Addiction to Psychoactive Drugs
Part 2

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Withdrawal

- Dependence possible in 1 month
- Dependence likely in 3-4 months
- In shorter $t_{1/2}$ drugs, WD in 6-12 hours peaking in 2-4 days
  - Alprazolam, lorazepam
- In longer $t_{1/2}$ drugs, WD in 24-36 hours peaking in 4-7 days and lasting 2-4 weeks
  - Diazepam, clonazepam
Withdrawal Symptoms

- Anxious mood
- Insomnia
- Restlessness, irritability
- Nausea
- Depression
- Tension
- Seizures
Treatment of Withdrawal

- Best to taper drug slowly

- Find alternative for treatment of disorder
  - Pharmacological
  - Non-pharmacological
Tapering BZDs

- If symptoms occur, slow the taper
- Use longer acting drug to taper
  - clonazepam
- Decrease dose by no more than 10-25% every 1-2 weeks
- Much inter-individual variability
Opioids

- Heroin
- Morphine (MS Contin)
- Codeine (Tylenol #3)
- Oxycodone (Percocet, Oxycontin)
- Hydrocodone (Lortab, Vicodin)
Opioids (cont’d)

- Propoxyphene (Darvon)
- Tramadol (Ultram)
- Methadone
- Hydromorphone (Dilaudid)
- Fentanyl (Duragesic, Actiq)
Opioids

- Bind to opioid receptors
- Used to relieve pain
- Often prescription drugs
- Psychological addiction is not common when used to treat pain
- In addiction, used for euphoria and as a “downer”
Opioid Intoxication

- Euphoria or dysphoria
- Apathy
- Motor retardation
- Fatigue
- Slurred speech
- Myosis (pupils constricted)
Opioid Withdrawal Symptoms

- Begins in 6 to 12 hours
- Anxiety
- Rhinnorhea
- Lacrimation
- Sweating
- Yawning
Opioid Withdrawal Symptoms

- Mydriasis (large pupils)
- Restlessness, irritability
- Shaking, chills, myalgias
- Nausea, vomiting, diarrhea
- Peak in 48 to 72 hours
- Usually resolve in 7 to 10 days
Withdrawal Treatments

- Clonidine reduces autonomic symptoms
- Skeletal muscle relaxers (baclofen)
- Smooth muscle relaxers (dicyclomine)
- Analgesics (ibuprofen)
- Antinausea (promethazine, meclizine)
- Antidiarrheal (Imodium)
Other Drugs

- Methadone and buphrenorphine
  - Very restricted
  - May be used to treat withdrawal and as maintenance to help prevent relapse
  - Replaces drug in receptors

- Naltrexone
  - Opioid antagonist, replaces drug in receptors
Cocaine

- Blocks dopamine and norepinephrine reuptake
- Very addicting
- Smoking gives higher levels than intranasal, leads to dependence quickly
Cocaine Intoxication: Mild

Psychological
- Euphoria, perception of improved well being, increased energy and alertness, increased sex drive but decreased performance, improved concentration

Physical
- Mydriasis, tachycardia, hypertension, nausea, vomiting
Cocaine Intoxication: Severe

- Psychosis
- Hyperthermia
- Arrhythmias
- Shock
- Seizures
- Death
Cocaine Abstinence

- Phase 1 – Crash, occurs in 9 hrs to 4 days
  - Early - Agitation, depression, anorexia, craving
  - Middle - Fatigue, depression, insomnia with increasing need for sleep, no cravings
  - Late - Exhaustion, hypersomnolence, hyperphagia, no craving
Cocaine Abstinence

- Phase 2 (withdrawal) – occurs in 1-10 wks
  - Early – Sleep normalized, euthymic mood, low craving, low anxiety
  - Middle and late – anhedonia, anergy, anxiety, high craving

- Phase 3
  - Episodic craving usually due to cues
Methamphetamine

- Stimulant that displaces norepinephrine, dopamine and serotonin
- Causes “adrenalin rush”
- Causes mood alteration
- Lack of hunger and thirst
- Rotten teeth
Methamphetamine Toxicity

- Severe agitation
- Tachycardia
- Hypertension
- Psychosis

- Treat with sedatives and antipsychotics
- Monitoring and supportive therapy
“Ecstasy”

MDMA (3,4 methylenedioxymethamphetamine) mixed with various other chemicals or drugs

Synthetic, psychoactive drug

Chemically similar to methamphetamine and mescaline

Produces feelings of increased energy, euphoria, emotional warmth, and distortions in time, perception, and tactile experiences

Considered a “rave” drug
MDMA (Ecstasy)

- Binds to 5HT transporter to block reuptake
- Acts as 5HT to stimulate additional 5HT release from neurons
- Result is a flood and subsequent depletion of 5HT (also increases NE and Dopamine)
- AEs: cognitive impairment, tachycardia, hyperthermia, depression
Marijuana

Often considered innocuous

Medical uses
- Increase appetite
- Pain control
- Anxiety control

THC – tetrahydrocannabinol
- Active ingredient
- Stronger than in the past
Marijuana

- Activates the reward pathway, mediated through cannabinoid and GABA receptors
- Potentiates the effects of cocaine
- Euphoria in 10-30 minutes after smoking, in 30-60 minutes after eating
Marijuana: Immediate Effects

- Euphoria
- Sense of increased well being
- Sense of improved functioning
- Feeling relaxed
- More sociable
Marijuana Intoxication

- Drowsiness, lethargy
- Nausea and vomiting
- Impaired motor function, tremor
- Memory impairment, cognitive dysfunction
- Nystagmus, vertical or horizontal
- Psychosis
- Hypertension and tachycardia
Marijuana Intoxication

- Effects may last up to 24 hours due to accumulation of THC in the fatty tissue and then re-release
- Cognitive impairment lasts longer than mood alteration
- Implicated in 11-33 percent of fatal accidents in ages 15-30
Marijuana in Children/Teens

- Youths aged 12 to 17 have constituted about two-thirds of the new users of marijuana in recent years.
- Research shows that more than 40 percent of teenagers try marijuana before they graduate from high school.
- Additional signs of marijuana use in teens may include the use of masking agents such as eye drops, incense and other deodorants.
Marijuana

- Users are 4 times more likely to experience depression
- Users are 3 times more likely to experience psychotic symptoms
- Increases cognitive dysfunction
Marijuana Withdrawal

- Restlessness
- Decreased appetite, nausea
- Irritability
- Sleep disturbances
- Uncomfortable, not life threatening
- Treat supportively
Marijuana Withdrawal

- Repeated use, even after 3 weeks, leads to psychological and physiological dependence.
- Withdrawal symptoms begin in 10 hours, may peak in 48 hours and last 5 – 7 days.
Jimson Weed
(Jamestown Weed)

Grows wild
Causes delirium and psychosis
Bizarre and violent behavior
Not able to tell fantasy from reality
The Newest Threat: Designer Drugs
What are Designer Drugs?

- Synthetic versions of illegal drugs chemically synthesized in underground labs
- Marketed as “Not for Human Consumption” to avoid FDA regulation
- Use has skyrocketed in the past year
- Not usually detected by urine drug screen
- Chemists are constantly altering the formulations and creating new chemicals as specific ingredients are being banned by DEA
Synthetic Cannabinoids

- AKA: Herbal Incense, K2, Spice Gold
- Many different combinations of chemicals (JWH-018 and more than 100 variations)
- Sprayed onto a variety of garden herbs
- Became available in the US around 2004 via internet and many “head shops”
- Dangerous, untested, chemical structures similar to known carcinogens
Synthetic Cannabinoids

- Binds cannabinoid receptors more tightly than THC
- Binds CB2 (cannabinoid receptor that helps regulate immune function)
- Reported effects: reddening of the eyes, tachycardia, hypertension, seizures, insomnia, paranoia, dry mouth, headache, psychosis, hallucinations, intoxication
- Addictive potential is unknown
Bath Salts

AKA “plant food”

Contain man-made chemicals like mephedrone, methylone, and methylenedioxypyrovalerone (MDPV), also known as substituted cathinones

Related to khat, an organic stimulant found in Arab and East African countries that is illegal in the United States

2010: Approximately 300 calls to poison control

2011: Approximately 4700 calls so far
Bath Salts

- Produce effects similar to cocaine or meth
- Smoked, inhaled, injected
- Reported effects: extreme agitation, violence, psychosis, hallucinations, paranoia, suicidal ideation, tachycardia, hypertension, kidney failure, hyperthermia, and death (15 confirmed in 2009)
- Effects can last > 1 week
- Addictive potential is unknown
- Most states list teenagers as primary users
Update: Federal Ban on Bath Salts

On September 7, 2011 the US DEA exercised its emergency scheduling authority to temporarily control Mephedrone, MDPV, and Methylone.

Makes possessing and selling these chemicals or the products that contain them illegal in the U.S. for at least one year (effective October 1, 2011)
Substance Abuse Screening

- All patients should be screened for possible substance abuse
- Ask, obtain a history, nonjudgmental
- Use a standard questionnaire
- Observe behavior, often bizarre
- Observe physical signs
  - Track marks, rotten teeth, burned fingers
CAGE

C – ever felt the need to Cut down others?
A – ever been Annoyed by others’ criticism
G – ever felt Guilty?
E – ever need a morning Eye opener?

Two positive responses indicate a problem
Urine Drug Screens

- **Amphetamines**
  - Shows up for 2 to 3 days
  - False positives may be caused by Sudafed, selegiline, chlorpromazine, trazodone, bupropion, amantadine, ranitidine

- **Cocaine**
  - Shows up for 2 to 3 days
  - False positives by topical cocaine
Urine Drug Screens

Marijuana
- Shows up 1 to 7 days, up to 30 days
- False positives – ibuprofen, naproxen, efavirenz

Opiates
- Shows up 1 to 3 days, possibly 7 days
- False positives – rifampin, poppy seeds, quinine water, fluoroquinolones
Prescription Drug Abuse

- Second only to marijuana in frequency of illicit use
- Mostly opioids and sedatives
- Patients generally already have addictive disease and some other substance abuse
Risk of Prescription Drug Abuse

- Current addiction of history of abuse
- Use of controlled drugs in non-prescribed doses or routes
- Use of drugs for reasons other than indications for which they were prescribed
- Younger patients
- Patients who work in health care settings
Characteristics

- Early refills
- Pressuring physician or pharmacist for more
- Seeks additional supplies of drugs
- Doctor shopping
- Exaggeration of symptoms
- Dishonesty
But......

- Are they drug seeking, or are we under treating????

- Anxiety disorders

- Chronic pain
Short & Long Term Effects of Substance Abuse

Physical: cardiovascular disease/death; dementia, GI disorders, cirrhosis; ulcers; pancreatitis, diabetes, neurological damage

Emotional: Anger, fear, guilt, low self-esteem, hostility, suicidal, homicidal

Mental: Psychosis, neurosis, paranoia, depression, sociopathic disorders, "wet brain dementia", amnesia, blackouts, confusion

Spiritual: Dishonesty, mistrust, lack of faith, hate, hopelessness, helplessness, self-centeredness, self-pity
Consequences of Substance Abuse

- **Family:** Dysfunction, over/under responsibility, abuse, violence, guilt/blame, separation/divorce, death
- **Financial:** Bankruptcy, debt, loss of home
- **Legal:** DWI’s, jail/prison, death
- **Employment:** Absenteeism, loss of job, poor job performance
- **Social:** Isolation, withdrawal, loss of family/friends
- **Health:** DT’s, blackouts, hypertension, ulcers etc.
Treatment Goals

- Break the cycle of addiction
- Gain and maintain abstinence from all mind/mood altering substances
- Initiate positive changes in lifestyle
Treatment Approach

- Multidisciplinary Team
- Medical detoxification/stabilization
- Pain management
- Individual/group psychotherapy
- Education groups
- Relapse Prevention
- Family counseling
Recovery-Wellness

1. Is a life-long process
2. Essential elements of recovery:
   a. Continuing Care support groups
   b. 12-step support groups
   c. Relapse prevention
   d. Outpatient treatment services
   e. Medication management
Obstacles in Recovery

- “Switching addictions”
- “Dry-drunk syndrome”
- DENIAL
- Self-defeating learned behaviors
- Character defects
- Dual diagnoses
- Living environment
Recovery

Requires CHANGE - 3 steps:

1. Conversion - “enough is enough”
2. Decision - to change (what’s it going to take)
3. Action - doing what it takes to make change happen; must be concrete, practical, focused, & consistent

PRACTICE, PRACTICE, PRACTICE!
Relapse Prevention

- Program designed to help individuals avoid lapsing into symptoms of their illness:
  - Thoughts, feelings, behaviors
  - People, places, situations
  - DENIAL
  - Avoiding change, emotional binging, “secret recovery”
  - HALT-PLAN
12-Step Recovery Program

- Essential elements of 12-step recovery:
  - **SUPPORT** via fellowship of men & women who share their experience, strength, & hope with others that they may solve their common problem & help others recover
  - **CHANGE** via the application & practice of the principles embodied in the 12 steps
What Are the 12 Steps?

- A group of principles, spiritual in nature, that if practiced as a way of life, can help expel the obsession to drink and/or use drugs, & enable the sufferer to become happily & usefully whole.

- These principles, as they are known today, were taken mainly from religion & medicine & some from noting the experiences of the early 12-step groups.
A Suggested Program of Change

- Daily readings/step study
- Prayer & meditation
- Support group meetings
- Sponsorship
- Healthcare (and mental health)
- Celebration
- Evaluation
- Family (love & support)
A Blueprint for Change

The daily practice of these steps can lead to a SPIRITUAL AWAKENING that results in a personality change sufficient to recover from one’s illness & which revolutionizes one’s whole attitude towards life, towards our fellows, & towards God & His universe.
Drug Free Campaign

- Parents and families face one of the most difficult battles in today’s society – that of raising drug free children.

- Communication is key!

- Teenagers whose parents talk to them on a regular basis about the dangers of drug use are 42% less likely to use drugs than those whose parents don’t.
The End?

NO!!

Recovery

Is

A

Never-ending

Journey!
Resources

- SAMSHA
  - http://www.samhsa.gov/
- NIDA – National Institute on Drug Abuse
- American Society of Addiction Medicine
  - http://www.asam.org/
- National Institute of Mental Health
  - http://www.nimh.nih.gov/
Resources for Children/Teens

- Encouragement and Facts for Teens: [www.abovetheinfluence.com](http://www.abovetheinfluence.com) 1-800-788-2800
- Information on drugs and helping a friend in trouble: [www.freevibe.com](http://www.freevibe.com)
- Girls and Boys Town National Hotline: 1-800-448-3000 (24 Hours/7 Days A Week)
- DARE Programs: [www.dare.com](http://www.dare.com)
God, Grant me
The Serenity
to accept the things I cannot change,
The Courage
to change the things I can, and
The Wisdom
to know the difference.