

Addictive Diseases

State of Georgia
Crisis Intervention Team
Training Program

A LIFE



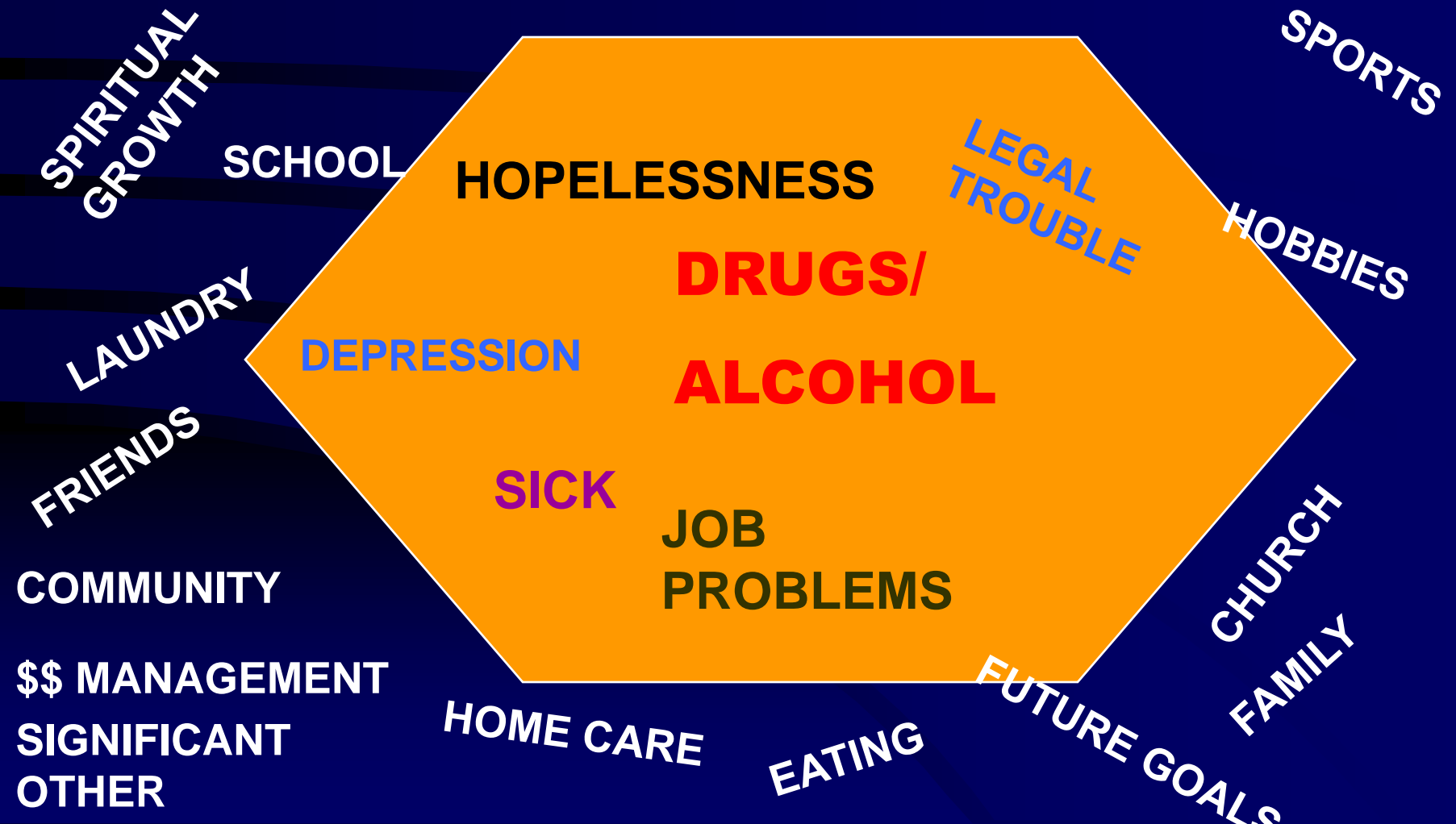
A LIFE including alcohol and drug use



A LIFE including alcohol and drug abuse



A LIFE including drug and alcohol addiction



Definition of Addiction:

Chronic neglect of SELF
in favor of something or
someone else.

~Stephanie Covington

Addiction Has Many Faces

- Not all addicted persons are homeless or living in a “crack” house
- Some addicts appear to be functional, but with a closer look substances are still a problem

Addiction

- Addiction is a brain disease
- Addiction is a primary, progressive, fatal illness.
- A chronic disorder requiring multiple strategies and multiple episodes of intervention
- Treatment works in the long-run
- Treatment is cost-effective

Progression of Abuse to Addiction

- Stage One- Experimenting
- Stage Two- Seeking a Mood Swing
- Stage Three- Preoccupation
- Stage Four- Powerlessness/Addiction

4 Cs of Addiction

- Loss of Consistent Control over use
- Compulsivity or Craving
- Constantly thinking about addictive substance or process
- Continued use in the face of adverse consequences

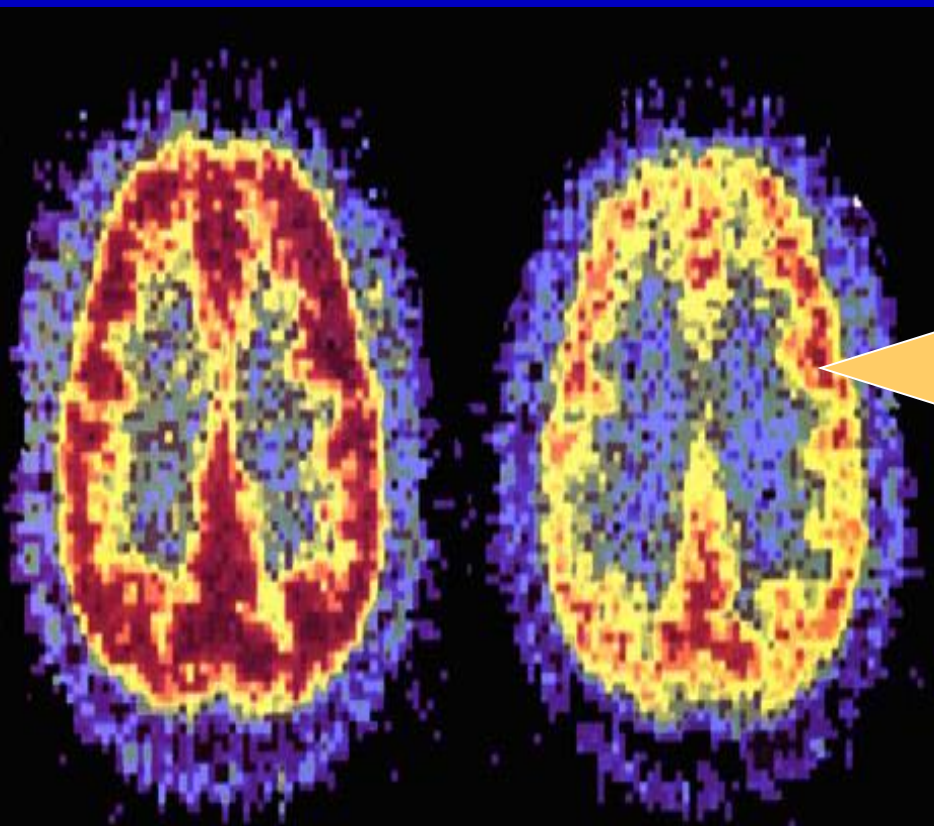
Addiction Is Not What You Think

- Drug use and behavior are reinforcing or rewarding
- Reward pathway permanently altered
- Engaging in compulsive behavior
 - Even when there are negative consequences
- Loss of control in limiting intake
- Craving: conscious and unconscious
- Disease of the brain

Why do people take drugs?

- They change the brain!!!
- For the brain effects of drug use:
 - Reinforcement (“feel good” qualities)
 - Pleasure
 - Avoid negative feelings
 - Stop withdrawal
 - Try to restore normal brain function

Addiction *is* a Brain Disease



**"Healthy"
Brain**

**"Cocaine
Addict" Brain**

**Prolonged Use
Changes**

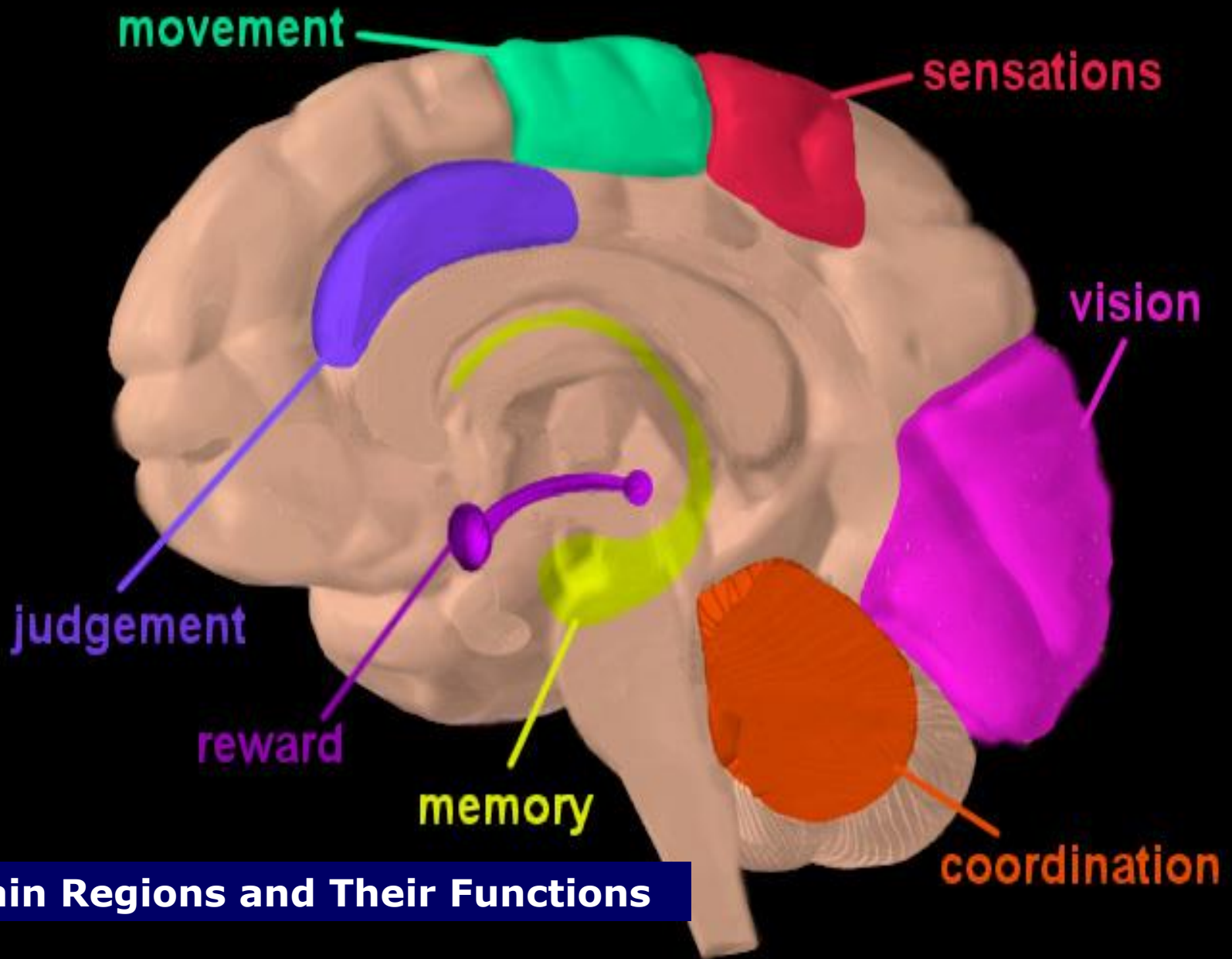
the Brain

in

**Fundamental
and Lasting
Ways**

How Does the Brain Work?

- Through changes in the cells within the brain
- Changes in brain cell activity and chemistry are produced by:
 - EXTERNAL environmental stimuli (e.g., putting hand on a hot stove)
 - INTERNAL biochemical stimuli (e.g., biological and behavioral changes produced by psychoactive drugs)

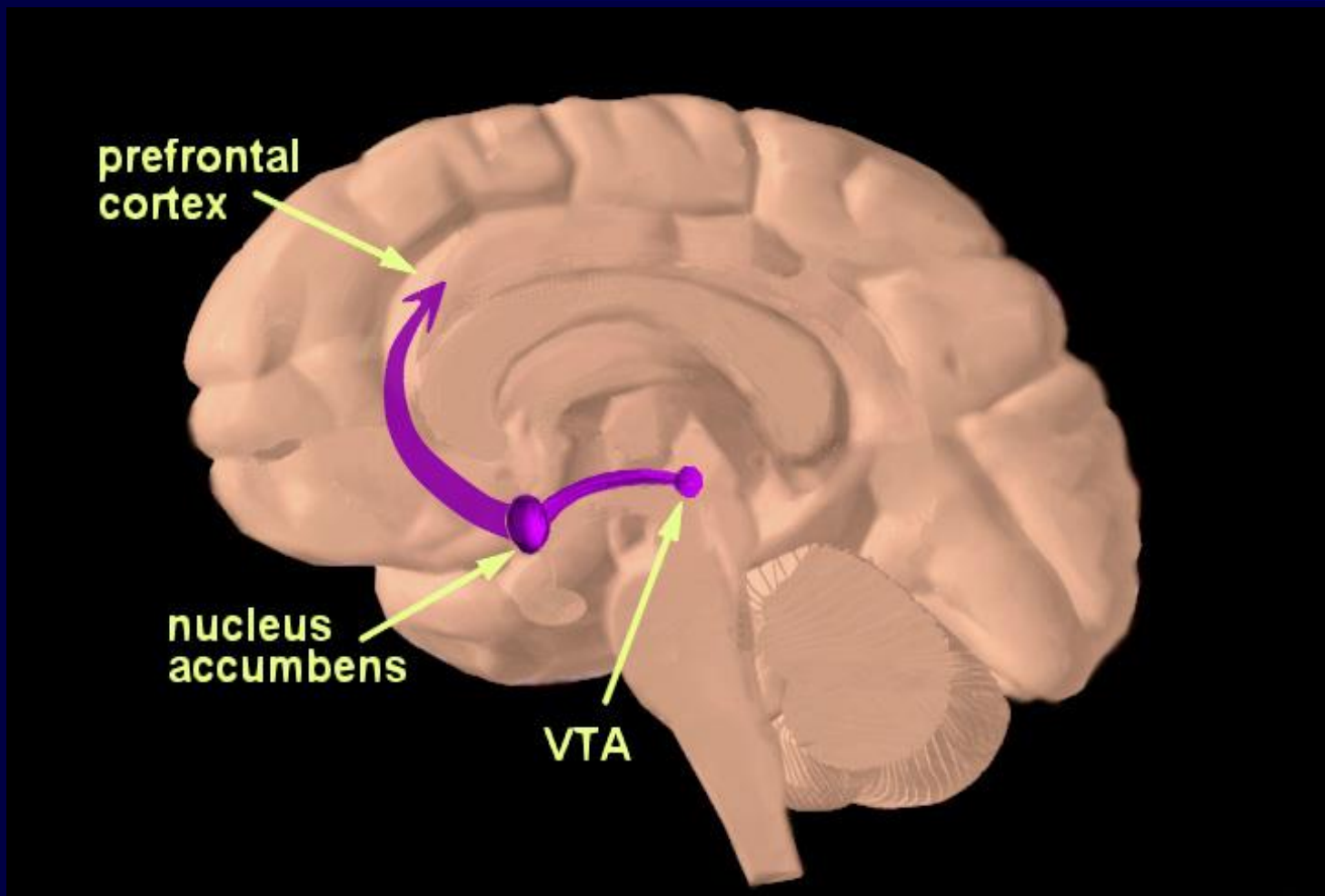


Brain Regions and Their Functions

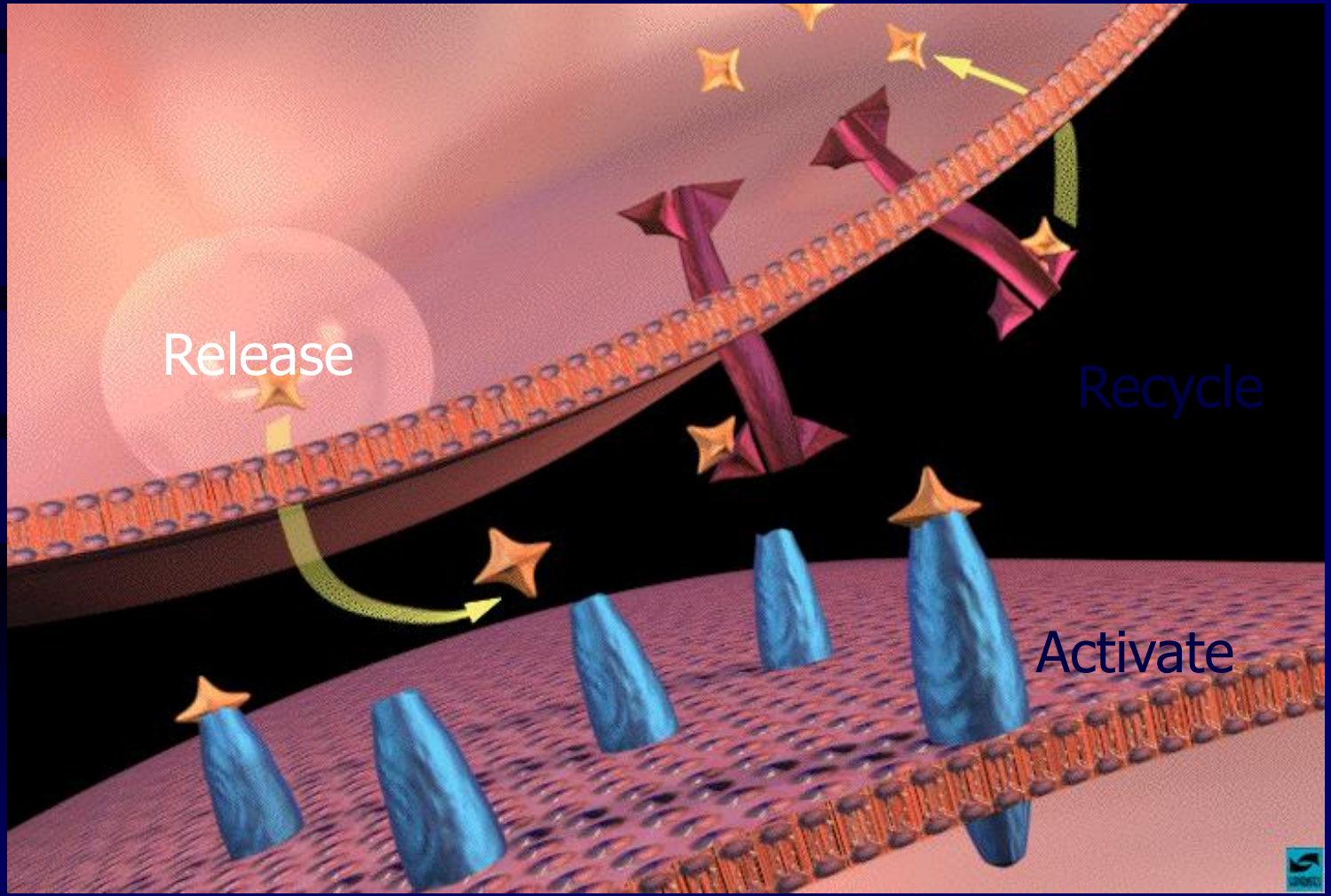
What Is the Relationship Between the Brain and Behavior?

- Alterations of brain chemistry and/or structure can change:
 - Speech
 - Thinking and awareness
 - Emotions
 - Behavior, movement
 - Sensation (the 5 Senses)
 - Memory storage

Brain Reward Pathways

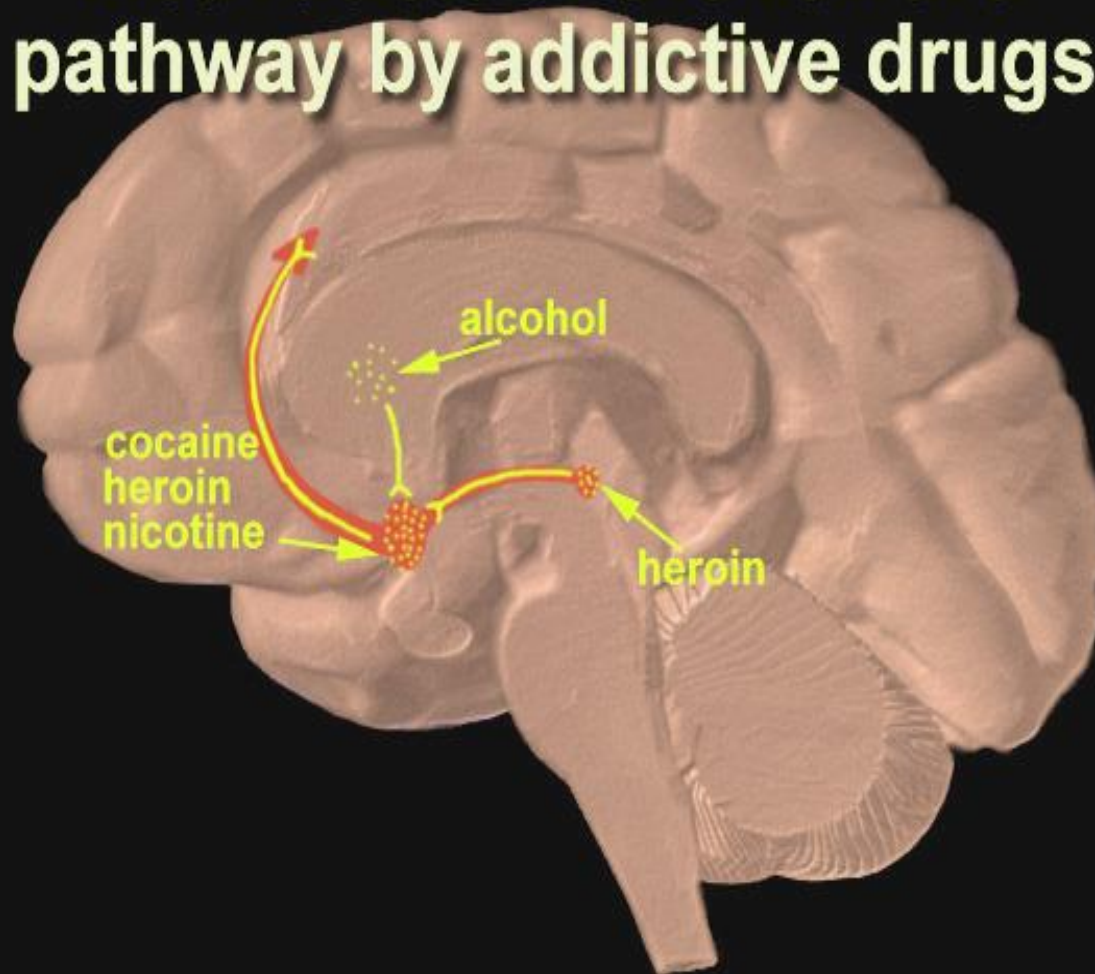


Dopamine Spells REWARD



Activation of Reward

Activation of the reward pathway by addictive drugs



Addiction as a Brain Disease

- The brain of an addicted person is changed and does not function normally
- Major differences between the addicted vs. non-addicted brain
 - metabolic activity
 - receptor availability
 - genetic expression
 - responsiveness to drugs

The Disease of Addiction

- Primary
- Progressive
- Chronic
- Relapsing
- Treatable
- NOT curable,
but you can
recover

Substance Abuse

- **Is defined as:** Continued use despite negative consequences as a result of use.
- This stage of drug abuse is voluntary, preventable behavior.
 - Impacts relationships and obligations
 - Places self in hazardous situations
 - Recurrent legal problems

Substance Dependence

- Tolerance (need more or diminished effect)
- Withdrawal (psychological and physiological problems from stopping use)
- Unsuccessful efforts to cut down
- Significant time and energy spent craving, obtaining or using substances
- Impacts relationships and obligations
- Use even with negative health consequences

Substance Dependence is a Brain Disease

- Addicts have lost control over their drug use because of how the drugs have changed their brain chemistry
- Compulsion to use is psychologically and physiologically driven

Addiction Risk Factors

- Genetics
- Young Age of Onset
- Childhood Trauma (violent, sexual)
- Learning Disorders (ADD/ADHD)
- Mental Illness
 - Depression
 - Bipolar Disorder
 - Psychosis

Cognitive Deficits

- Impaired attention
- Memory problems – short-term loss
- Impaired abstraction
- Reduced problem-solving abilities
- Loss of impulse control
- Similar performance to those with brain damage

Common Characteristics of Addicts

- Unemployment
- Multiple criminal justice contacts
- Difficulty coping with stress or anger
- Highly influenced by social peer group
- Difficulty handling high-risk relapse situations

Common Characteristics...

- Emotional and psychological immaturity
- Difficulty relating to family
- Difficulty sustaining long-term relationships
- Educational and vocational deficits

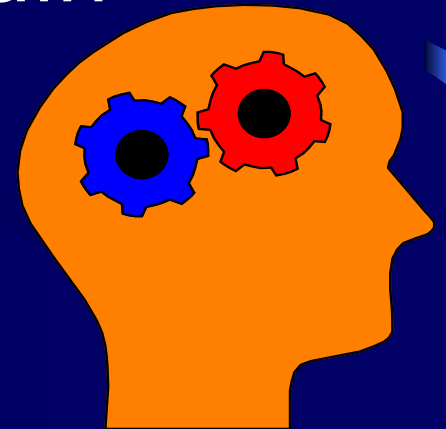
Misconceptions about Addiction

What is it?

- The DRUGS are the problem.
- It's SINFUL or a MORAL weakness
- It shows a lack of WILLPOWER
- It's a LEARNED behavior
- It's "just" a STRESS response
- It's "just" due to an untreated PSYCHOLOGICAL problem

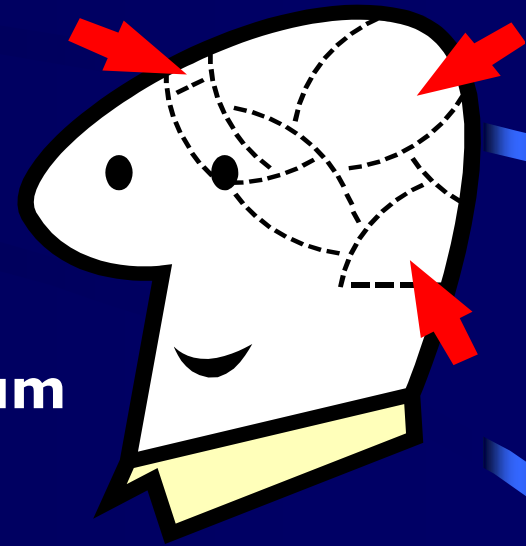
What is a Psychoactive Drug?

- Drugs are Therapeutic chemicals
 - designed to have maximal benefit
 - with minimal risk of side effects or toxicity
- Psychoactive Drugs change:
 - The Functioning of the Brain
 - Thinking
 - Behavior
 - Emotions
 - Sensation



Classification of Psychoactive Drugs

- ✓ **Stimulants** – cocaine, amphetamine, methamphetamine, caffeine
- ✓ **Nicotine**
- ✓ **Psychotherapeutics** – Prozac, Haldol, lithium
- ✓ **Opiates** – morphine, codeine, heroin, methadone
- ✓ **Depressants** – alcohol, barbiturates, inhalants, sleeping pills



Psychotherapeutic Drugs

- Are used to restore mental health
- Developed recently, beginning in the 1950s
- Allow patients to resume normal lives
- Some are potentially addicting and disrupt function
 - E.g., antianxiety drugs (Valium, Xanax and others) and sedatives (Seconal, Soma)
- Most are Non-addicting:
 - antidepressants (Prozac, Zoloft, Paxil, Celexa, Effexor)
 - antipsychotics (Risperdal, Seroquel, Zyprexa, Haldol)
 - anticonvulsants (Depakote, Tegretol, Trileptal, Topamax)
 - and others

Definition of Alcoholism

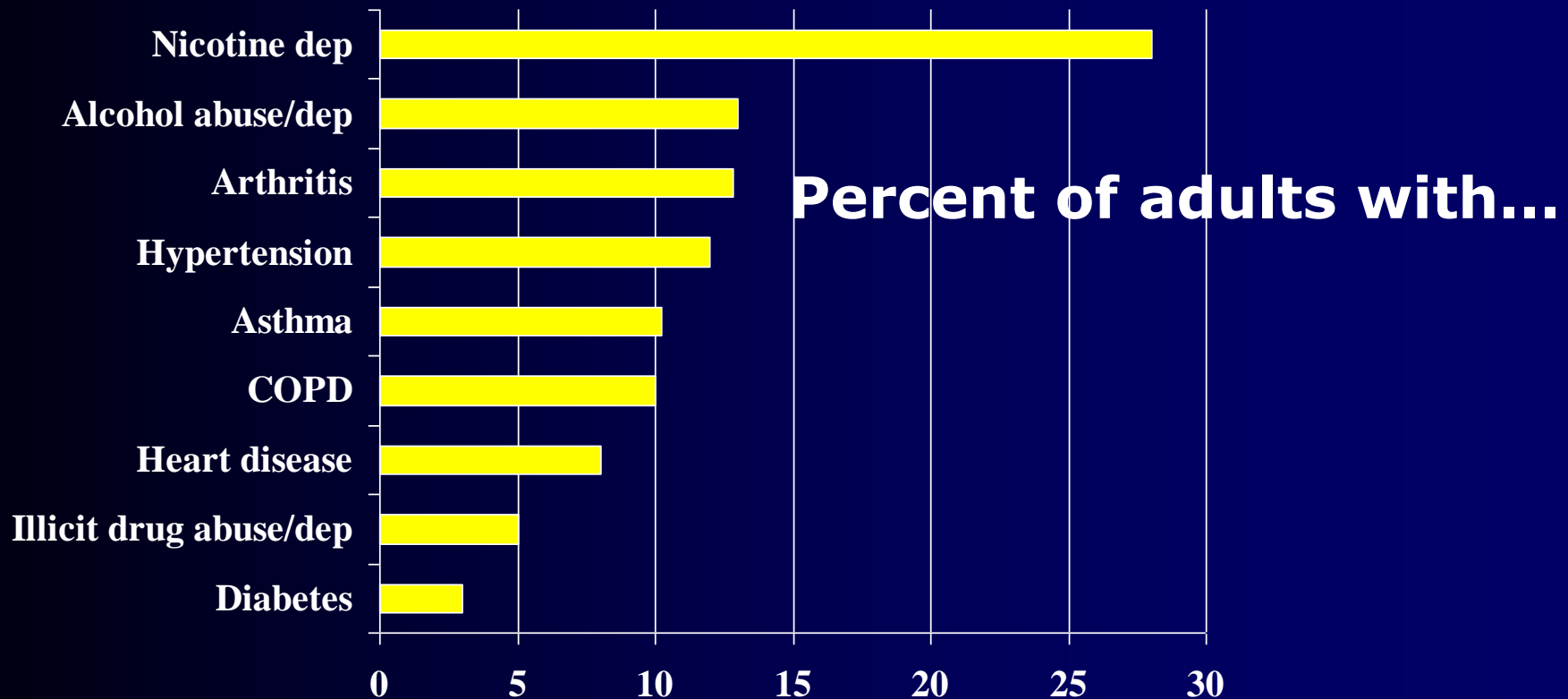
JAMA, 1992

Alcoholism is a **primary, chronic** disease with **genetic, psychosocial,** and **environmental** factors influencing its development and manifestations.

The disease is often **progressive** and **fatal**. It is characterized by **continuous** or **periodic:**
impaired control over drinking,
preoccupation with the drug alcohol,
use of alcohol despite adverse **consequences,**
and **distortions** in thinking, most notably **denial**.

Alcohol Use Disorders are Common in U.S.

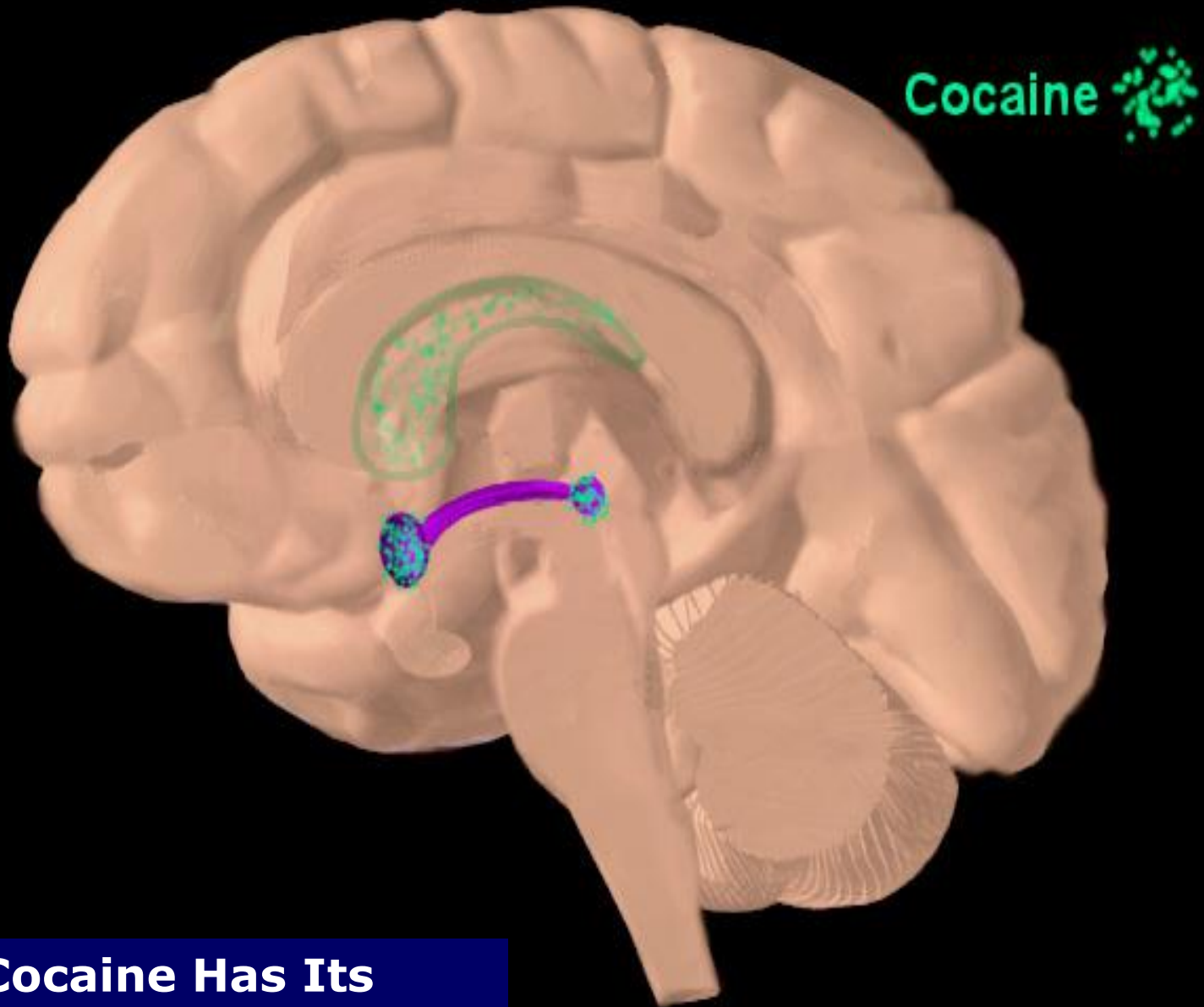
- 14 million adults currently have an alcohol use disorder (11 million had disorders in the past or are in recovery)
- 1.8 million of those receive treatment
- >50% of adults have immediate family member with AUD (RWJF 2001)



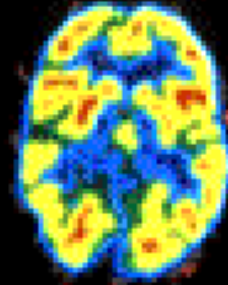
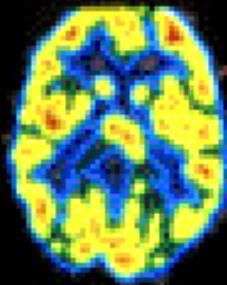
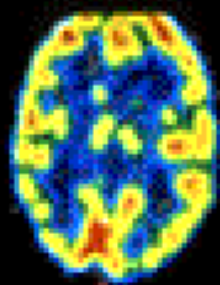
What Drugs are Addicting?

Drugs of Abuse and Dependence

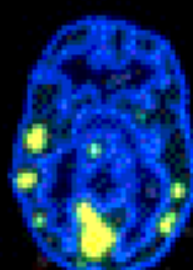
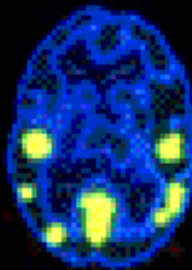
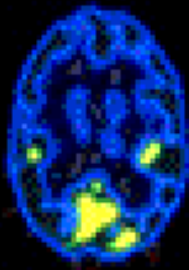
- Caffeine
- Nicotine
- Alcohol
- Cannabis
- Cocaine
- Hallucinogens
- Inhalants
- Opioids
- Amphetamines
- Sedative-Hypnotics and Anxiolytics
- PCP



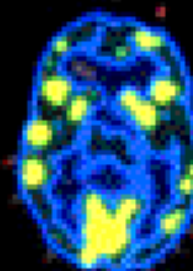
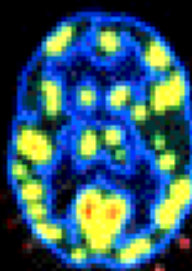
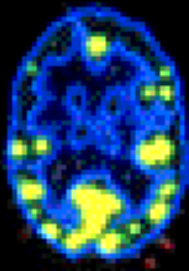
**Where Cocaine Has Its
Effects in the Brain**



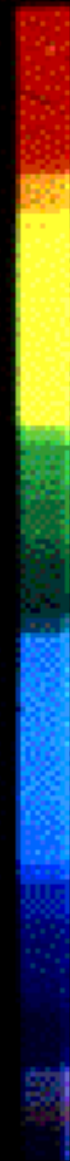
Normal



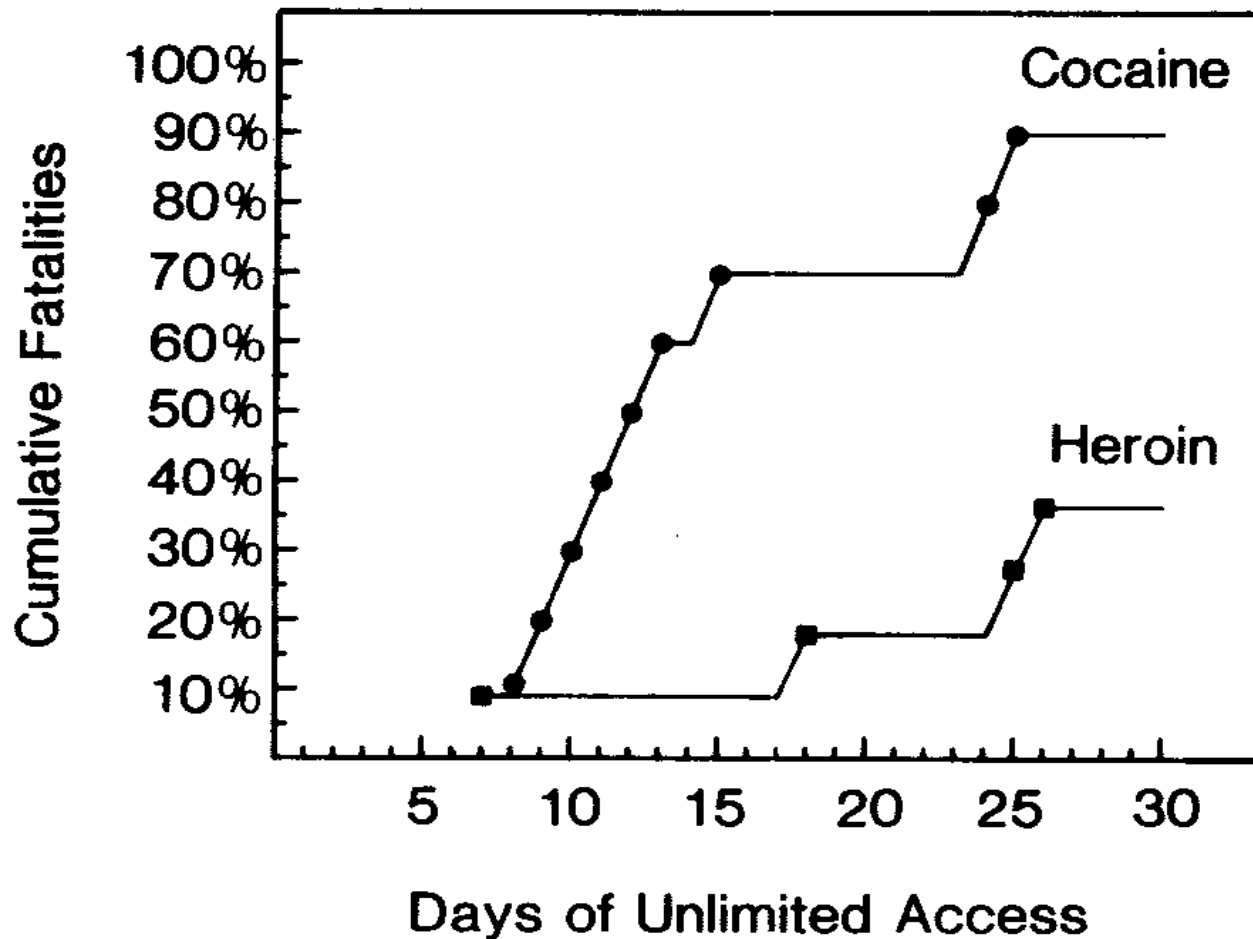
Cocaine Abuser (10 DA)



Cocaine Abuser (100 DA)



Laboratory Rats Will Self-Administer Cocaine Until They Die



M.A. Bozarth and R.A. Wise (1985). Toxicity associated with long-term intravenous heroin and cocaine self-administration in the rat. *Journal of the American Medical Association*, **254**, 81-83.

TREATMENT WORKS!

Who needs treatment?

13 to 16 million Americans
need treatment for alcohol
and/or other drug abuse in
any year

BUT...

Only 3 million receive care

National Institute on Drug Abuse (NIDA)

Principles of Effective Treatment

1. No single treatment is appropriate for all individuals
2. Treatment needs to be readily available
3. Effective treatment attends to multiple needs of the individual, not just the drug use
4. An individual's treatment and service plan must be assessed continually and modified as necessary to ensure that the plan meets the person's needs

NIDA Principles or Effective Tx (cont'd.)

5. Remaining in treatment for an adequate period of time is critical for treatment effectiveness
6. Counseling and other behavioral therapies are critical components of effective treatment
7. Medications are an important element of treatment for many patients, esp. when combined with counseling or behavioral therapies
8. Addicted or drug-abusing individuals with co-existing mental disorders should have both disorders treated in an integrated way

NIDA Principles of Effective Tx (cont'd.)

9. Medical detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug use
10. Treatment does not need to be voluntary to be effective
11. Possible drug use during treatment must be monitored continuously
12. Treatment programs should provide assessment for HIV/AIDS, Hepatitis B&C and other infectious diseases
13. Recovery from drug addiction can be a long-term process and frequently requires multiple episodes of treatment

Medical Detoxification

- Detoxification safely manages the physical symptoms of withdrawal
- Only first stage of addiction treatment
- Alone, does little to change long-term drug use

Medications for Drug Addiction

- Alcohol and Benzodiazepines: Librium, Ativan, Phenobarbital (withdrawal is potentially fatal if left untreated)
- Opiates: Buprenorphine, Methadone, LAAM, Naltrexone (withdrawal is uncomfortable, not life-threatening)
- Nicotine: Patches, gum, bupropion, behavioral modification

Motivation to Enter/ Sustain Treatment

- Effective treatment need not be voluntary
- Sanctions/enticements (family, employer, criminal justice system) can increase treatment entry/retention
- Treatment outcomes are similar for those who enter treatment under legal pressure vs voluntary

Effectiveness of Treatment

- Goal of treatment is to return to productive functioning
- Treatment reduced drug use by 40-60%
- Treatment reduces crime by 40-60%
- Treatment increases employment prospects by 40%
- Drug treatment is as successful as treatment of diabetes, asthma, and hypertension

Self-Help and Drug Addiction Treatment

- Complements and extends treatment efforts
- Most commonly used models include 12-Step (AA, NA) and Smart Recovery
- Most treatment programs encourage self-help participation during/after treatment

12-Step Programs

- Alcoholics Anonymous
- Narcotics Anonymous
- Crystal Meth Anonymous
- Gambling Anonymous
- Al-Anon
- Adult Children of Alcoholics (ACOA)
- Double Trouble (dual diagnosis)

Cost-Effectiveness of Drug Treatment

- Treatment is less expensive than not treating or incarceration (1 yr methadone maintenance = \$4,700 vs. \$18,400 for imprisonment)
- Every \$1 invested in treatment yields up to \$7 in reduced crime-related costs
- Savings can exceed costs by 12:1 when health care costs are included
- Reduced interpersonal conflicts
- Improved workplace productivity
- Fewer drug-related accidents

If you treat an individual as he is he will stay as he is, but if you treat him as if he were what he ought to be and could be, he will become what he ought to be and could be.

~ Johann Wolfgang von Goethe

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