SUBSTANCE ABUSE AND ADDICTION: INTEGRATION OF SUBSTANCE USE DISORDER CARE INTO ROUTINE HEALTH CARE IN UGANDA

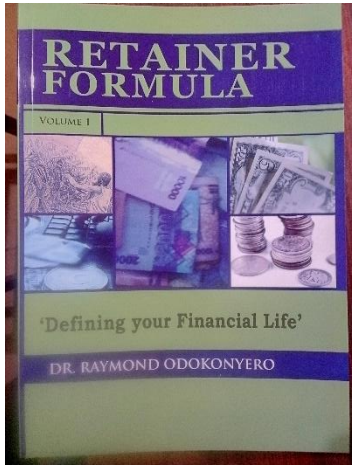
DR RF ODOKONYERO LANYWAK KWON KI MON
Makerere University College of Health Sciences
Department of Psychiatry.
rodokonyero@gmail.com

Seed Global Health – ECHO Project Presentation, 15th December 2023

My passions

- Raising trees from seed!

- Money (Philosophically)



- Mentoring

Amono's Pride Foundation
"To Motivate. To Inspire. To live"

PART 1:
Introduction to Substance Use Disorders

The Global Problem

- 28 million suffer from drug use disorders
- People who suffer from drug use disorders/people with drug use disorders:
  - Subset of people who use drugs
  - Need treatment, health and social care, and rehabilitation

Source: UNODC. (2016). World drug report 2016. New York: United Nations.

The Global Problem

- Global consequences of SUDs are far-reaching and include:
  - Higher rates of hepatitis and tuberculosis
  - Lost productivity
  - Injuries and deaths from automobile and other accidents
  - Overdose deaths
  - Suicides
  - Violence

The Global Problem

- "There continues to be an enormous **unmet need** for drug use prevention, treatment, care and support, particularly in developing countries."

  —Yury Fedotov, Executive Director, UNODC

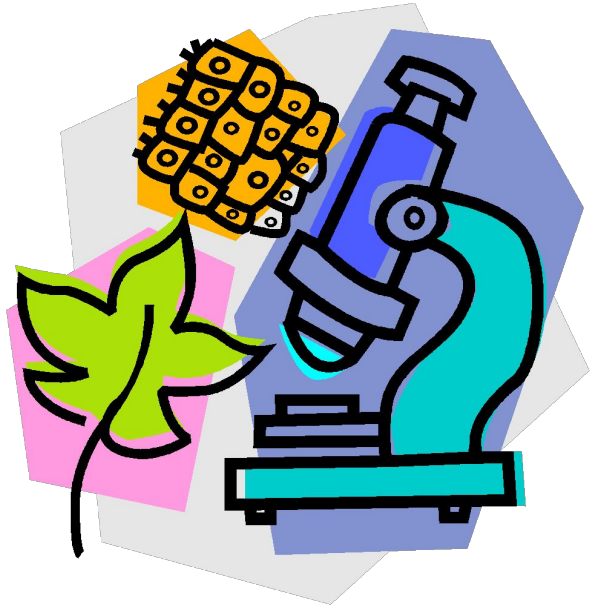
Source: UNODC. (2011). *World drug report 2011* (p. 9). New York: United Nations.

What is a Drug?

- **In *medicine*:** Any substance with the potential to prevent or cure a disease or the potential to enhance physical or mental well-being

What is a Drug?

- **In *pharmacology*:** Any chemical agent that alters the biochemical or physiological processes of body tissues or organisms

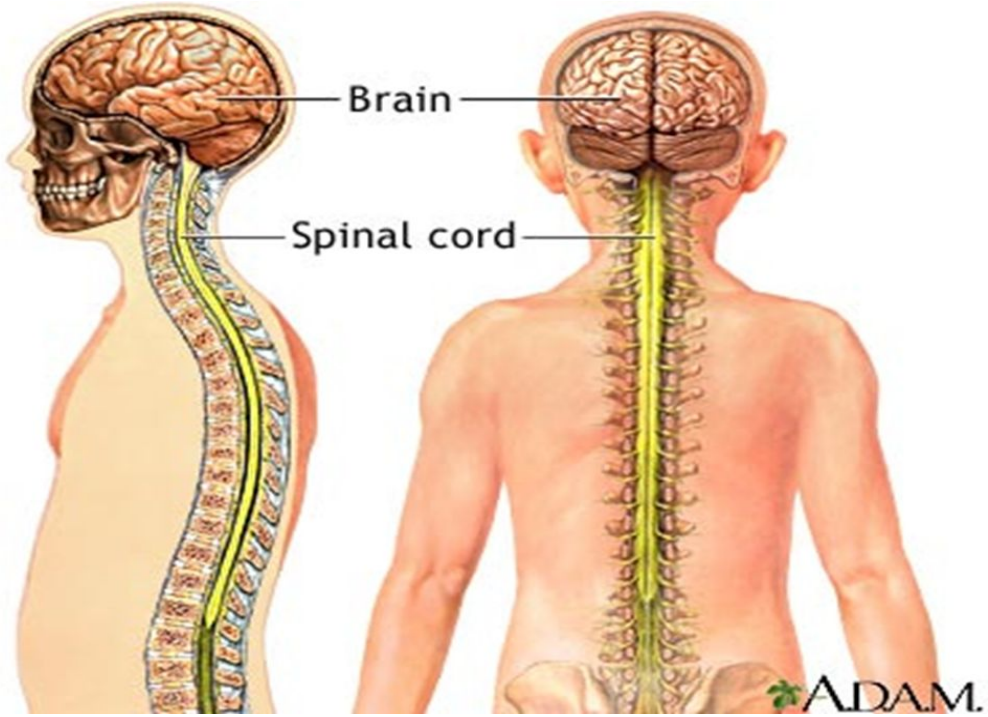


What is a Drug?

- **In *common usage:*** A substance that is used for nonmedical (e.g., recreational) reasons

Psychoactive Substances

- Affect the body's **central nervous system**
- Change how people behave or perceive what is happening around them



Psychoactive Substances

- Psychoactive substances alter:
  - Mood
  - Thoughts
  - Sensory perceptions
  - Behavior

Drug Classes: Examples

Stimulants	Opioids (narcotics)	Depressants	Hallucinogens
Cocaine	Heroin	**Alcohol**	LSD
Amphetamine	Morphine	Barbiturates	Mescaline Peyote
Methamphetamine	Opium	Benzodiazepines	Ecstasy
Nicotine, Caffeine	Pethidine	Gamma-Hydroxybutyrate (GHB); Rohypnol	Mushrooms

Other

- Some drugs do not fit neatly into a category:
  - Cannabinoids (marijuana, hashish)
  - Khat/Miraa
  - Dissociative anesthetics (phencyclidine [PCP], ketamine)
  - Inhalants solvents, gases, nitrites

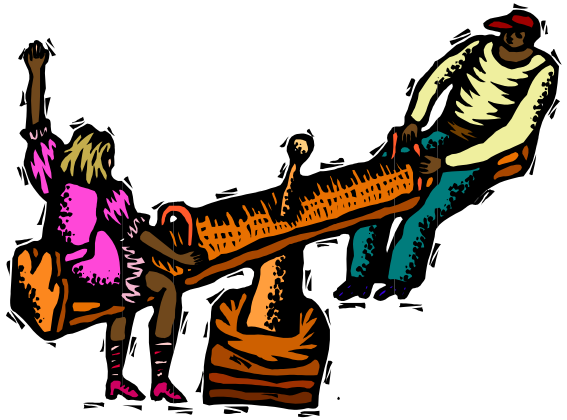
Teeter-Totter Principle

- What goes up must come down: Withdrawal often produces symptoms that are the opposite of the effects of the substance
- Useful to predict what kind of withdrawal symptoms may be caused by which substances

Source: U.S Substance Abuse and Mental Health Services Administration. (2005). *Substance abuse treatment for persons with co-occurring disorders.* Treatment Improvement Protocol 42. Rockville, MD: U.S. Department of Health and Human Services.

Teeter-Totter Principle (Examples)

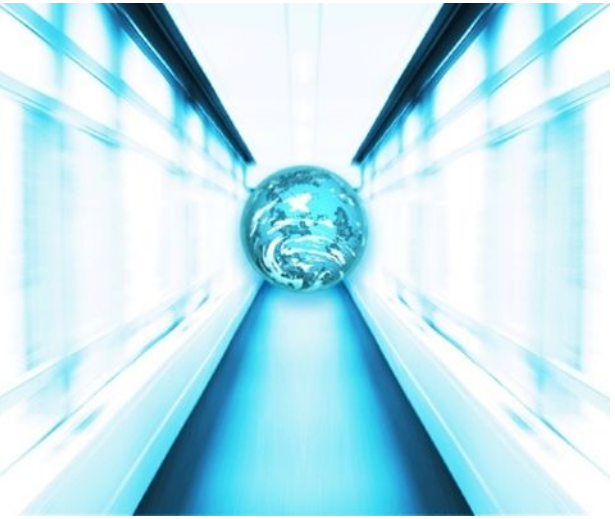
- Acute withdrawal symptoms for physiological *depressants* (alcohol and benzodiazepines) are hyperactivity, elevated blood pressure, agitation, and anxiety (the shakes)
- Withdrawal symptoms for *stimulants* are fatigue and depression



Routes of Administration

- Swallowing
- Snorting
- Smoking
- Inhaling fumes
- Intramuscular (IM) injection
- Subcutaneous (SC) injection
- Intravenous (IV) injection
- Topical
- Sublingual

- The faster the drug hits the brain, the greater and more reinforcing its effect



Speed of Action

- Smoking: 7–10 seconds
- Intravenous injecting: 15–30 seconds
- Injecting into the muscle or under the skin: 3–5 minutes
- Mucous membrane absorption (snorting, rectal): 3–5 minutes
- Swallowing: 20–30 minutes
- Absorbed through skin: Slowly over a long period

PART 2:
The Science of Addiction

Important terminology

1. Harmful use
2. Physical dependence *vs.* addiction
3. Psychological craving
4. Tolerance
5. Withdrawal symptoms
6. Neurotransmitters and receptors

What is harmful use? (ICD-10)

A pattern of psychoactive substance use that is damaging to physical and / or mental health.

What is drug addiction?

Drug addiction is a complex illness characterised by compulsive, and at times, uncontrollable drug craving, seeking, and use that persist even in the face of extremely negative consequences.

(NIDA, 1999)

Addiction

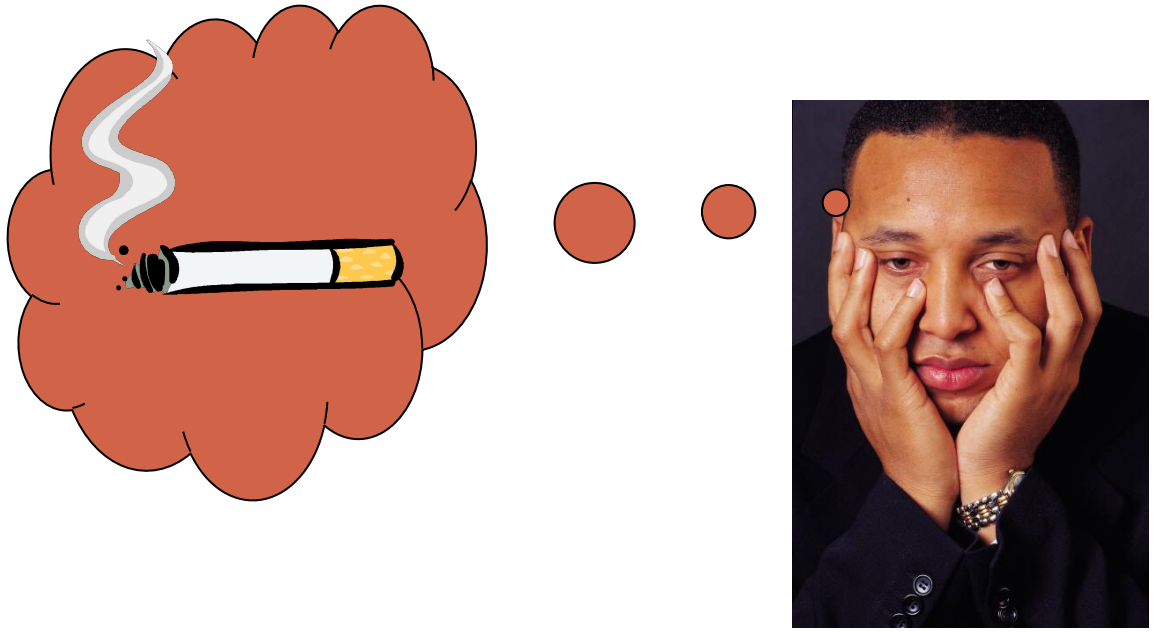
- Is NOT a character flaw, a personality disorder, or a moral failing
- IS a health problem

Characteristics of addiction

- Compulsive behaviour
- Behaviour is reinforcing (rewarding or pleasurable)
- Loss of control in limiting intake

Psychological craving

Psychological craving is a strong desire or urge to use drugs. Cravings are most apparent during drug withdrawal.



Tolerance

A state in which a person no longer responds to a drug as they did before, and a higher dose is required to achieve the same effect.

Withdrawal (1)

A period during which somebody addicted to a drug or other addictive substance reduces their use or stops taking it, causing the person to experience painful or uncomfortable symptoms

OR

A person takes a similar substance in order to avoid experiencing the effects described above.

Withdrawal (2)

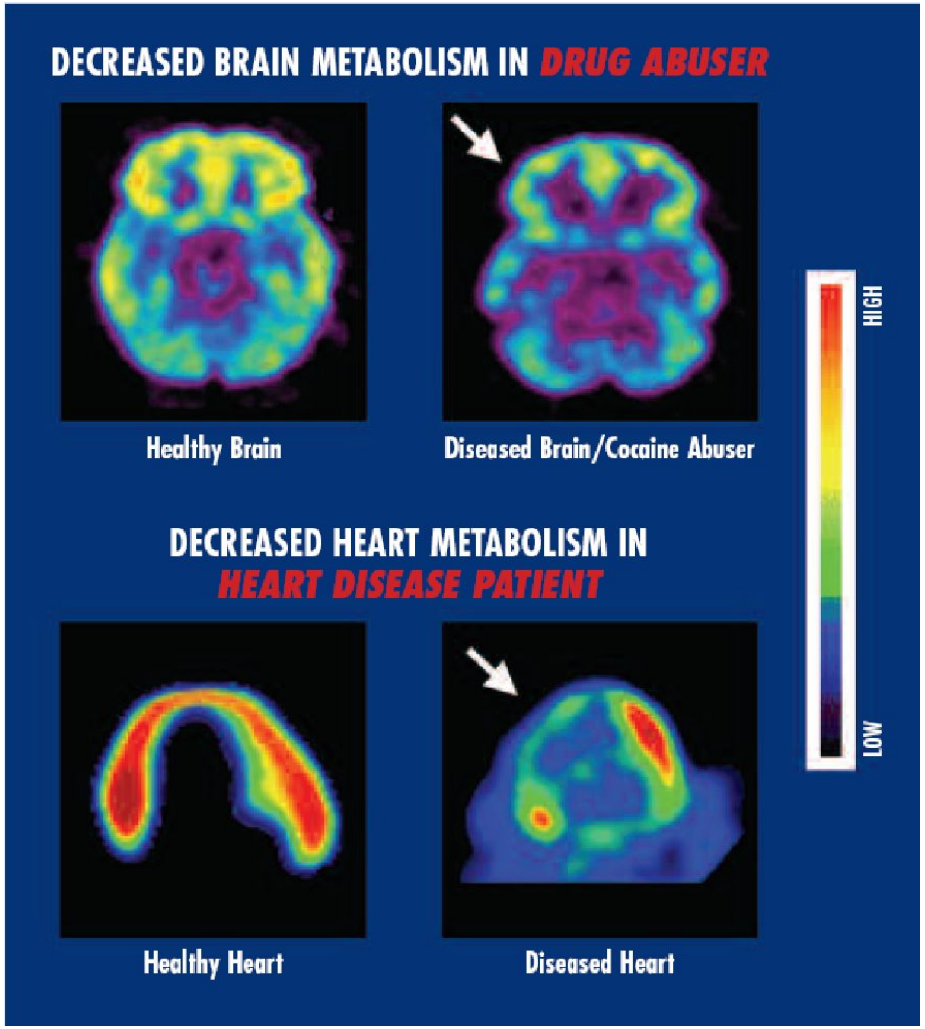
When a drug is removed, physical and / or mental disturbances may occur, including:

- Physical symptoms
- Emotional problems
- Cognitive and attention deficits
- Aggressive behavior
- Hallucinations
- Convulsions
- Death

Science of Addiction

- Addiction is a chronic, relapsing brain disease that is characterized by compulsive substance seeking and use, despite harmful consequences

Disease

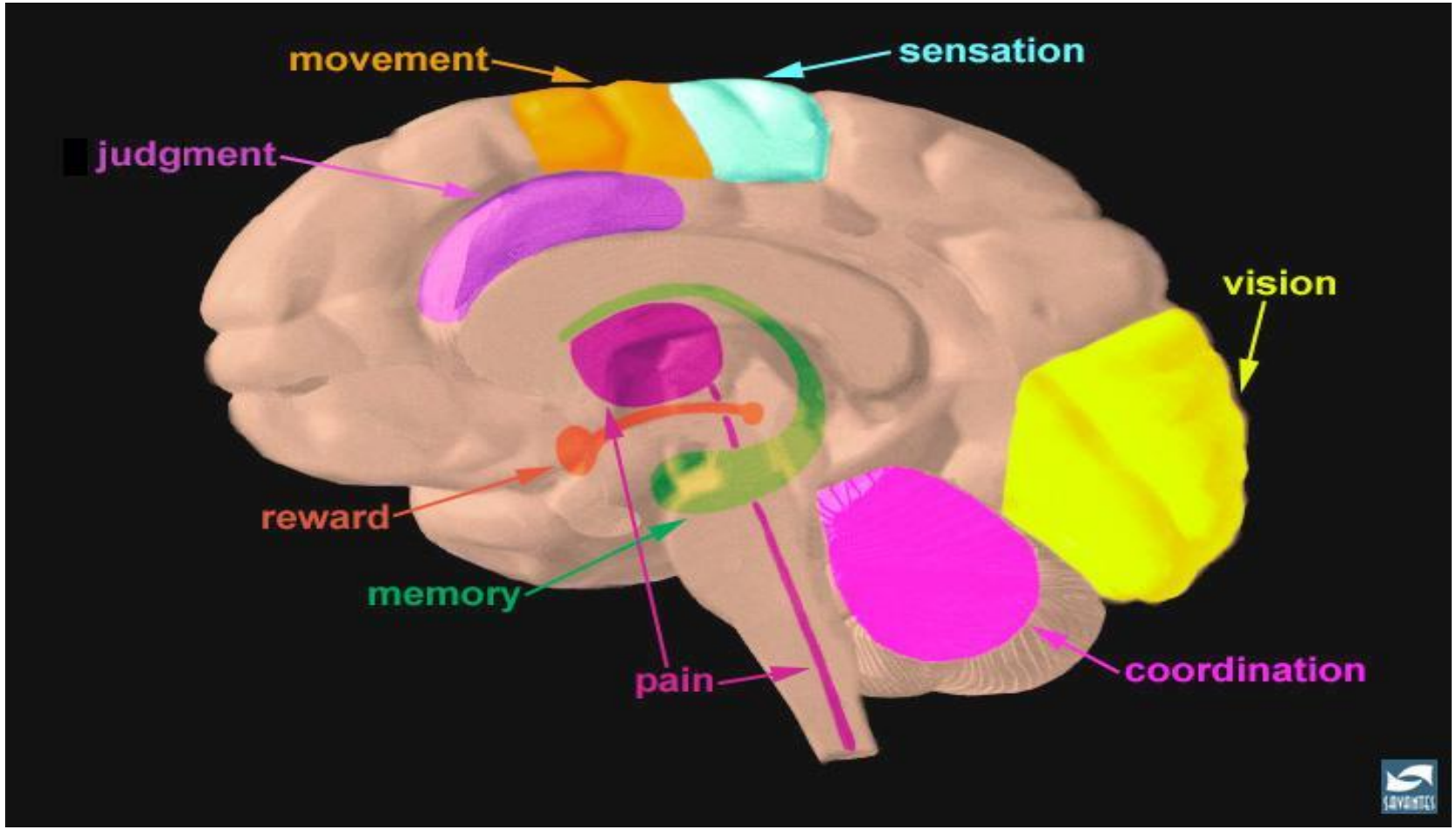


ADDICTION AND HEART DISEASE BOTH CAUSE *BIOLOGICAL* CHANGES

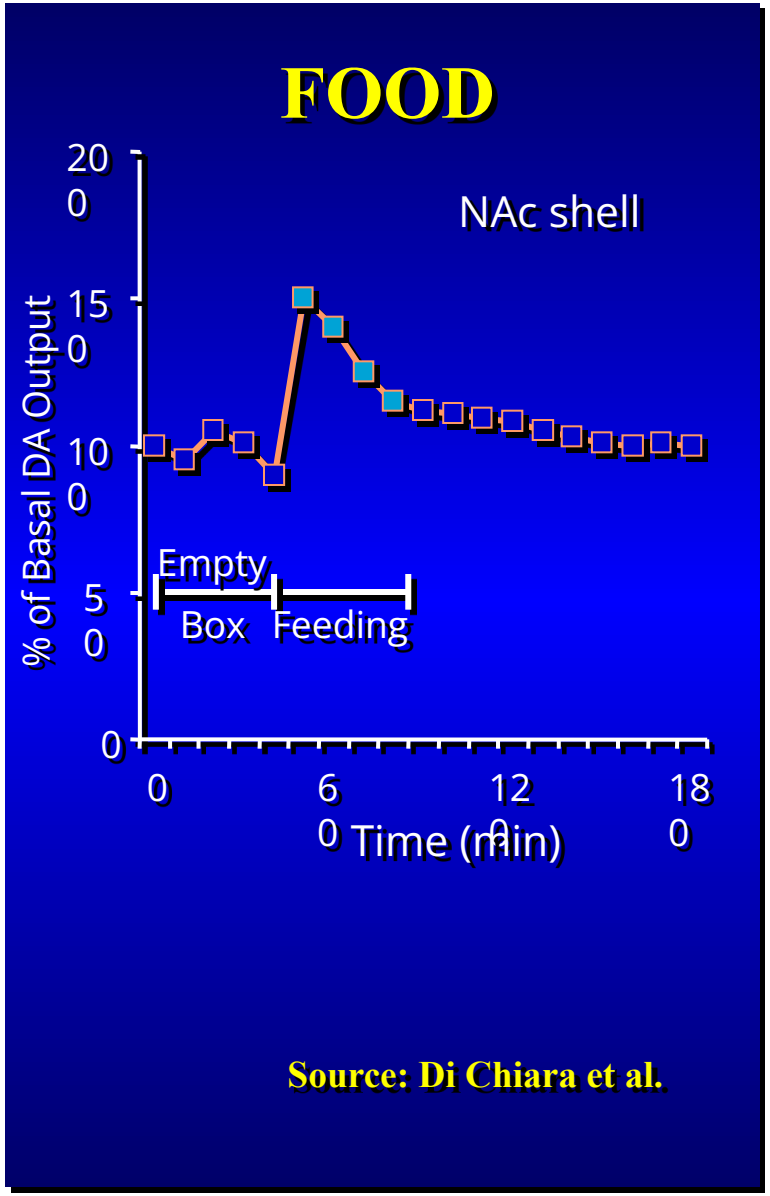
Brain Disease

- Substances actually change the structure of the brain and how it works

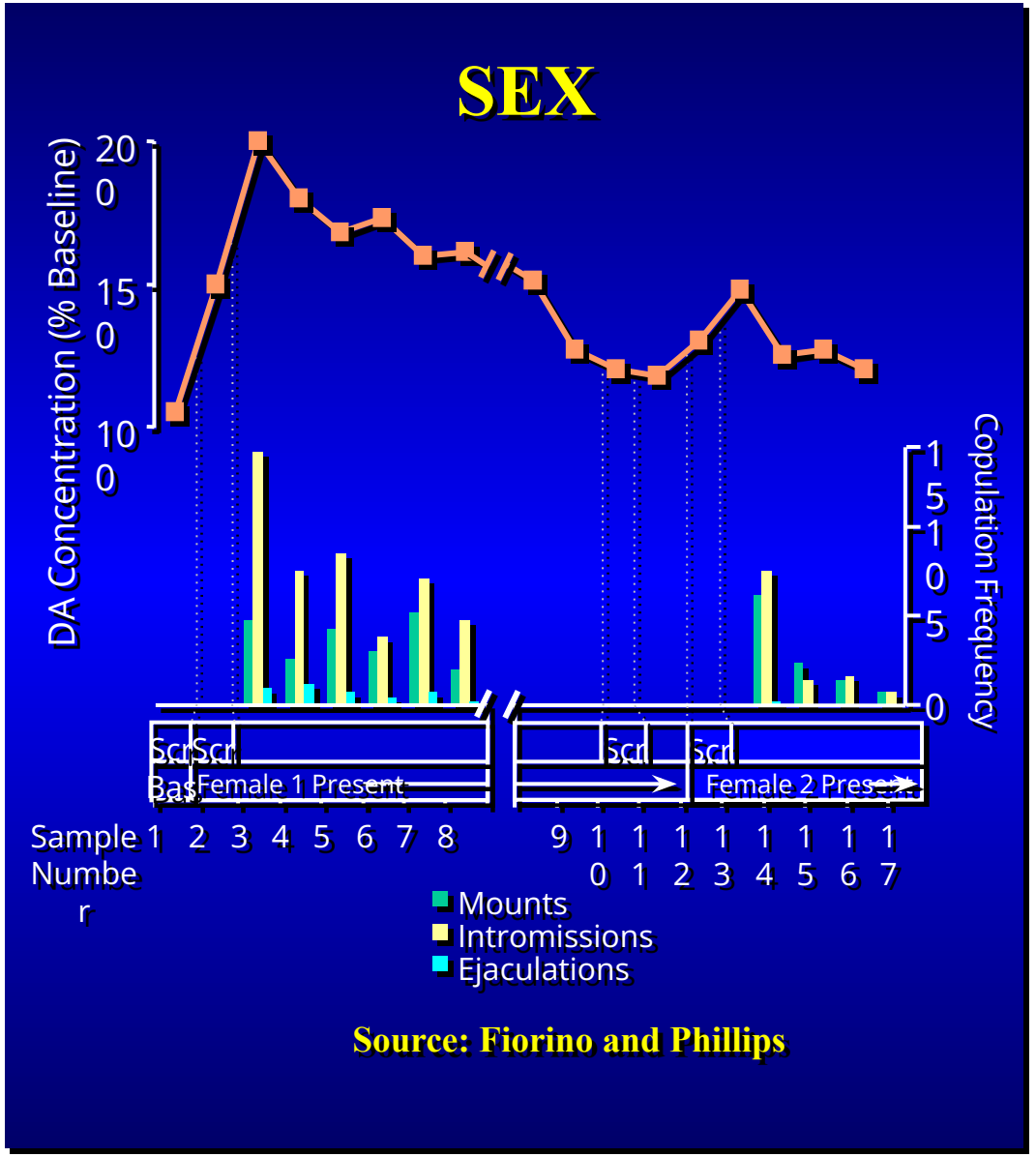
The "Addiction" Brain – The Reward Center



Natural rewards elevate dopamine levels

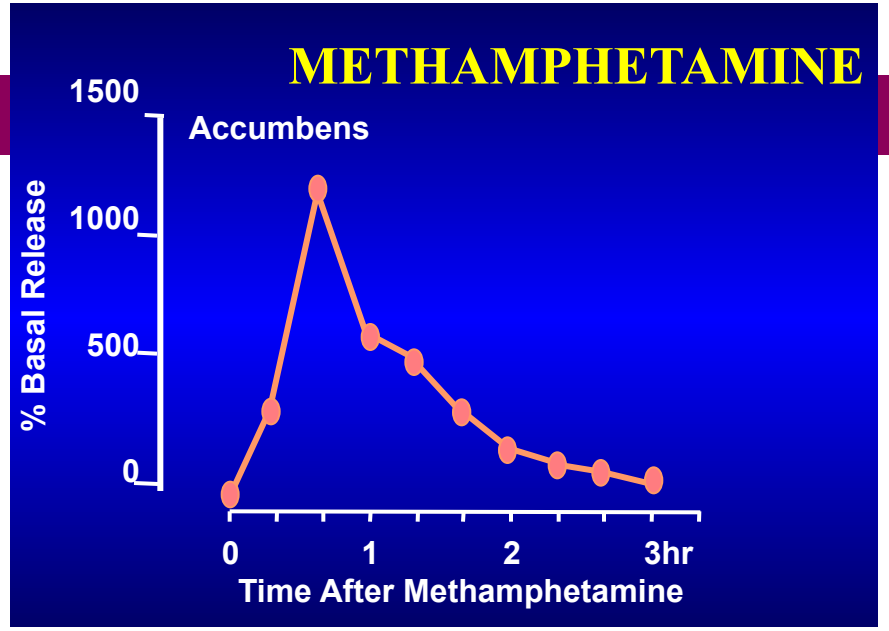


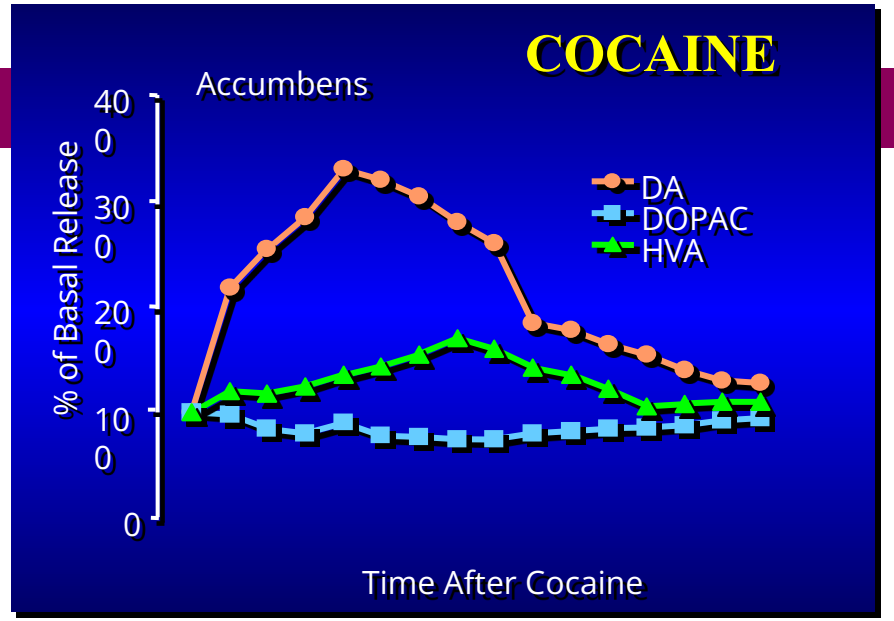
Source: Di Chiara et al.

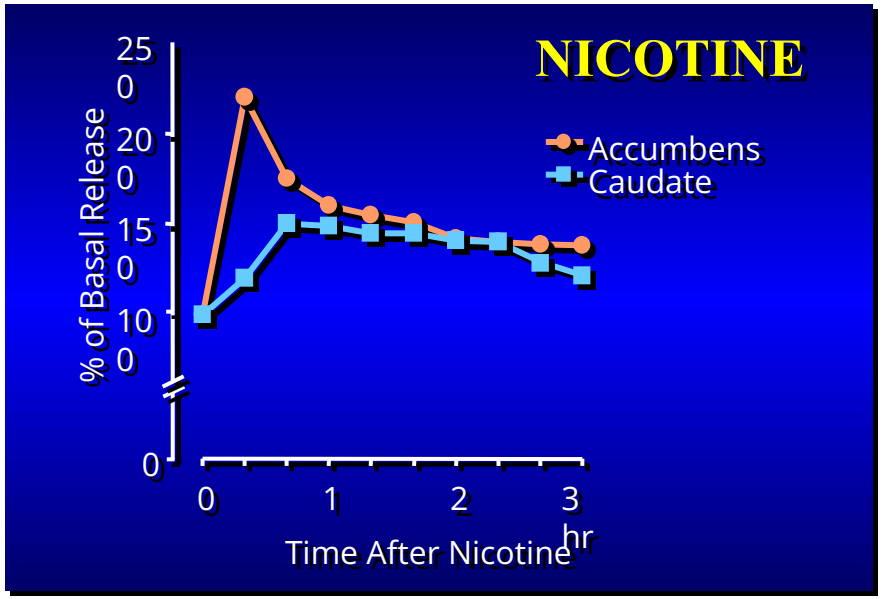


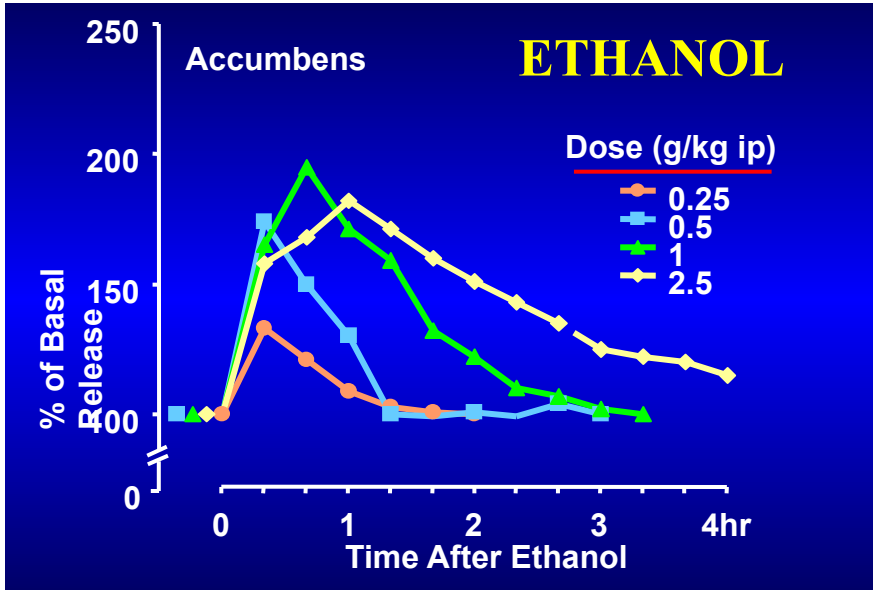
Source: Fiorino and Phillips

Effects of Drugs on Dopamine Release





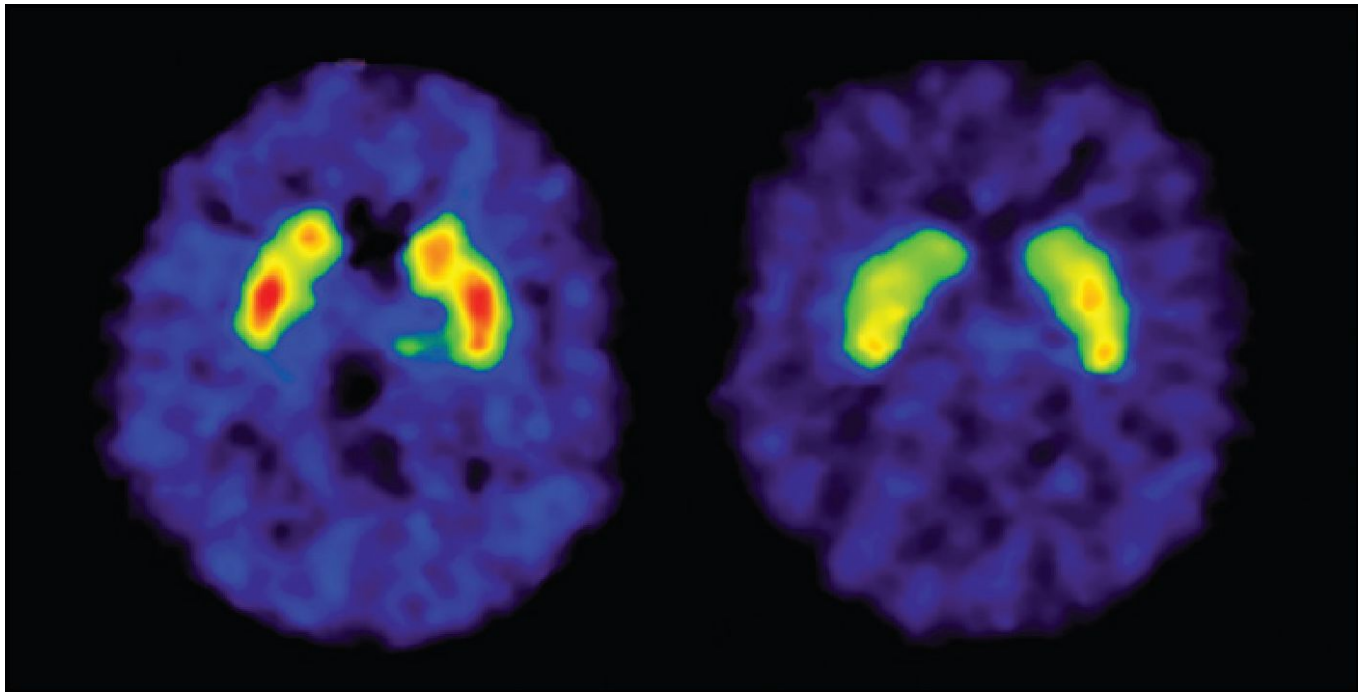




Source: Shoblock and Sullivan; Di Chiara and Imperato

Dopamine Receptor Availability

Red=High levels of dopamine receptors

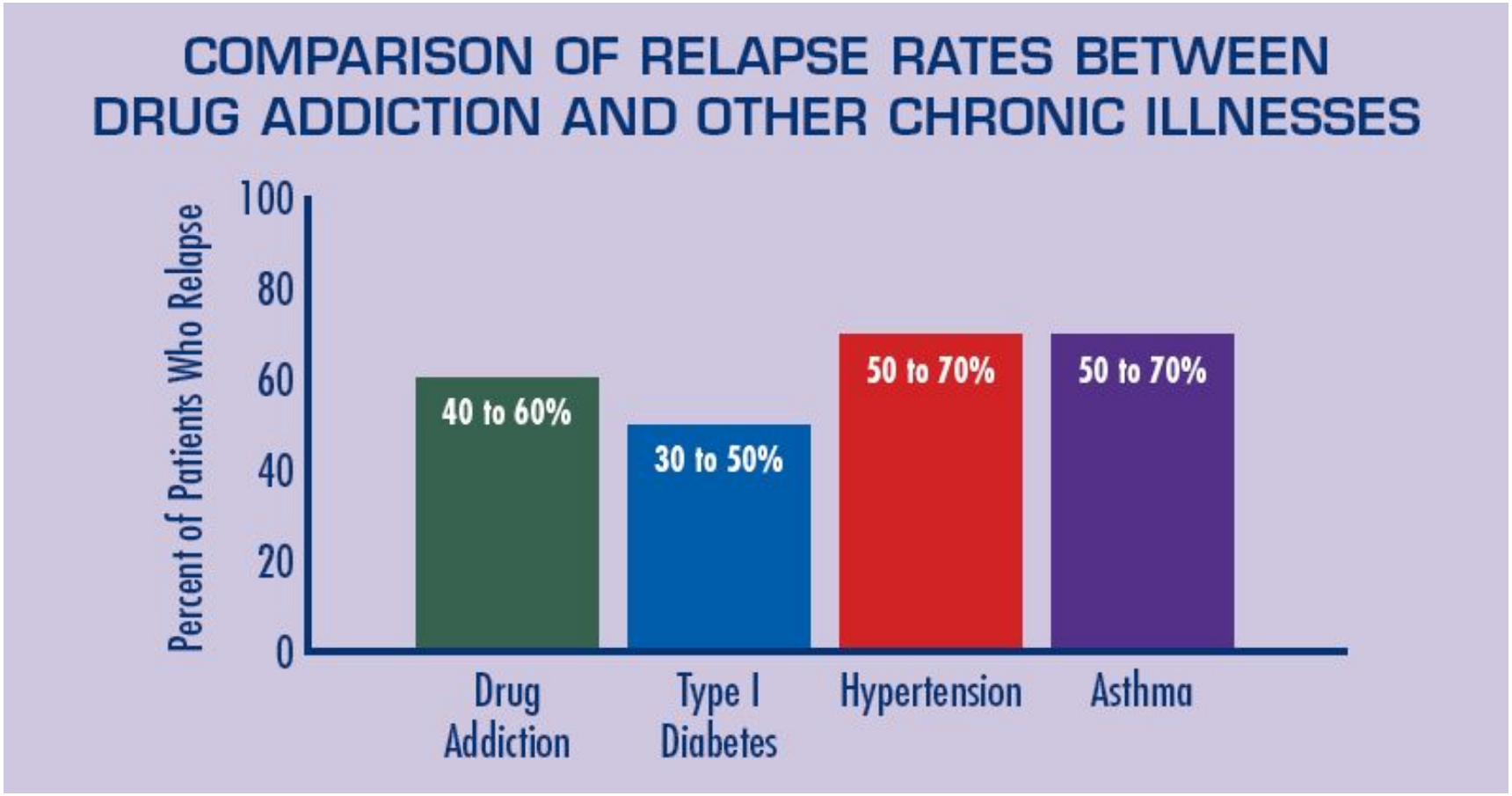


Healthy brain

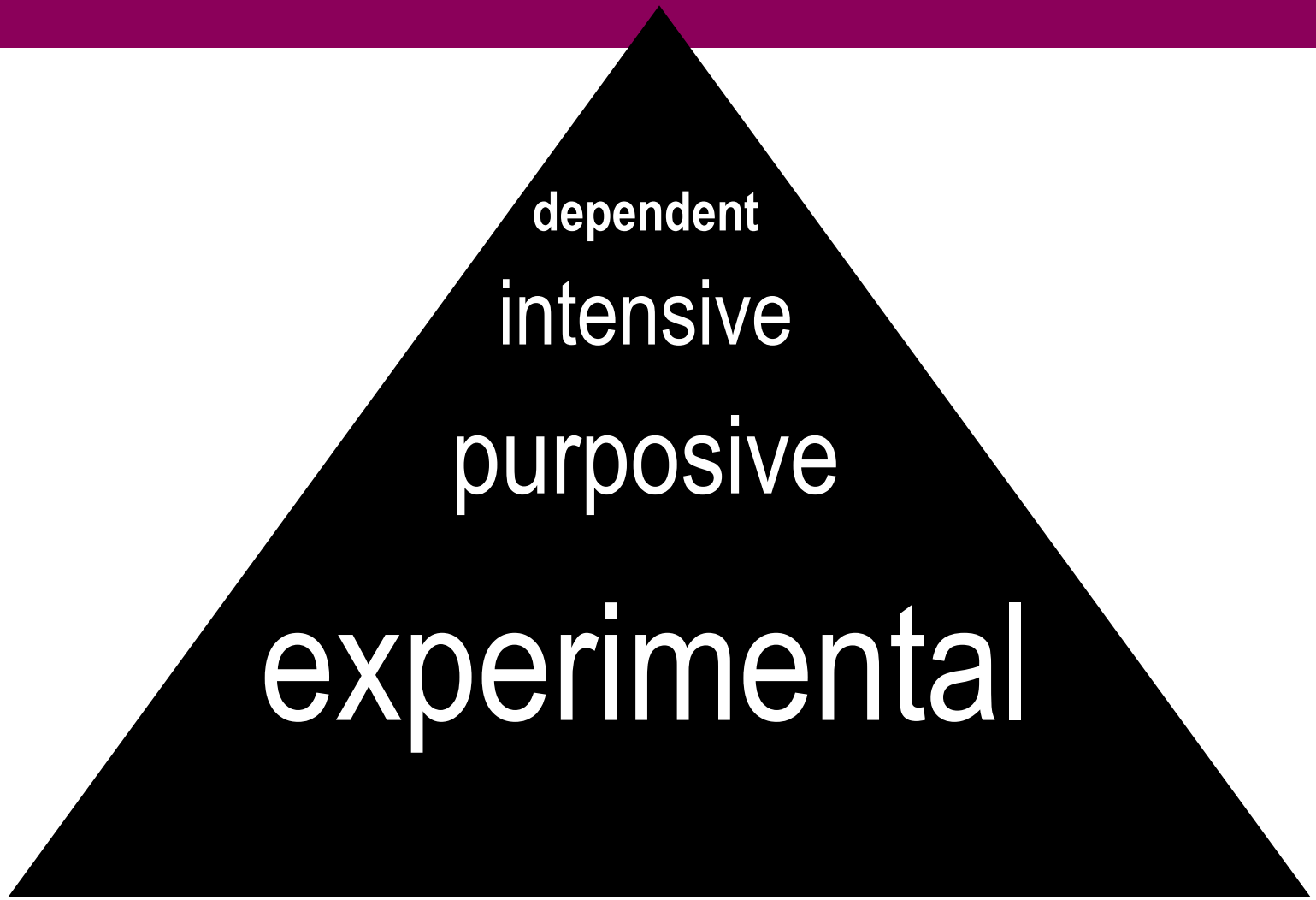
Brain with chronic cocaine use

Source: National Institute on Drug Abuse. (2007). *Science & Practice Perspectives, 3*(2).

Relapse

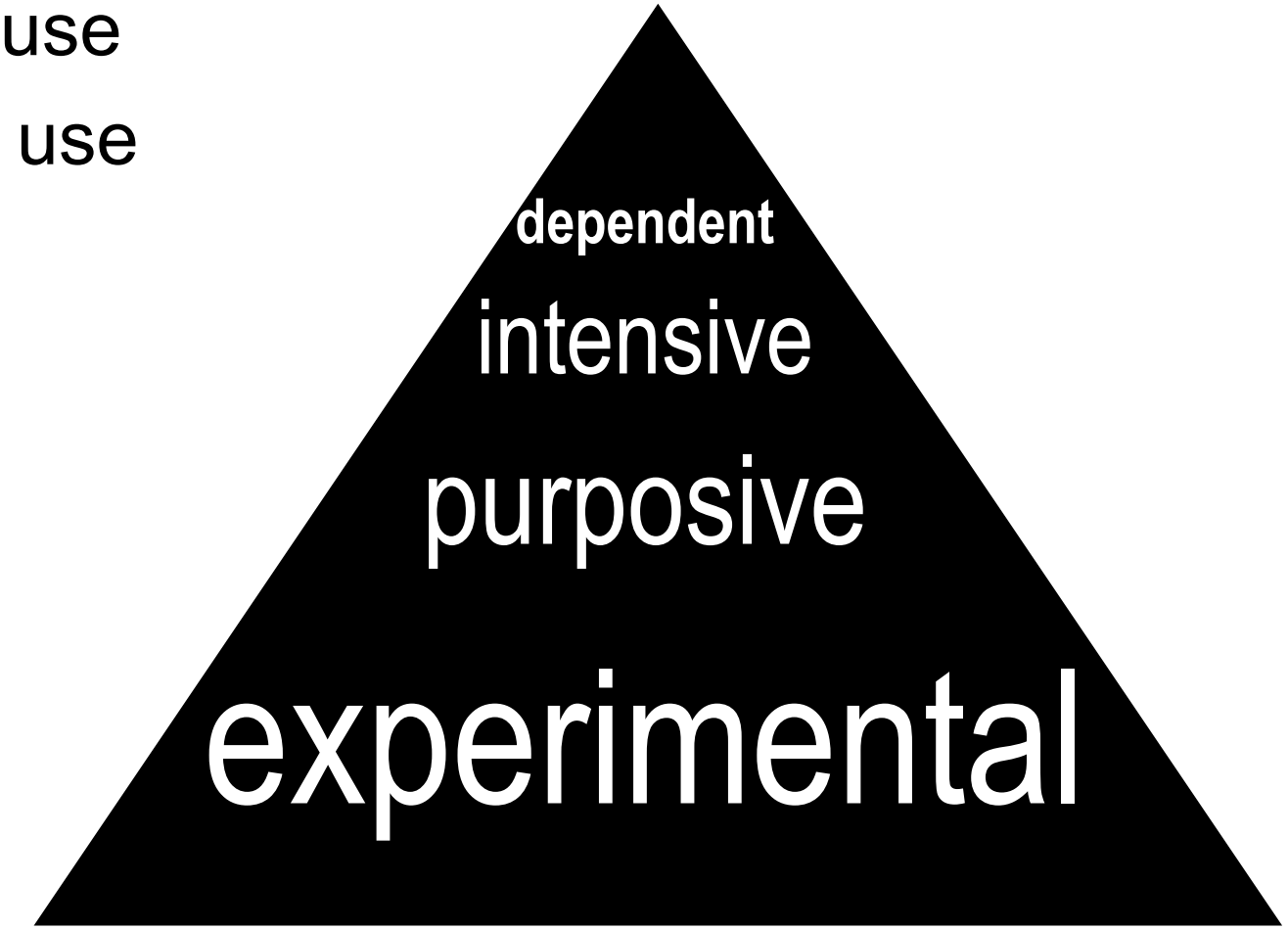

COMPARISON OF RELAPSE RATES BETWEEN
DRUG ADDICTION AND OTHER CHRONIC ILLNESSES
Percent of Patients Who Relapse
100
80
60
40
20
0
40 to 60%
30 to 50%
50 to 70%
50 to 70%
Drug Addiction
Type I Diabetes
Hypertension
Asthma

Patterns of drug use



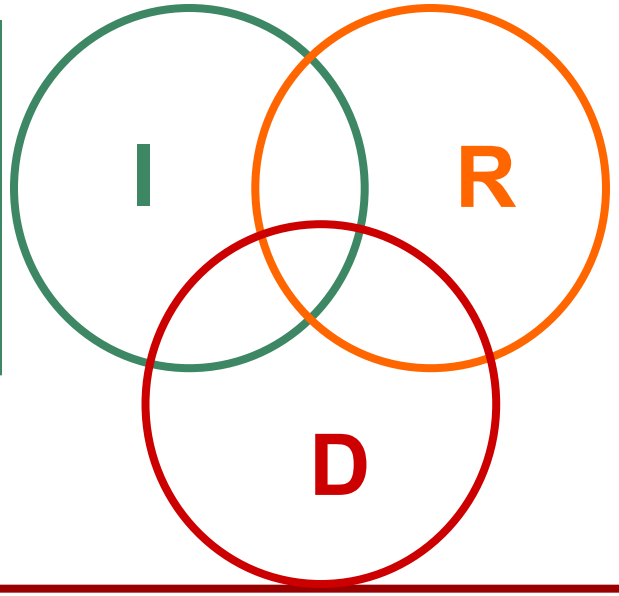
Progression of Use

- Experimental/recreational use
- Circumstantial/Occasional use
- Intensified/regular use
- Compulsive/addictive use



Types of problems: Thorley's Model

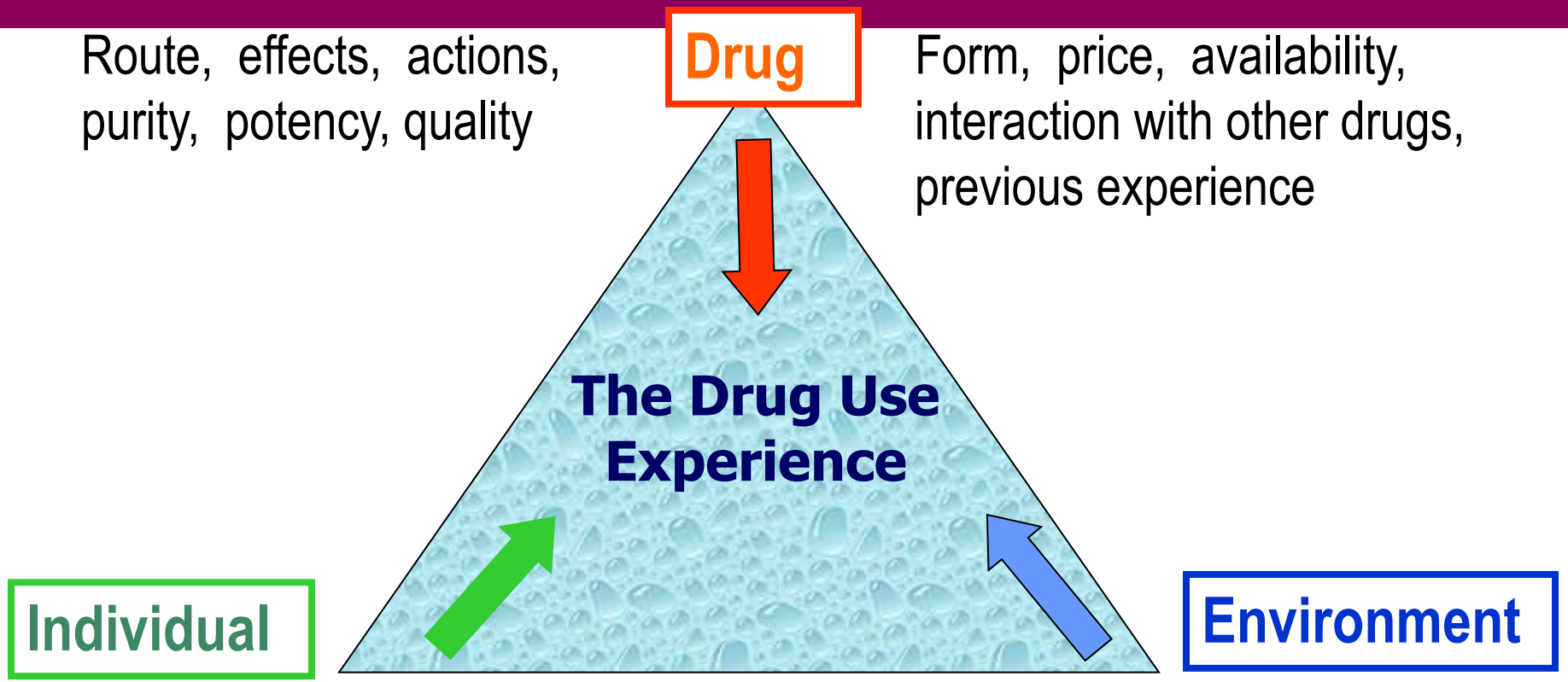
Intoxication
- Accidents / injury
- Poisoning / hangovers
- Absenteeism
- High-risk behaviour



Regular / excessive Use
- Health
- Finances
- Relationships
- Child neglect

Dependence
- Impaired control
- Drug-centred behaviour
- Isolation / social problems
- Withdrawal symptoms and psychiatric problems
- Health Problems

Interactive Model of Drug Use

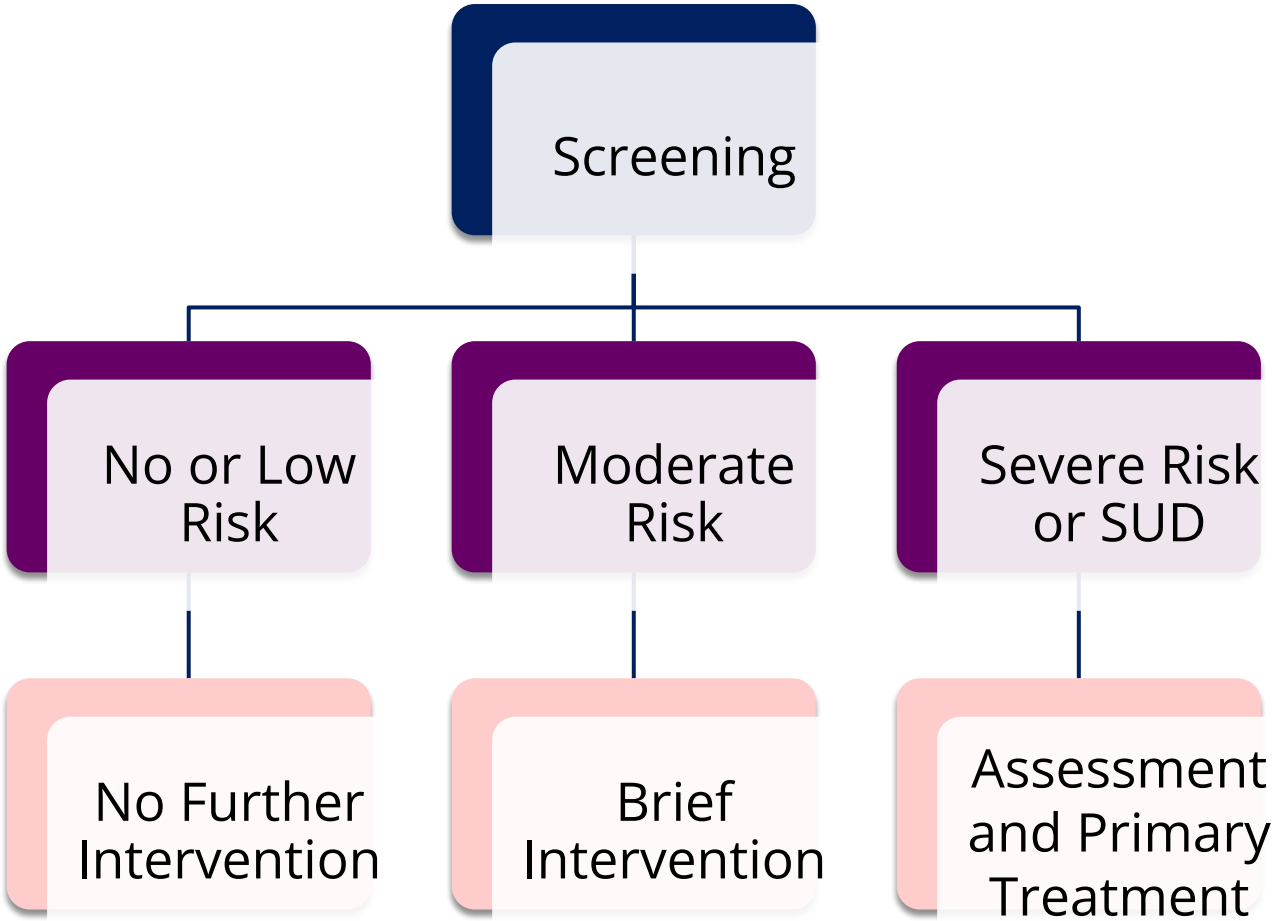


PART 3:
Screening, Assessment and Management

Pretreatment Components

- Screening and brief intervention
- Assessment and treatment planning
- Detoxification

Screening


Screening
No or Low Risk
Moderate Risk
Severe Risk or SUD
No Further Intervention
Brief Intervention
Assessment and Primary Treatment

Brief Intervention

- Focuses on increasing a person's insight into and awareness of substance use and behavioral change
- Can be provided through a single session or multiple sessions of motivational interventions by SUD or other professional or peer staff
- Assessment Goals
  - Provide a foundation for treatment planning
  - Establish a baseline for measuring a client's progress
  - Prioritize a client's problems
  - Set priorities for treatment and case management interventions
  - Identify client strengths and other recovery capital that can support recovery

Assessment Tasks

- Engaging the client
- Obtaining the client's history
- Collecting data on the client
- Observing the client during the first visit

Areas of Assessment—Part I

- The client's reason for seeking treatment and his or her opinion of the problem
- Current and past substance use and drug treatment
- Family history of substance use
- Medical conditions or complications

Areas of Assessment—Part II

- Risk of withdrawal and need for supervised detoxification
- Suicide, health, and other crisis risk assessment
- Emotional/behavioral/cognitive status, including the presence of a mental disorder
- Educational and vocational background

Areas of Assessment—Part III

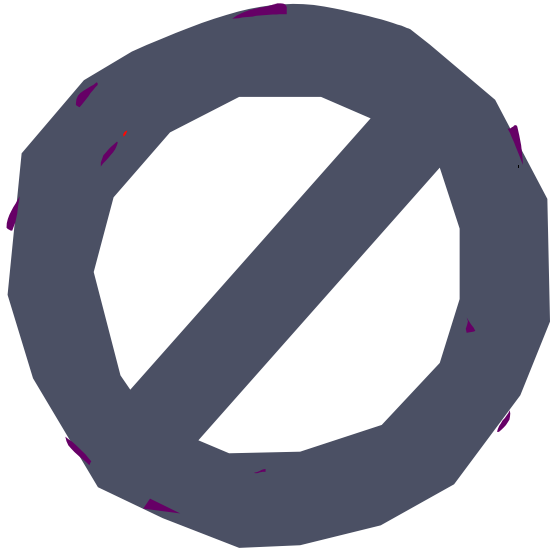
- Legal status
- Readiness to change
- Natural supports within the family, workplace, and community
- Relapse or continued-use potential
- Recovery environment (e.g., living situation, barriers and supports for recovery)

Assessment Methods

- Clinical interview
- Assessment instruments
- Collateral sources, with client's permission:
  - Family
  - Friends
  - Employer
  - Referral sources
- Urine or other testing for substances

Detoxification

- The process of:
  - Stopping substance use
  - Clearing the substance from the body
  - Managing the withdrawal syndrome



Withdrawal

- The particular signs and symptoms, the intensity of them, and the risk involved in withdrawal depends on:
  - The substance used
  - The amounts taken over time
  - The length of time the substance was used regularly

Goals of Detoxification

- To provide a safe withdrawal from substances of dependence and to enable the person to become drug free
- To provide a withdrawal that is humane
- To prepare the person for ongoing treatment

Pharmacotherapy

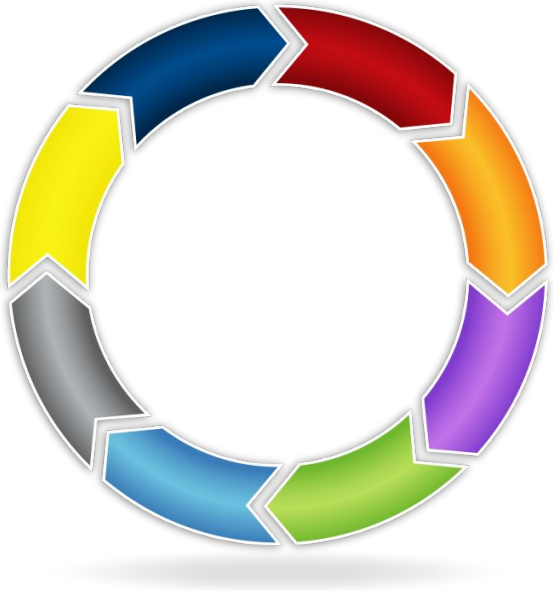
- Pharmacotherapy is defined as the use of medically prescribed psychoactive substances to treat psychiatric and behavioral conditions
- Also called medication-assisted treatment (MAT)

Pharmacotherapy

- Typically used *along with* counseling and other treatment services, not in place of them

Recovery

- A process of change
- Continuous growth and improved functioning
- Recovery management over a lifetime



Recovery Capital

- "…the sum of personal and social resources at one's disposal for addressing drug dependence and, chiefly, bolstering one's capacity and opportunities for recovery"

- Wellness is the optimal state of health of individuals and groups

Source: Cloud, W. & Granfield, R. (2001) Natural recovery from substance dependency: Lessons for treatment providers. *Journal of Social Work Practice in the Addictions*, 1(1). 83-104.

Recovery Capital: Eight Domains

Adapted from: International Network of Drug Dependence Treatment and Rehabilitation Resource Centres. (2008). *Drug Dependence Treatment: Sustained Recovery Management*. Vienna: United Nations Office on Drugs and Crime. P.18.

Recovery Capital: Three Types

Personal

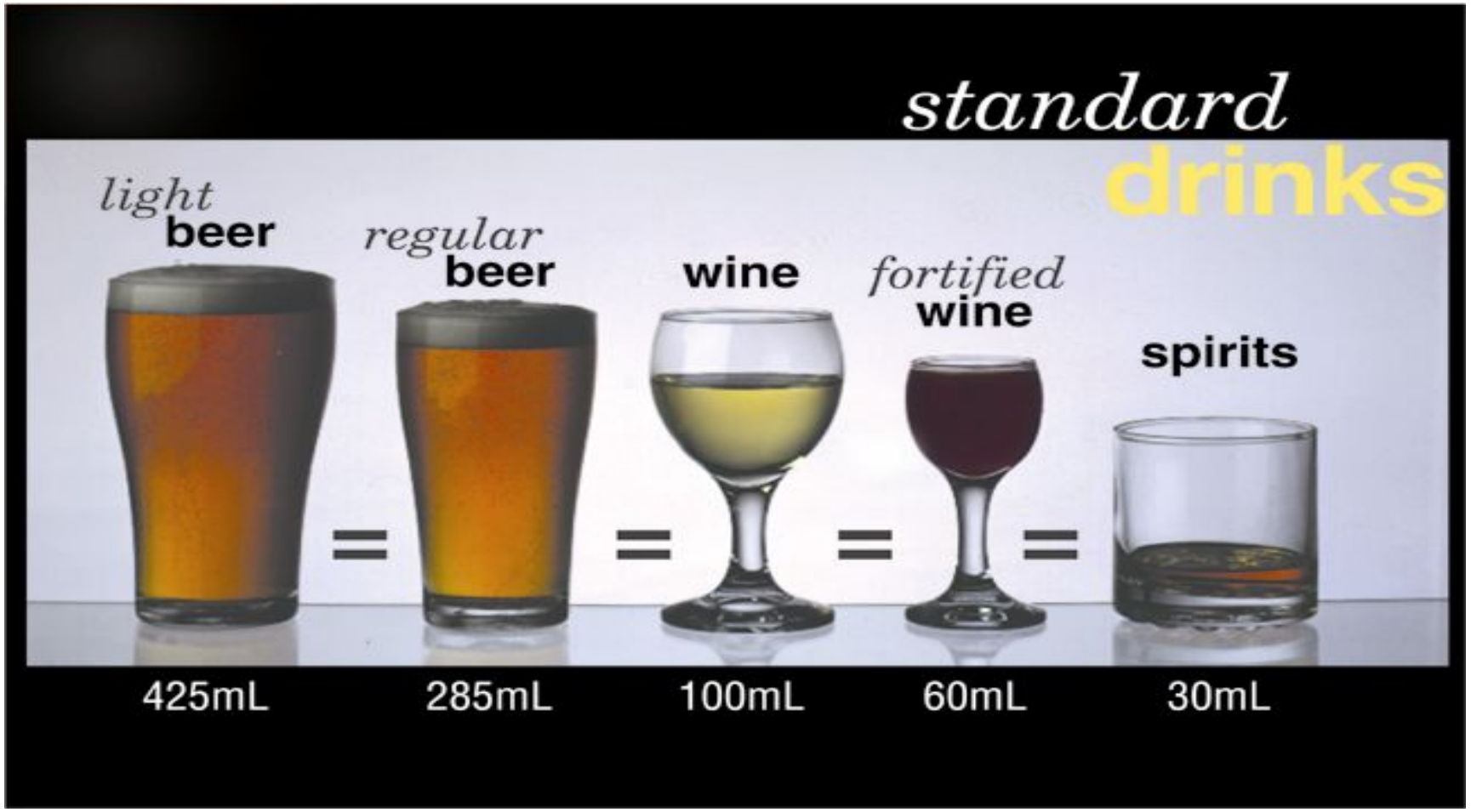
Family and social

Community and cultural

Source: White, W.L., & Cloud, W. (2008). Recovery capital: A primer for addiction professionals. Counselor Magazine, 9(5). 22-27.

PART 4: Examples of SUD Management

Alcohol


standard
drinks
light beer
regular beer
wine
fortified wine
spirits
425mL
285mL
100mL
60mL
30mL

Standard Units

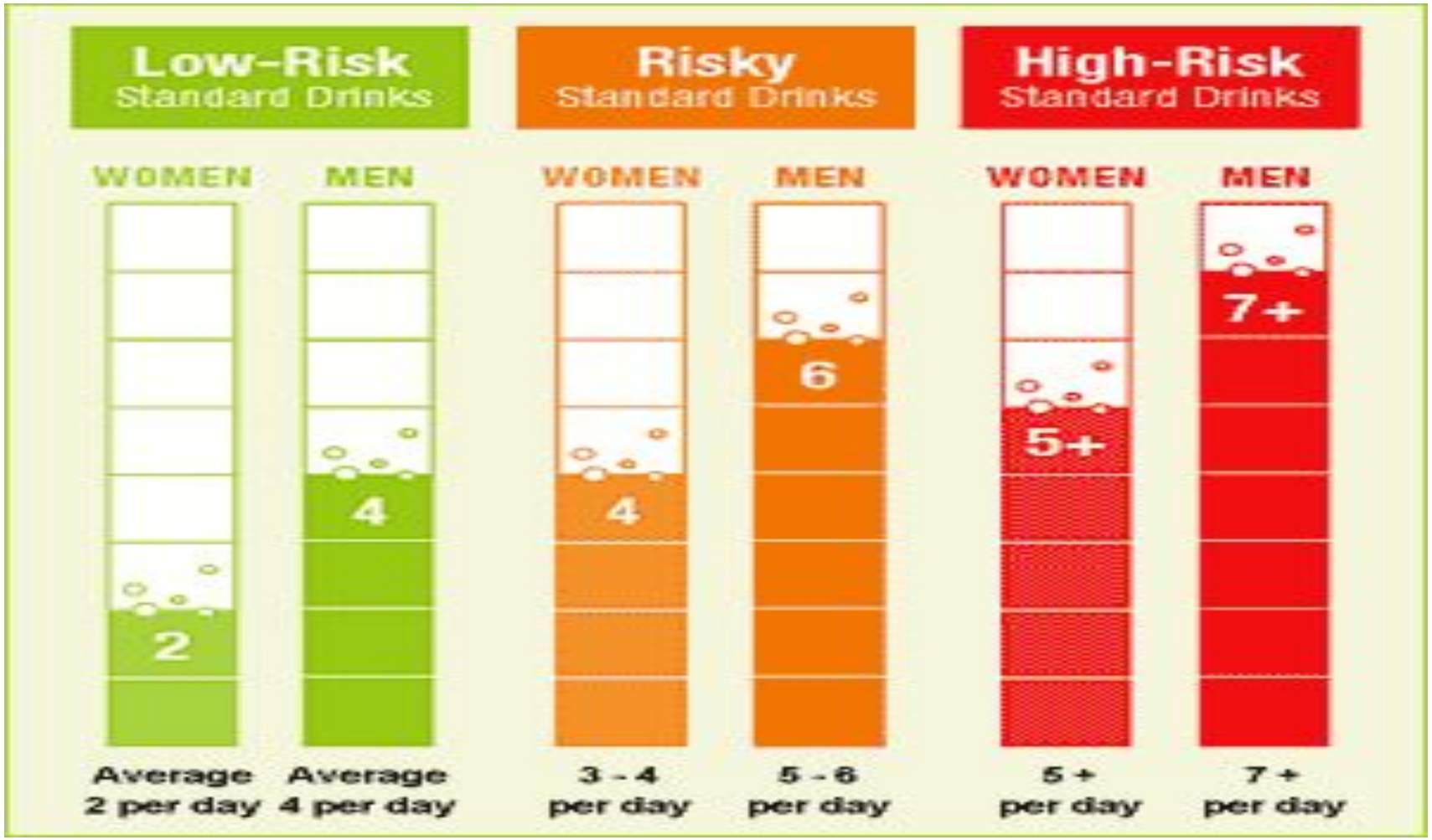
- (mls X % alcohol)/ 1000

Acute alcohol-related harms

Physical injury and psychological harms and death arise from:

- **Falls**
- **Physical assaults**
- **Sexual assaults**
- **Domestic violence**
- **Traffic accidents**
- **Occupational & machinery injuries**
- **Fires**
- **Drowning**
- **Child abuse**
- **Unprotected sex leading to STDs and HIV**
- **Overdose**
- **Comorbidity**
- **Dehydration**
- **Sleep disturbances**
- **Raised blood pressure**
- **Shortness of breath**

Risky drinking levels (for chronic harm)



Concurrent mental health problems

Alcohol may:

- exacerbate existing mental health problems
- interact with prescribed medications
- reduce or exacerbate the effect of certain medications
- reduce patient compliance with treatment regimens

Alcohol: Effects on the brain

- No single receptor. Alcohol interacts with and alters function of many different cellular components.
- Primary targets are GABA, NMDA glutamate, serotonin, and ATP receptors
- Stimulates dopamine and opioid systems
- Effects of chronic consumption are opposite to acute because of homeostatic compensation

Binge drinking

Binge drinking can lead to:

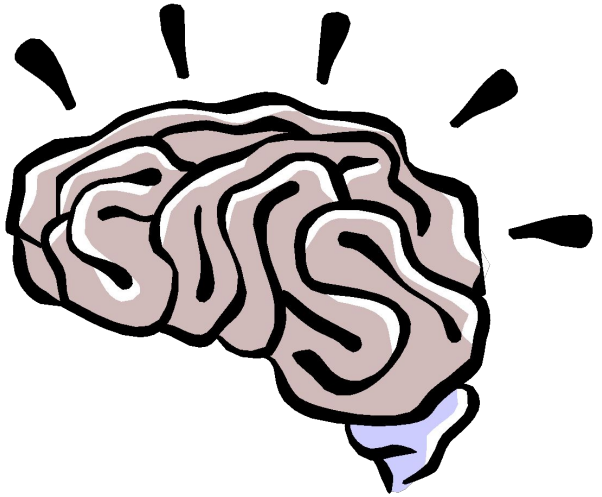
- increased risk taking
- poor judgement / decision making
- Misadventure / accidents
- increased risky sexual behaviour
- increased violence
- suicide

Harms associated with high-risk alcohol use

- Hypertension, CVA
- Cardiomyopathy
- Peripheral neuropathy
- Impotence
- Cirrhosis and hepatic or bowel carcinomas
- Cancer of lips, mouth, throat, and esophagus
- Cancer of breast
- Fetal alcohol syndrome

Alcohol-related brain injury

- Cognitive impairment may result from consumption levels of >70 grams per day
- Thiamine deficiency leads to:
  - Wernicke's encephalopathy
  - Korsakoff's psychosis
- Frontal lobe syndrome
- Cerebellar degeneration
- Trauma



Interventions and treatment for alcohol-related problems

- Screening and assessment individualised interventions
- Brief intervention and harm reduction strategies
- Withdrawal management
- Relapse prevention / goal-setting strategies
- Controlled drinking programs
- Residential programs
- Self-help groups

Brief Intervention

Consider the patient's:

- perspective on drinking
- attitudes towards drinking goals
- significant others
- short-term objectives

Provide:

- information on standard drinks, risks, and risk levels
- encouragement to identify positive alternatives to drinking
- self-help manuals
- follow-up session

Two steps towards alcohol brief intervention (BI)

1. Screening

- For example, the alcohol AUDIT, a 10-item questionnaire

2. Intervention

- Information
- Brief counselling
- Advice
- Referral (if required)

AUDIT – The FLAGS approach

After administering the AUDIT, use "FLAGS":

- Feedback results
- Listen to patient concerns
- Provide Alcohol education and information
- Goals of treatment – identify and plan
- Strategies discussed and implemented

Harm-minimising strategies

Benefits of cutting down or cutting out:

- save money
- be less depressed
- lose weight
- less hassles for family
- have more energy
- sleep better
- better physical shape

Reduce the risk of:

- liver disease
- cancer
- brain damage
- high blood pressure
- accidents
- injury
- legal problems

Withdrawal

Usually occurs 6–24 hours after last drink:

- Tremor
- anxiety and agitation
- Sweating
- nausea and vomiting
- Headache
- sensory disturbances hallucinations

Severity depends on:

- pattern, quantity and duration of use
- previous withdrawal history
- patient expectations
- physical and psychological wellbeing of the patient (illness or injury)
- other drug use/dependence
- the setting in which withdrawal takes place

Treatment of alcohol withdrawal symptoms

Medications for Symptomatic Treatment

- Diazepam
- Thiamine & multivitamins
- Antiemetic
- Analgesia (e.g., paracetamol)
- Antidiarrhoeal

Post-withdrawal management

Treatment options:

- retain in treatment, ongoing management
- seek referral

Considerations:

- patient's wants (abstinence or reduced consumption, remaining your patient)
- severity of problems

Pharmacotherapies:

- acamprosate
- naltrexone
- disulfiram

Naltrexone and Acamprosate

- Effective.
- Work well with variety of supportive treatments, e.g., brief intervention, CBT, supportive group therapy.
- Start following alcohol withdrawal. Proven efficacy where goal is abstinence, uncertain with goal of moderation.
- No contraindication while person is still drinking, although efficacy uncertain.
- Generally safe and well tolerated.

Clinical guidelines

Naltrexone 50 mg daily:

- indicated especially where strong craving for alcohol after a priming dose
- likelihood of lapse progressing to relapse
- LFTs < x3 above normal
- side effects: nausea in the first few days

Acamprosate 600 mg (2 tabs) tds:

- indicated especially when susceptible to drinking cues or drinking triggered by withdrawal symptoms
- low potential for drug interactions
- need normal renal function
- side effects: diarrhoea, headache, nausea, itch

Disulfiram

- Acetaldehyde dehydrogenase inhibitor – 200 mg daily
- □ unpleasant reaction with alcohol ingestion (depending on dose)
- Indications: alcohol dependence + goal of abstinence + need for external aid to abstinence
- Controlled trials: □ abstinence rate in first 3–6 months
- Best results with supervised ingestion & contingency management strategies
- Caution when using with patients who have significant symptoms of depression

End of the Day