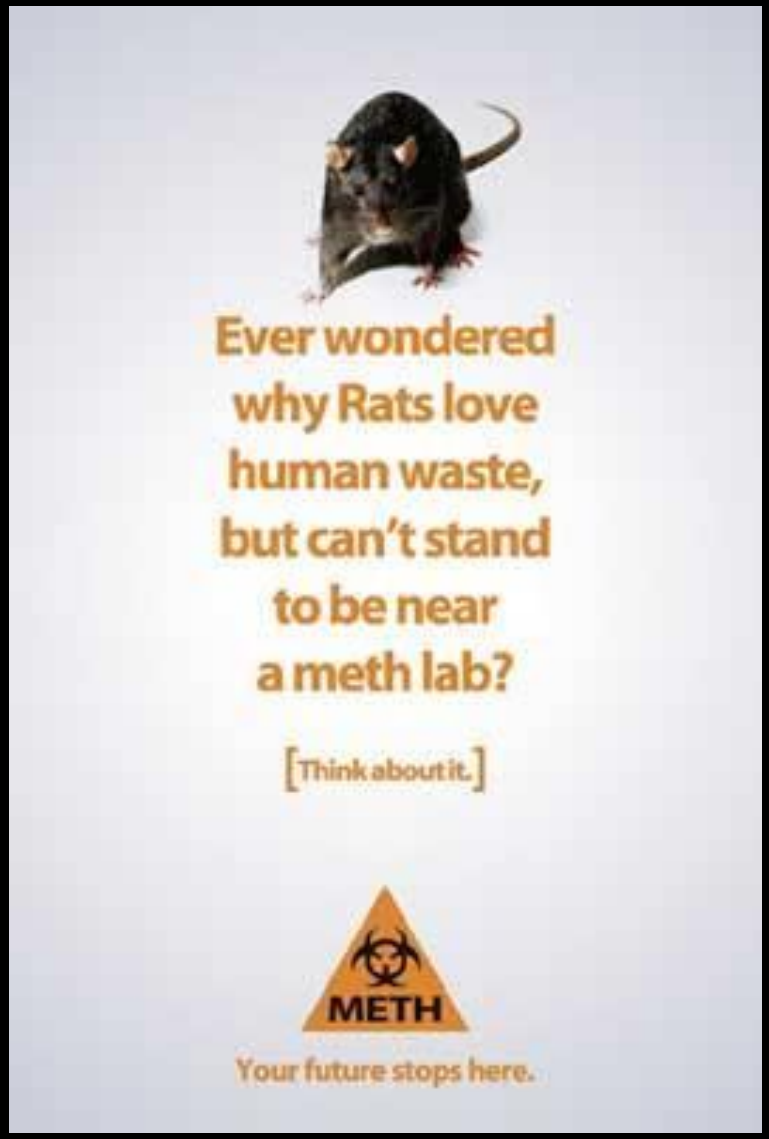
- Directly-drug-related offenses.
- Severe crimes of violence.
- Property crimes.
- Child sexual abuse.
- Sexual assault.
- Prostitution.
- Fraud.
- Uttering forged instruments.
- Sliding.
- Auto theft.
- Physical and sexual abuse.
- Child neglect.
- Identity theft.
- Theft of copper.
- Et cetera.


Johnson & Bogan, 1996

# Sometimes it's just a matter of having a "felony-bad hair day"




# Meth is toxic.
# Making meth is more toxic!



# Sometimes the Crimes are Intentional; Sometimes They're Not

# For Every Pound of Methamphetamine Produced

Six pounds of toxic waste are created, and released into the environment.

(Sanchez & Harrison, 2004)

# Some of the Toxic Substances Created by Meth Production Include

- Acetone.
- Red phosphorus.
- Hydrochloric acid.
- Benzene.
- Lead acetate.
- Et cetera.

(Inaba and Cohen, 2014)

# HALLUCINOGENS AND PSYCHEDELICS

(Inaba & Cohen, 2014; Julien, 2001; Kee & Hayes, 1993; Kuhn, 2014; NHTSA/IACP, 2015)

# HALLUCINOGEN AND PSYCHEDELIC
# Common Diagnostic Signs and Symptoms of Intoxication (Inaba & Cohen, 2014; NHTSA / IACP, 2015)

- Dazed Appearance.
- Body Tremors.
- Synethesia.
- Hallucinations and/or “Flashbacks.”
- Piloerection (with LSD).
- Paranoia.
- Disorientation and/or Memory Loss.
- Speech Difficulty.
- Perspiring.
- Poor Perception of Time and Distance.
- No Gaze Nystagmus OR Lack of Convergence.
- Pupils Dilated.
- Normal Pupil Reaction to Light, But SOME psychedelic amphetamines may cause slowing.
- Elevated Heart Rate and Blood Pressure.
- Elevated Body Temperature.

# HALLUCINOGEN AND PSYCHEDELIC Common Routes of Administration

- Inhalation.
- Oral Ingestion.
- Injection.
- Smoking.
- Transdermal.

# “MOLLY” - MDMA

- Pure MDMA, unlike Ecstasy, which is often laced with caffeine or methamphetamine.
- Synthetic psychoactive drug:  effects of stimulant amphetamine + hallucinogenic properties.
- Duration of effect:  circa 3-6 hours.
- Commonly orally ingested.
- Often co-abused with cocaine, GHB, ketamine, methamphetamine, and Viagra.
- Started in “Rave” clubs; now widely abused.

# Commonly-Misused or Abused Hallucinogens

- LSD.
- Psilocybin.
- Mescaline.
- Peyote.
- DMT.
- Morning Glory seeds.


# Hallucinogens (Cont'd)

- Ibogaine.
  - African hallucinogenic plant.
- DMT (Dimethyltryptamine).
  - from several south american plants.
  - **Unique:** *cannot be taken by mouth. It's typically snorted.*
- Yage.
  - Woody vine from amazon forests.
- STP.
  - Synthetic drug closely resembling mescaline.

# LSD

- A Schedule I hallucinogen.
- Readily absorbed from GI tract.
- Produce sensory distortions, pseudohallucinations, “tracers,” and synthesia. (seeing sounds or hearing visual images)
- Cross-tolerance with other hallucinogens.

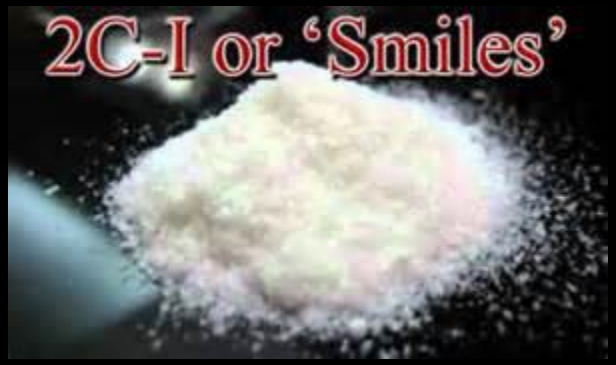
# Other Commonly-Misused or Abused LSD-Type Hallucinogens

- Tryptamine derivatives (e.g. psilocybin).
  - Mushroom.
- Mescaline.
- Peyote.
  - Mescaline and peyote are hallucinogens related to adrenaline and amphetamines.
- Morning glory seeds.
  - Closest natural relative to LSD.

# Psychomotor Stimulants with Hallucinogenic Properties

- Amphetamines and methamphetamines.
- Cocaine.
- Designer drugs, such as Ecstasy (MDMA), “love drug” (MDA).
  - MDMA is similar to MDA, but is shorter acting than MDA.

# “SMILES” – Designer Drug




- Entactogenic drug with combined properties of LSD and Ecstasy.
- Long duration of effect.
- Linked to tachycardia-type dysrhythmias.

# Remember “Half Sack” in Sons of Anarchy?

“D.R.T.” Due to “Smiles”

# Non-Lethal Side Effects

# SALVIA

- From family of mint plants in Mexico.
- Hallucinogenic effects.
- Mimics psychosis.
- Very short duration of effect.

# ON SALVIA FOR FIRST TIME

# NARCOTIC ANALGESICS

(Inaba & Cohen, 2014; Julien, 2001; Kee & Hayes, 1993; Kuhn, 2014; NHTSA/IACP, 2015)

# Narcotic

Addictive substance extracted or derived from opium, or synthetic substance that acts on the brain as opiate drugs to relieve pain and induce sleep.  It binds to opioid receptors in the brain and spinal cord.

# NARCOTIC ANALGESIC
# Common Diagnostic Signs and Symptoms of Intoxication (Inaba & Cohen, 2014; NHTSA / IACP, 2015)

- "On the Nod."
- Euphoria.
- Drowsiness or Unconsciousness.
- Droopy Eyes.
- Depressed Reflexes.
- Low, Raspy, Slow Speech.
- Track Marks.
- Nausea.
- Dry Mouth.
- Facial Itching.
- No Gaze Nystagmus OR Lack of Convergence.
- Constricted Pupils.
- Lack of Pupil Reaction to Light; or Very Little.
- Lowered Heart Rate and Blood Pressure.
- Lowered Body Temperature.

# NARCOTIC ANALGESIC
## Common Routes of Administration

- Inhalation.
- Oral Ingestion.
- Injection.
- Smoking.

Narcotics, in appropriate dosages, can relieve pain without inducing unconsciousness.

Some of these drugs are opiates, some are opioids.

# Opiate

Drug derived from opium and producing the same pharmacological effect as opium.

# Commonly-Misused or Abused Opiates

- Heroin.
- Hydromorphone (Dilaudid).
- Morphine Sulfate.
- Opium.
- Paregoric.
- Codeine.

# Opioid

Synthetic drug that produces the same pharmacological effect as opium or a narcotic-like substance produced in the body.

# Commonly-Misused or Abused Opioids

- Stadol.
- Fentanyl (Sublimaze).
- Demerol.
- Methadone.
- Nubain.
- Darvon.

# Fentanyl

- Powerful, synthetic opioid; 100 x more potent than morphine.
- Commonly used to lace other illicit drugs.
- Lethal dosage:  2 mg.
- May be transdermally absorbed into bloodstream via mucous membranes, inhaled, ingested, injected, et cetera.
- Important!  If accidentally in contact with skin, wash and remove it immediately.

# CDC / NIOSH SAFETY RECOMMENDATIONS

(www.cdc.gov/niosh/topics/fentanyl/risk.html)

- DO NOT eat, drink, smoke, or use bathroom while working in area with known or suspected fentanyl.
- DO NOT touch eyes, mouth, and nose after touching any surface contaminated with fentanyl.
- DO avoid performing tasks or operations that may aerosolize the suspected substance.
- If detection of fentanyl is critical to the incident response, DO rely upon specially trained professionals.
- DO wear appropriate personal protective equipment when testing or handling fentanyl.
- DO wash hands with soap and water immediately after potential exposure, and after leaving the scene.
- Working dogs are at risk!  DO NOT allow into area potentially contaminated by fentanyl.

# Krokodil
## (Synthetic Opiate – "Designer Drug.")

- Synthetic form of codeine.
- Often mixed with gasoline and other corrosive/destructive substances.
- Horrible side effects:  damage to circulatory and musculoskeletal systems.
- Injectable:  rapid onset of action/short duration of effect.

# Necrotic Effects of Krokodil


# TRI-CYCLIC ANTI-DEPRESSANTS

(Inaba & Cohen, 2014; Johnson, 2008; Julien, 2001; Kee & Hayes, 1993; Kuhn, 2014)

# TRI-CYCLIC ANTIDEPRESSANT
# Common Diagnostic Signs and Symptoms of Intoxication (Inaba & Cohen, 2014)

- Dazed Appearance.
- Body Tremors.
- Synethesia.
- Hallucinations and/or “Flashbacks.”
- Piloerection (with LSD).
- Paranoia.
- Disorientation and/or Memory Loss.
- Speech Difficulty.
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- No Gaze Nystagmus OR Lack of Convergence.
- Pupils Dilated.
- Normal Pupil Reaction to Light, But SOME psychedelic amphetamines may cause slowing.
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- Elevated Body Temperature.

# Monoamine Theory of Mental Depression

Mental depression is caused by low brain levels of norepinephrine and serotonin. MAO inactivates norepinephrine and serotonin. MAO Inhibitors block MAO.

# MAO Inhibitors (**Not** Commonly Abused)

- Marplan.
- Nardil.
- Parnate.

# Why?

***They're no fun.***

*However, Tricyclic Antidepressants are.*

# Tricyclic Antidepressants


Antidepressant drugs named for the characteristic triple-ring structure in their chemical make up.

Some new categories of drugs are bicyclic, tetracyclic and nontricyclic.

# Mechanism of Action of Tricyclic Antidepressants

- Block reuptake of norepinephrine and serotonin into neuronal nerve endings.
- Increase release of norepinephrine and serotonin from their respective nerve endings.

Tricyclic antidepressants usually work within a few hours, but take 2-4 weeks to fully develop their therapeutic level and “cruising altitude.”

# Commonly-Misused or Abused Tricyclic Antidepressants

- Elavil. *(also has sedative effects. We're not sure why it works…but it does.)*
- Sinequan.
- Tofranil.
- Desyrel.

# Cautionary Note:

***Misuse or abuse of tricyclic antidepressants is often linked to the threat of suicide***

***???***

***Let's Talk About That a Minute***

# Prozac

An antidepressant that is chemically dissimilar to tricyclic antidepressants.
No definitive studies have been done re: abuse potential.

# Drugs that Interact w/ TAD's

- **Alcohol:** increased sedation.
- **Amphetamines:** increased CNS stimulation.
- **Anticholinergic, antihistamines:** dry mouth, constipation, urinary retention, blurred vision.
- **Anticonvulsants:** increased seizure risk.
- **Barbiturates:** increased metabolism of TAD's and increased sedation.
- **MAO Inhibitors:** increased CNS stimulation, hyperpyrexia, seizures.
- **Pehothiazines:** anticholinergic effects, CNS depression.

# OTHER POPULAR PSYCHOACTIVE COMBINATIONS

(Inaba & Cohen, 2014; Julien, 2001; Kee & Hayes, 1993; Kuhn, 2014)

# Reasons for Combining Drugs

- Combined pleasurable effects.
- Negate or minimize undesirable effects and side-effects.
- Softening or avoiding withdrawal symptoms.
- Mask or delay unwanted sedating effects.
- Synergism.
- Potentiation.

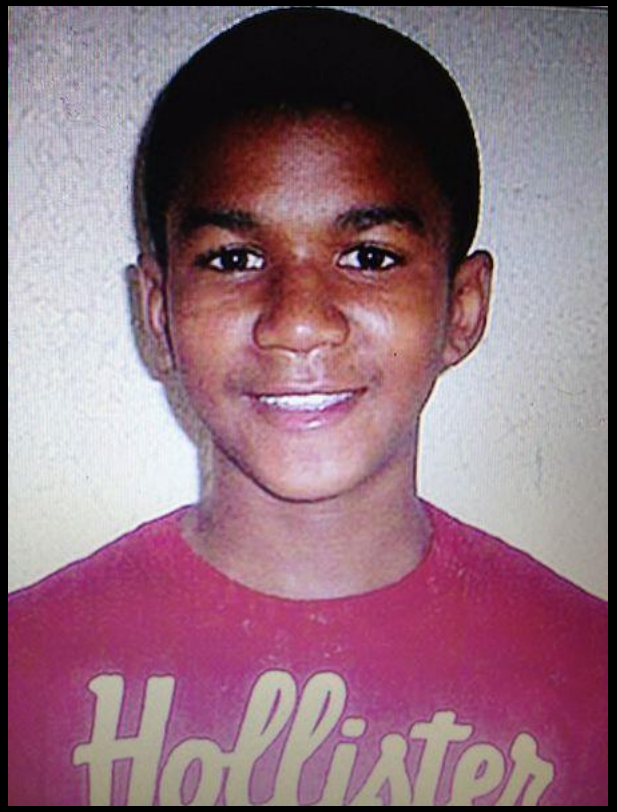
# Commonly-Combined Psychoactive Substances

- Candy Flipping:  Ecstasy and LSD.
- Speedballing:  Heroin and Cocaine.
- Snowcaps (Snow Cones):  Heroin and Marijuana.
- Dexamyl and Desbutal.
- Alcohol and Painkillers.
- Alcohol and CNS Stimulants.
- Codeine, Promethazine, or sometimes Dextromethorphan (DXM)

# “Purple Drank” / “Lean”

- Common recipe: Skittles or Jolly Rancher hard fruit candies + Sweet Arizona drinks (e.g. watermelon, lemonade/tea combinations, of sugary soft drinks such as Sprite or Mountain Dew, etc. + high dosage of prescription-strength cough syrup (containing codeine, promethazine (or sometimes DXM: Dextromethorphan). Also sometimes used in combination with Alcohol and/or marijuana.
- Other slang names: “lean,” “sizzurp,” “syrup,” “drank,” “barre,” “purple jelly,” “texas tea,” dirty sprite,” and “Tsikuni.”
- Produces euphoric side effect, motor skill impairment, lethargy, drowsiness, and dissociative feelings. Risks include CNS and respiratory depression, dependency, and death.
- In high dosages, may cause psychotic features and violent behavior.

# Anyone Recognize This Guy?




Drug of Choice:
Purple Drank

# ABUSE OF “OTHER-THAN-PSYCHOACTIVE” DRUGS

(Inaba & Cohen, 2014; Johnson & Bogan, 1996; Julien, 2001; Kee & Hayes, 1993)

# Eating Disorder-Related Drug Abuse

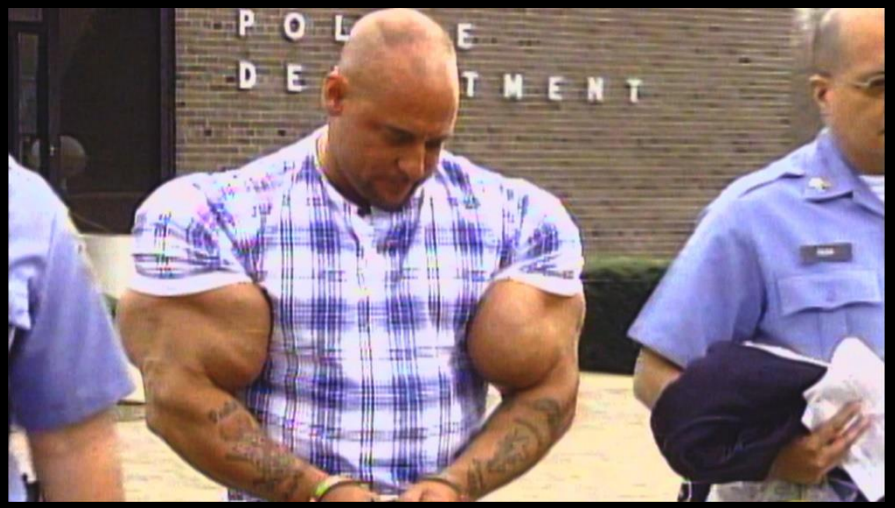
- Laxatives.
  - Ex Lax.
  - Mineral Oil.
  - Citrucel.
  - Metamucil.
  - Colace.
  - Senokot.
  - Correctol.
  - Dulcolax.
  - Feen-a-mint.
  - GoLytely.
- Emetics.
  - Syrup of Ipecac.

# Addictive Aspects of Certain Eating Disorders

- Often categorized as an obsessive compulsive disorder.
- Behavioral addiction.
- Certain eating disorders are sometimes trauma related.
- Provides semblance of control.
- Devastating and sometimes fatal.
- Progressive.

# “Body-Building” Drug Abuse

- Anabolic Steroids.
  - Equipose.
  - Danocrine.
  - Dianabol.
  - Rimobolan.
  - Testomet.
  - Deca-Durabolin.
  - Winstrol.
  - AndroCel.
- HGH.
- Amphetamines.
- Androstenedione and Dehydroepiandrosterone (DHEA)
- Beta Blockers.
- Erythropoietin (EPO).
- Blood Doping.



# Addictive Aspects of Anabolic - Androgenic Steroidal Abuse

(Inaba & Cohen, 2014)

- Anabolic (muscle-building) drugs are derived from the male hormone testosterone or are synthesized.
- Benefits: increased body weight, lean muscle mass, muscular strength, and to lesser extent, stamina.
- AAS users may take 20-200x the clinically-prescribed dosage (e.g. 1000-2100 mg/week).
- "Steroid cycling:" 82% of athletes using AAS take three or more different AAS during training cycle. 30% use seven or more.
- Side effects of chronic AAS abuse may include increased risk of ruptured tendons, testicular shrinkage, nipple enlargement, bloated appearance, "Roid Rage," and other aggressive personality changes.

*"Roid Rage"*

# 10 Most-Commonly-Abused Non-Prescription Drugs

(Melton, 2015)

- Cough Syrup.
- Asthma Inhalers.
- Laxatives.
- Antacids.
- Diet Pills.
- Cold Medicines.
- Ephedrine.
- Sleeping Pills.
- Acetaminophen.
- Benadryl.

# IMPAIRED PROFESSIONALS

(Johnson & Bogan, 1996; Loos, 1993-1994)

# COMMON IMPAIRED PROFESSIONALS

- Physicians.
- Nurses.
- Paramedics.
- Police Officers.
- Air Traffic Controllers.
- Airline Pilots.
- Flight Attendants.
- Psychiatrists.
- Pharmacists.
- Politicians.
- Bartenders.
- Bar Owners.
- Alcohol Servers.
- Truck Drivers.
- Athletes.
- Adult Sex Industry.
- Entertainers / Actors.
- Et Cetera.

# Drugs MOST Commonly Abused by Impaired Health Care Professionals

- Alcohol.
- Valium and other Benzodiazepines.
- Demerol.
- Percodan.
- Darvon.
- Xanax.
- Dalmane.
- Phenobarbital.
- Ritalin.
- Talwin.
- Cocaine.
- Marijuana and other Schedule I drugs.

# Common Co-Factors / Co-Morbidity Factors

- Easy access.
- Knowledge of drug effects and how to mask them.
- Stress.
- Physical pain.
- Escapist mentality.
- Guilt and shame.

# OFFICER SAFETY

(Johnson & Bogan, 1996)

# In conclusion, REMEMBER

***Drug-related emergencies present unique factors that heighten the level of threat to you and your co-workers.***

Here are some fundamental rules to stay alive by, when dealing with drug-related emergencies.

# Addiction is a Disease of *Insanity*

People engage in behavior to acquire drugs, or to conceal their activity, that they would possibly not engage in otherwise.  The risk of personal threat to you is great.

Circumstances may not be as they appear to the Police Officer or other Emergency First Responder.

If in doubt, don’t respond alone, until the scene is secured.

# Circumstances may not be as they appear to the patient.

Due to dual diagnosis factors, hallucinations or delusions, and/or mind/mood altering effects of the drugs on board.


Drug-influenced patients often possess extraordinary physical capabilities. Remain aware of personal safety zones, exits, environmental weaponry, etc.

Drug-influenced patients and bystanders are, or have just been engaged in criminal activity.

Therefore, they might not welcome your presence, or your attention to the evidence of their criminal behavior.

Possession of weapons by patients or bystanders is the general rule, not the exception to the rule.

Be on guard.  Watch for weapons, traps, etc.

# CONCLUSION

# Tammy Explains Her Life

# Re-Cap of Law Enforcement Application/Take-Aways

- Assist in field interviews of witnesses and victims either under the influence, or addicted to various drugs of choice.
- Aid in the identification of various categories of drugs of choice, in order to facilitate more effective investigation, interdiction, and enforcement of state and federal drug statutes.
- Recognizing problematic signs and symptoms of acute and protracted withdrawal.
- Better understand the motivational intent which influences or compels people to abuse mood/mind-altering substances.
- Better understand problems associated with the families of addicted individuals, and how those problems may effect law enforcement's efforts to intervene.
- Establishing addiction-related interrogatory themes during criminal interrogation.
- Understanding and predicting addictive behavior in persons encountered during the officer's course of duty.
- Understanding how addiction and substance abuse relates to associated criminal behavior.
- Predicting problems with informants and witnesses who are addicted to drugs.
- Prevention of "no shows" in criminal trials which rely upon addicted persons as witnesses.
- Identify and provide support for fellow officers who are impaired, and/or are addicted.
- Officer safety: Recognizing environmental and interpersonal hazards associated with addiction and substance abuse.

*“Take care of yourself;*
*And be careful out there.”*


Sgt. Phil Esterhaus
Hill Street Blues

*And finally, the slide that you all have been REALLY waiting for.*

*Now everyone, repeat after me !*

*“What’s the $%*@# deal with this stupid wristwatch ??!!!”*

*Well, it's like this. Think back on your experience since you switched to the other wrist.*

- *The change felt **awkward.***
- *You **felt** the watch on the foreign wrist.*
- *After awhile the **feeling went away.***
- *Many of you **reverted to a habitual behavior (ritualized)** at least once during this lecture.*
- *Some of you got used to it, **some didn't.***
- *Some of you sneaked it back onto the wrist you usually wear it on **(relapsed),** when I wasn't looking?*

# *The moral of the story?*

- *All I did was ask you to change where you wear your wristwatch.*
- *It initially felt strange to all of you.*
- *Almost all of you succumbed to habitual behavior.*
- *Most of you found it to be annoying.*
- *Some of you couldn't handle it.*
- *A few of you relapsed.*

*Remember this experience the next time you ask someone to change his or her life.*

*QUESTIONS?*

# Contact Information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