

TAKING CONTROL

The Many Faces of Addiction

Part I

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Introduction

I Corinthians 10:31

Whether therefore ye eat, or drink, or whatsoever ye do, do all to the glory of God.

- Do you have recurrent excessive substance use?
- Have you used a substance when the use could be dangerous (driving, etc.)?
- Have you had legal problems because of a substance use?
- Have you continued using a substance after social problems have been attributed to the substance?
- Have social or work problems resulted because of substance use?
- Do you need increased amounts of a substance for a desired effect?
- Have you over time been taking larger amounts of a substance?
- Have you tried unsuccessfully to decrease the amount of a substance you are using?
- Are you spending increased time obtaining a substance?
- Have social, occupational, or recreational activities been reduced because of a substance use?
- Despite the knowledge of having a persistent physical or psychological problem made worse by a substance, have you continued to use the substance?
- Do you feel guilt over a substance use?
- Have others said you have a problem with a substance use?
- Have you ever been impaired because of a substance use?
- When you stop using a substance do you have a strong desire for the substance?
- Do you have a tremor of other symptoms when you miss taking a substance?
- Drug addictions with one use
 - tobacco—32% (70% want to quit; 21% of Americans smoke)
 - heroin—23%
 - cocaine—17%
 - alcohol—15%
 - stimulants—11%
 - anxiolytics—9%
 - cannabis—9%
 - analgesics—8%
 - inhalants—4%
- Drug addictions, brain circuits, and neurotransmitters
 - Several brain circuits and neurotransmitters are involved in addictions:
 - nucleus accumbens (NAC)—reward circuit, D
 - ventral tegmental area (VTA)—reward circuit, D

- ventral pallidum and hypothalamus—reward circuits
- orbital frontal cortex (OFC)—motivation circuit
- hippocampus—memory and learning
- amygdala—memory and learning
- prefrontal cortex—cognitive control
- dorsal anterior cingulate cortex (ACC)—cognitive control, D
- D (methamphetamine, cocaine, ecstasy), GABA/Glu that modulates D (nicotine, alcohol, opiates, cannabis)
- Drugs of abuse in order of probable use
 - Following is a list of drugs that are most commonly used.
 - Caffeine may cause anxiety, irritability, decreased sleep, and headaches.
 - Alcohol. Seventy percent of the population drinks alcohol. Two out of three Protestants drink alcohol. There are ten million alcoholics today. There were only three million in 1950; there are ten million more problem drinkers now. Cirrhosis of the liver from alcoholism is the number three cause of death. One of every two highway accidents is caused by substance abuse.
 - Nicotine. On the average, one of every five people smoke. Up to fifteen percent of deaths are the result of smoking. Smoking contributes to the damage to the lungs (cancer) and the heart (heart attacks).
 - Marijuana breaks down into a chemical called THC (tetrahydrocannabinol). THC becomes part of the fatty tissues of the brain. It may cause those who have smoked too much marijuana to have difficulty being motivated (amotivational syndrome).
 - Amphetamines may cause cardiovascular problems and CNS problems such as psychosis and depression.
 - Cocaine can result in sudden death. It is one of the fastest growing drugs of abuse. THC and opioids are also major drugs of abuse.
 - Barbiturates, other sedatives, and benzodiazepines create problems with tolerance, withdrawal, and seizures.
 - Sleeping pills can be abused or at least some can be abused.
 - Opium. Only one in three opium users lives past his thirties. HIV is also a problem for opium users.
 - Hallucinogens create problems with judgment as well as psychosis and death.
 - Inhalants. Inhalant use affects the liver, kidneys, and heart. Psychosis and death are also possible problems.
 - Anabolic steroids may cause aggression and a sense of being invulnerable. Discontinuation can result in severe depression.
- Drugs of abuse—acronym for alcohol screening
 CAGE
 - C = “cut back” recommendations
 - A = annoyed at recommendations
 - G = guilt

E = eye-opener in A.M. to get going

- Drugs of abuse—acronym of drugs detectable in urine (OAC—Pt-A). Remember 1, 2, 3.
 - 1 day – opioids
 - 2 days – amphetamines
 - 3 days – cocaine
 - 1 week – PCP
 - 2 weeks – THC (tetrahydrocannabinol)
 - 3 weeks – alcohol (CDT)
- Drugs of abuse—acronyms for the most commonly used drugs

CAN	C = caffeine (80% use)
	A = alcohol (70% use / 13% abuse)
	N = nicotine (20%)
MI	M = marijuana (10%)
	I = inhalants (5%)
CALH	C = cocaine (3%)
	A = amphetamine (1%)
	L = LSD (.5%)
	H = heroin (.2%)
- Drugs of abuse—acronyms for the neurotransmitters involved in drug abuse
DG'S GO

D	= dopamine (caffeine, cocaine, nicotine, alcohol indirectly, amphetamine, ecstasy)
G	= GABA (alcohol, benzodiazepines, barbiturates)
S	= 5HT or serotonin (THC, LSD)
G	= glutamate (PCP)
O	= opioids
- Drugs of abuse—laboratory testing
 - most useful test – comprehensive drug screen
 - alcohol
 - urine
 - liver enzymes – GGT
 - MCV
 - CDT (carbohydrate-deficient transferrin)
 - “on-site” screening immunoassays
 - results in 10 minutes
 - up to 97% accuracy but still considered a preliminary test
- Drugs of abuse—medical treatments on-label and off-label
 - Substance use disorder medications—various treatments
 - management of substance dependence

- clonidine (Catapres, Catapres-TTS)
 - disulfiram (Antabuse)
 - methadone (Dolophine)
 - naltrexone (ReVia)
 - bupropion (Zyban)
 - topiramate (Topamax)
 - acamprosate (Campral)
 - ondansetron (Zofran)
- Other drugs that have been used in various aspects of substance use disorders
 - methadone (Dolophine)
 - L-acetylmethadol (LAAM)
 - buprenorphine (Subutex)
 - buprenorphine plus naloxone (Suboxone)
 - acamprosate (Campral)
 - clonazepam (Klonopin)
 - carbamazepine (Tegretol)
 - chlordiazepoxide (Librium)
 - diazepam (Valium)
 - lorazepam (Ativan)
- Alcoholism
 - disulfiram (Antabuse)
 - naltrexone (ReVia)
 - naltrexone extended-release injectable (Vivitrol)
 - acamprosate (Campral)
 - ondansetron (Zofran)
 - topiramate (Topamax)
- Cocaine
 - disulfiram (Antabuse)
 - naltrexone (ReVia)
 - cocaine vaccine
 - modafinil (Provigil)
- Nicotine
 - varenicline (Chantix)
 - selegline (Eldepril)
 - bupropion (Zyban)
 - nicotine replacement therapies
 - nicotine vaccine (Xenova)
- Approximate “legal” drug abuse in the USA
 - nicotine – 50 million
 - alcohol – 20 million
- Approximate “illegal” drug abuse in the USA
 - prescription drug abuse – greater than 20 million
 - using drugs from others or over prescription dose use: (pain pills, benzodiazepines, amphetamines)
 - THC (Marijuana) – greater than 20 million

- methamphetamine – greater than 10 million
- inhalants – greater than 10 million
- cocaine – greater than 7 million
- LSD – one million
- heroin – one half million
- party drugs
 - LSD
 - DMT
 - psilocybin/mushrooms
 - MDMA/ecstasy
 - DOM
 - Foxy
 - PCP/angle dust
 - ketamine/special K
 - GHB
- Conclusion

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