Addiction: What You Need To Know / Mel Pohl, MD

Addiction:
A primary, chronic, progressive disease process with a combination of risk factors as the cause. The genetic make up constitutes 40-60% of the risk.

Diagnosis of Addiction – DSM IV
1. Tolerance
2. Withdrawal (Physical Dependence)
3. Used more and longer than planned
4. Unsuccessful attempts to quit or control use
5. Excessive time spent obtaining, or is pre-occupied with using, or recovering from use
6. Reduces or abandons important work, social, or leisure activities because of substance use
7. Continued use despite adverse medical or psychological consequences

Tolerance
- A state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug’s effects over time.
- Higher dose required to achieve effect.
- Variable over time with patient-to-patient variability.
Physical Dependence (Withdrawal)

- A state of neuroadaptation to the presence of a drug, in which a withdrawal syndrome emerges on abrupt cessation of the drug or rapid reduction of dose.
- Organism functions normally only in the presence of the drug.
- Natural physiologic reaction to ongoing exposure to certain drug classes. Interaction of frequency/duration/dose.

Addiction is Characterized by Continuous or Periodic:

- Impaired control over drug use
- Preoccupation with drugs – Compulsion
- Use of drugs despite adverse consequences
- Distortions in thinking, most notable denial

Denial

- A set of automatic and unconscious reactions that defend against the PAIN of recognizing serious problems
- Defense mechanism
- It’s a normal part of the condition

**Recovery / Truth**

Disease | Denial
Drug Types

Central Nervous System Depressants

- **Anixolytics (Tranquilizers)**
  - **Barbiturates**: Phenobarbital, pentobarbital (Nembutal), secobarbital (Seconal), butalbital (Fiorinal) and others
  - **Barbiturate-like**: methaqualone (Qualudes), ethchlorvynol (Placidyl), glutethimide (Doriden)
  - **Carbamates**: meprobamate (Miltown, Equanil), carisoprodol (Soma)

- **Benzodiazepenes**: diazepam (Valium), chlordiazepoxide (Librium), Serax (oxazepam), Ativan (lorazepam), clorazepate (Tranxene), prazepam (Centrax), clonazepam (Klonipen), alprazolam (Xanax), gamma hydroxybutyrate (GHB)

- **Central Nervous System Depressants (cont’d)**
  - **Benzodiazepine sedatives**
    - triazolam (Halcion)
    - temazepam (Restoril)
    - flurazepam (Dalmane)
  - **Non-benzodiazepine sedatives**
    - zolpidem (Ambien)
    - eszopiclone (Lunesta)
    - zaleplon (Sonata)
Central Nervous System Stimulants “Ups”
- Amphetamines – “Meth”, “Crystal”, “Ice”, “Tina”
  - amphetamine/dextroamphetamine (Dexedrine, Desoxyn, Adderall), phenmetrazine (Preludin)
  - methylphenidate (Ritalin, Concerta, Focalin)
- Amphetamine – Like (Diet Pills)
  - Phentermine, others
- Cocaine – Including smokeable - Crack or “Freebase”
- Caffeine, Nicotine
- Ecstasy – MDMA (3,4-ethylenedioxyethylamphetamine)

Cannabinoids
- Marijuana
- Hashish

“A word about medical marijuana**

How To Become a Medical Marijuana Patient
Welcome to DrReefer.com--New Office Location at Swanlake Medical Center!
Please stop by and pay $60 for your Medical Marijuana Application with Cassandra.

In Nevada:
Medical Marijuana License allows patients to possess 1 oz and grow 7 plants. Patients must have a diagnosed condition from a licensed physician, signed and dated. Then Call (702) 769-1552 Reyna.

Opioids (Narcotics)
- Heroin (Diacetylmorphine)
- Morphine, Codeine, meperidine (Demerol), hydromorphone (Dilaudid), fentanyl (Duragesic, Actiq), oxycodone (Percodan, Oxycontin, others), hydrocodone (Lortab, Vicodin, Norco, Vicoprofen, others)
- Methadone, buprenorphine (Subutex, Suboxone)
- Propoxyphene (Darvon, Darvocet)
- *** Tramadol (Ultram, Ultracet)
Inhalants
- Aerosol Sprays
- Glue
- Gasoline
- Paint Thinners
- Nitrites (Amyl and Butyl) or “Poppers”
- Ethylchloride

Psychedelics – Hallucinogens
- LSD – Acid
- Mescaline
- Psilocybin (“Magic Mushrooms”)
- Peyote

Anesthetics
Dissociative
- Phencyclidine – PCP
- Ketamine - “Special K”
Sedative
- Diprovan (Propofol)

Diagnosis
- CAGE – AID (alcohol and drugs)
  - cut down
  - annoyed
  - guilty
  - eye opener
- MAST (alcohol)
- SOAAP (opioids)
- DAST (opioids)

Multifactorial Etiology of Addiction

No Single Factor Determines the Risk of Addiction
Biogenetic Predisposition: Alcoholism

- Studies demonstrated that alcoholism is 3-5 times as frequent in parents, siblings, and children of alcoholic population.
- Children of alcoholics far more likely to misuse alcohol, even when separated in infancy and raised in non-drinking homes.
- Twin studies have shown 80% concordance.

Genetics of Addiction

- What is inherited?
  - Sons of alcoholics have decreased ETOH sensitivity to alcohol and drugs.
  - A prolonged response to ETOH.
  - More rapid acquisition of tolerance.
  - Alcohol-preferring rats have a five-fold greater release of brain dopamine in response to ETOH.

Induction of Addiction

- Abuse increases dopamine in limbic reward centers causing a high (vulnerable brain).
- Protracted/permanent changes induced in NAcc and VTA — result in changes induced in drive to use (changes reflected in PET scans).
- Addiction is chronic down-regulation of receptors in limbic system secondary to chronic exposure — this results in dysphoria
- CRAVING — desire for the drug when it is absent.

Long-term Drug Abuse Impairs Functioning

Long-term drug abuse impairs brain function in methamphetamine abuser.

These images of the dopamine transporter show the brain's remarkable potential to recover.

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Limbic system regulates emotions and motivations - particularly those related to survival, such as fear, anger, and pleasure (sex and eating), early learning and memory processing.

Addictive drugs get overvalued in this reinforcement learning process.
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All drugs of abuse target the brain’s reward system by flooding the circuit with dopamine.

Addiction can hide in the fabric of normal
- Seen through the rear-view mirror
- Addiction is not a disease of using, but one of thinking and behavior
- “Bad” behavior is a symptom.

Barry Rosen, MD

Is Drug Dependence a Treatable Medical Illness?
- Insulin Dependent Diabetes
- Medication Dependent Hypertension
- Asthma (Adult)
- Abstinence-Oriented Addiction Treatment

Compliance and Relapse in Selected Medical Disorders

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<th>Disorder</th>
<th>Source: McLellan</th>
<th>Compliance with medication regimen</th>
<th>Compliance with diet and foot care</th>
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Stigma
- Enemy of successful treatment of addiction
- Results in discrimination
- Affected individuals internalize negative stereotypes - results in adverse outcomes
- Shame and guilt enhanced
- Benefits limited for treatment

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Stereotypical Image of Addicts is False

Addiction Treatment
- Intervention
- Medically managed withdrawal (detoxification)
- Outpatient
- Intensive Outpatient Programs
- Residential
- Inpatient
- Medications
- Twelve Step Programs

Intervention
- Patients often don’t seek treatment willingly
- Role for physician
- Specific examples – non-judgmental
- Families and friends need help
- Raising the “bottom”
- Consequences motivate = Bottom lines = leverage

Medically-Assisted Withdrawal
- Relieves withdrawal symptoms while patients adjust to a drug-free state
- Can occur in an inpatient or outpatient setting
- Typically occurs under the care of a physician or medical provider
- Serves as a precursor to behavioral treatment, because it is designed to treat the acute physiological effects of stopping drug use

Abstinence is NOT Recovery

- Abstinence is a prerequisite for recovery.
- Abstinence is the ticket that gets you into the movie.
- It is not the movie.
- Recovery is the movie.
- Abstinence gives you the clarity to do the work you need to heal.
- Recovery is the healing process.

Optimal Addiction Treatment

- Abstinence from all mood-altering drugs
- Connect with support system: treatment centers/12-step programs
- Change “playmates, playgrounds, and playthings…” (Narcotics Anonymous, pg. 15)
- Craving support
- Medications

Avoid Reward-Inducing Medications

- Anxiolytics—benzodiazepines
- Soma (carisoprodol)
- Sedatives – Benzos and non-benzos
- Opioids
- Ultram (tramadol)
- Stimulants – methylphenidate, adderall, others
- Alcohol

Addiction Treatment - Medications

- Disulfuram – Antabuse
- Acamprosate – Camprol
- Naltrexone –
  - Revia
  - Vivitrol
- Methadone
- Buprenorphine – Subutex, Suboxone

Twelve-Step Approach

- Not all patients identify as an addict and do not feel comfortable at NA/AA meetings
- As with addiction, patients with chronic pain benefit from groups where they can
  - Identify
  - Share and commiserate
  - Benefit from others’ experiences
  - Realize they are not alone
  - Connect with a higher power/spiritual activities
  - Internalize sense of creating comfort from chaos

“Give it to me straight, Doc. How long do I have to ignore your advice?”
Resources


Questions???
Thank You!
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