## Update on Addiction and Mental Health

### Addiction Medicine and Addiction Psychiatry
- Addiction is a multifactorial disease
- Addiction is treatable
- Co-occurring disorders are common
- Effective treatment helps
- People with addiction get better
- Recovery and remission are possible
- Addicted people in all stages of addiction and recovery deserve effective medical care, treatment and non-discrimination
- We must challenge “Addictophobia”

### Definitions
- DSM-IV-TR Substance Use Disorders
  - Substance Abuse
  - Substance Dependence
  - Substance-related Disorders (intoxication, withdrawal, delirium, dementia, etc.)
- Addiction
- And a whole slew of other confusing terms....

### Definition of Addiction
Addiction 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 alcohol/other drug use, preoccupation with alcohol/drugs, use of alcohol/drugs despite adverse consequences, and distortions in thinking, most notably denial.

Adapted from: Morse RM, Flavin DK: The definition of alcoholism. JAMA 268:1012-1014, 1992

### The Variety of Terms for Co-Occurring Disorders
- MICAA: Mentally ill, chemical abusers and addicted
- MISA: Mentally ill substance abuser
- MIDAA: Mental illness, drug abuse and alcoholism
- CAMI: Chemically abusing mentally ill
- SAMI: Substance abusing mentally ill
- Dual Diagnosis, “Duals”
- Multiple Diagnosis
- Co-occurring Disorders

### Problems with Terminology
- “Dual disorder” or “Dual diagnosis” is an “unfortunate misnomer”
- Can also be used to refer to persons with mental illness and developmental disabilities
- Rarely is “dual diagnosis” 2 disorders, but usually “multiple interacting disabilities, psychosocial problems, and disadvantages”
- Ignores the broad range of interrelated issues faced by the person

Drake and Wallach, 2000

### What are Co-occurring Disorders?
Any combination of:
- Axis I and/or Axis II mental disorder(s)
**AND**
- Axis I substance-related disorder(s)
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View from the Mental Health Side of the Street

● "All addicted people have mental illness."
● "Addictive disorders are all secondary to mental disorders."
● "Why are these people in my treatment program?? They need to stop using drugs before we can treat them."
● "What do you mean, they shouldn’t be prescribed benzodiazepines? How will I treat anxiety?"
● "I don’t know what to do with them."
● "Why can’t they just stop?"

View from the Addiction Side of the Street

● "None of them have mental problems; it’s all addiction."
● "What good are medications? They just need to go to meetings and work a program."
● "He’s just manipulative and acting crazy; he’s about as mentally ill as I am."
● "What are they doing in my program? They need to go across the street."
● "Those mental health people all want our federal substance abuse funding. They get plenty of money from the state."
● "What do you mean, they need to take medications? We are a drug-free program."
● "I don’t know what to do with them."
● "Why can’t they just get over it?"

Definitions for Alcohol Use

● Current use - At least one drink in the past 30 days (includes binge and heavy use).
● Binge use - Five or more drinks on the same occasion at least once in the past 30 days (includes heavy use).
● Heavy use - Five or more drinks on the same occasion on at least 5 different days in the past 30 days [proxy for Alcohol Use Disorders]

Past Month Illicit Drug Use among Persons Age 12 and Older: 2004

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Use of Selected Illicit Drugs among Persons Aged 12 to 17: 2002, 2003, 2004


Past Year Initiates for Illicit Drug Categories: SAMHSA, 2004

Methamphetamine

- 2004:
  - Estimated 1.4 million persons aged 12 or older (0.6% of the population) had used methamphetamine in the past year
  - 600,000 persons (0.2% of the population) had used methamphetamine in the past month.
  - The number of past year and past month methamphetamine users did not change significantly between 2002 and 2004
  - However, the number of past month methamphetamine users who met criteria for abuse or dependence on one or more illicit drugs in the past year:
    - Increased from 164,000 (27.5% of past month methamphetamine users) in 2002 to 346,000 (59.3%) in 2004.
  - The average age of first use among new methamphetamine users:

Methamphetamine Use in Past Month among Persons Aged 12 or Older, by Dependence and Abuse: 2002, 2003, and 2004

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Lifetime Prevalence of Substance Use Disorders in NCS-R

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Prevalence (SE)</th>
</tr>
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<tbody>
<tr>
<td>Alcohol Abuse</td>
<td>13.2 (0.6)</td>
</tr>
<tr>
<td>Alcohol Dependence</td>
<td>5.4 (0.3)</td>
</tr>
<tr>
<td>Drug Abuse</td>
<td>7.9 (0.4)</td>
</tr>
<tr>
<td>Drug Dependence</td>
<td>3.0 (0.2)</td>
</tr>
<tr>
<td>Any Substance Use Disorder</td>
<td>14.6 (0.6)</td>
</tr>
<tr>
<td>Any Mental Disorder</td>
<td>46.4 (1.1)</td>
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</tbody>
</table>


Are co-occurring disorders more common now?

- Are they really more common now, or do we recognize them more readily?
- Are more people developing mental disorders?
- Are more people developing addictive disorders?
- Why?

Rates of Serious Mental Illness among Adults Aged 18 or Older, by Age and Gender: NSDUH 2002

<table>
<thead>
<tr>
<th>Age</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-25</td>
<td>10.0</td>
<td>16.3</td>
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<tr>
<td>26-49</td>
<td>6.7</td>
<td>12.2</td>
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<tr>
<td>50 or Older</td>
<td>3.2</td>
<td>6.3</td>
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</table>

Early Substance Abuse Increases Likelihood of Developing Psychiatric Disorders in Late Twenties


Depression and Substance Use

SAMHSA’s 2004 National Survey on Drug Use and Health

- An estimated 8% of adults aged 18 or older (approximately 17.1 million adults) had experienced at least one major depressive episode during the past year.
- 65.1% of these adults reported having received treatment for depression during the past year.
- The rate of past month illicit drug use was nearly twice as high among adults who had experienced a major depressive episode in the past year (14.2%) compared with adults who had not experienced a major depressive episode in the past year (7.3%).

Past Month Illicit Drug Use Among Adults Aged 18 or Older, by Past Year MDE Status: 2004

<table>
<thead>
<tr>
<th>Status</th>
<th>Past Month Use (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Past Year MDE</td>
<td>7.3</td>
</tr>
<tr>
<td>Past Year MDE</td>
<td>14.2</td>
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</table>

http://oas.samhsa.gov/2k5/depression/depression.htm

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How common are co-occurring disorders?

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td># Adults with serious mental illness (SMI)</td>
<td>14.8 million</td>
<td>17.5 million</td>
</tr>
<tr>
<td>% Adults with SMI</td>
<td>7.3%</td>
<td>8.3%</td>
</tr>
<tr>
<td>% with SMI dependent on or abusing alcohol/drugs</td>
<td>20.3%</td>
<td>23.2%</td>
</tr>
<tr>
<td>% who binge on alcohol who also had SMI</td>
<td>28.8%</td>
<td>17.1%</td>
</tr>
<tr>
<td>% who used illicit drugs who also had SMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td># Adults with SMI and substance use disorder</td>
<td>3 million</td>
<td>4 million</td>
</tr>
</tbody>
</table>

NSDUH, 2001 and 2002

So, lots of people drink and use drugs. Then why...
- Do only some get addicted?
- Can’t people just stop using?
- Do addicted people relapse?
- Do addicted people do the same thing over and over?
- Do some people use until they die?
- Are drugs so compelling?

What affects risk for addiction?
- Age of first use
- Drug characteristics
- Route of administration
- Genetics
- Stress
- Trauma

Prevalence of Lifetime Alcohol Dependence by Age of Onset of Drinking


Genetics of Addiction
- Heritability of Addiction
  - 40-65% of risk for addiction is heritable
  - Cocaine > alcohol > caffeine
- The common, underlying biology of addiction may be heritable factor
- Genetically vulnerable people become more easily addicted to the most addicting substances
- Genetic--environmental interaction
- Heterogeneous
  - Multiple genetic variants confer risk in different individuals

Heritable Phenotypes in Addiction
- Frontal-cortical function/behavioral inhibition
- Drug metabolism
- Reward
- Anxiety-dysphoria stress response
- Craving/obsession

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The everyday work of addiction specialists
- Advocacy
- Prevention
- Early intervention
- Treatment, recovery, healing
- Clinical care
  - Addiction medical and psychiatric care
- Teaching
- Research

“Repeated use of addictive drugs produces multiple unwanted changes in the brain that may lead to tolerance, sensitization, dependence, and addiction.”

Nestler, Hyman, & Malenka: Molecular Neuropharmacology, 2002

3 C’s of Addiction
- Loss of consistent control over use
- Compulsivity or Craving
- Continued use in the face of Adverse Consequences

Please Note
- Addiction is NOT a disease of “innocent organs” like the pancreas or lungs
- Addiction is NOT a disease of the more socially acceptable thinking, rational brain
- Addiction is a disease of the survival, emotional, irrational brain

Please Note
- The survival brain is non-verbal, emotional, pleasure-driven, survival-driven, primitive, not responsive to reason or logic
- In addicted people, there is a disconnect between the thinking brain and the survival brain
  - Drugs have taken over the survival brain
  - Addicted people cannot “think their way into right acting.”

www.drugabuse.gov

The central problem in the treatment of addiction is that even after prolonged drug-free periods, well after the last withdrawal symptom has receded, the risk of relapse, often precipitated by drug-associated cues, remains very high.

Were this not the case, treatment could simply consist of locking addicted people away in a protective environment until withdrawal symptoms were comfortably behind them, issuing a stern warning about future behavior, and having done with it.


How can we understand addiction?
- Brain development and plasticity
- Reward circuitry complexity
- Incubation and risk of relapse
- Reinstatement research
- Priming
- Stress and conditioned cue research
- Endocannabinoid system
- New medications
- Chronic disease management model

What is the evidence?
- Surveys
- Receptors and neurotransmitters
- Animal models of addiction
- Neuroimaging
- Craving
- Stress responses
- Behavioral studies
- Reinstatement studies

Behavioral Manifestations of the Addiction Process
- Behavioral Sensitization: Repeated exposure to a drug leads to a progressive enhancement of the response (i.e. cocaine sensitization).
- Drug Tolerance: Increasing doses of a drug become necessary to elicit an equivalent physiological response (i.e. morphine tolerance).
- Drug Dependence: An adapted state of cells, circuits or organ systems unmasked by abrupt cessation of drug exposure (i.e. opiate withdrawal).
- Drug Craving: Increased drug seeking behavior following abstinence usually occasioned by drug related cues.
- Drug Relapse: After the extinguishing of uncontrolled drug taking, reacquisition of the behavior following a conditioned cue.


Dependence and Withdrawal Do NOT Explain Addiction
- Reinstatement of drug self-administration after drug cessation is more potently motivated by reexposure to the drug than by withdrawal
- Dependence and withdrawal cannot explain the characteristic persistence of relapse risk long after detoxification
- Relapse after detoxification is often precipitated by cues, such as people, places, paraphernalia, or bodily feelings associated with prior drug use and also by stress


Effects of Drugs of Abuse (Including Alcohol)

Volkow, 2003

"(A)ddiction is the result of a conserved neurobiologic substrate in animal and human brains that is vulnerable to regulation by addictive drugs. The actions of such drugs on this neural substrate tend to promote continued drug-taking behavior in a way that becomes increasingly involuntary.”

Nestler, Hyman, & Malenka: Molecular Neuropharmacology, 2002

The Neural Basis of Addiction: A Pathology of Motivation and Choice

- Primary behavioral pathology in drug addiction
  - Overpowering motivational strength to obtain/use drugs
  - Decreased ability to control the desire to obtain/use drugs
- Too much “Go”
- Not enough “Stop”


The Three Stages of Addiction

- Stage 1: acute drug effects
- Stage 2: transition to addiction
- Stage 3: end-stage addiction


Neurobiological Substrates for the Acute Reinforcing Effects of Drugs of Abuse

<table>
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<tr>
<th>Neurotransmitter</th>
<th>Site</th>
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<tbody>
<tr>
<td>Dopamine</td>
<td>Ventral tegmental area, nucleus accumbens</td>
</tr>
<tr>
<td>Opioid Peptides</td>
<td>Nucleus Accumbens, amygdala, ventral tegmental area</td>
</tr>
<tr>
<td>GABA</td>
<td>Amygdala, bed nucleus of stria terminalis</td>
</tr>
<tr>
<td>Glutamate</td>
<td>Nucleus accumbens</td>
</tr>
</tbody>
</table>

Koob, 2005
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Neural Reward Circuits Important in the Reinforcing Effects of Drugs of Abuse


Reward Circuity Complexity

- Extended Amygdala
  - Forebrain macrostructure
  - Composed of central medial amygdala, bed nucleus of the stria terminalis, and a transition zone in the medial part of the nucleus accumbens
- Multiple inputs (influences) on neurons in the reward circuit

An integrated sequence of neuroplastic changes underlies addiction

Meaning:

The Three Stages of Addiction

The Neural Basis of Addiction: Stage 1 Addiction

- Acquisition of drug self-administration
- Acute neuroplasticity (drug-induced neural changes)
  - Cellular responses short-lived
  - Immediate early gene products
- Dopamine system is key
  - Release triggered by addicting drugs (and/or stress)
  - Critical for acute reward
  - Critical for initiation of addiction
- Process of behavioral sensitization begins

The Neural Basis of Addiction: Stage 2 Addiction

- Pattern of habitual drug self-administration
- Neuroplasticity associated with habitual drug use:
  - Changes in proteins and neuron function
  - Emerges with repeated drug exposure
  - Disappears over days or weeks after drug discontinuation
- Transcription factors involved:
  - Delta-FosB: necessary for behavioral sensitization to develop
  - Glutamate regulators: GluR1 necessary for cocaine-induced behavioral plasticity

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The Neural Basis of Addiction: Stage 3 (End Stage) Addiction
- Craving, relapse, and inability to suppress drug seeking
- Drug-induced neuroplasticity that:
  - Endures for weeks (or longer) of drug abstinence
  - May underlie relapse
- Reinstatement of drug seeking
  - Critical to reinstatement:
    - Plasticity in Erk signaling in the amygdala
    - Proteins regulating glutamate transmission in the prefrontal cortex projections to the nucleus accumbens
- Self-administration (stage 1 addiction) neuroadaptations NOT necessary for reinstatement

As the addictive disease progresses, the addict is less motivated by the search for euphoria (positive reward) and more motivated by relief of distress (negative reward).

Addiction Is Not What You Think
- Brain Reward/Pleasure/Survival System is Affected By:
  - Food
  - Water
  - Sex
  - Nurturing
  - ADDICTING DRUGS
- NOT AFFECTED BY THINKING OR REASON

The Neural Basis of Addiction: Stage 3 (End Stage) Addiction
- Cellular adaptations
  - Anterior cingulate and orbitofrontal glutaminergic projections to the nucleus accumbens
- Pathophysiological plasticity in excitatory transmission
  - Reduces the capacity of prefrontal cortex
    - To initiate behaviors in response to biological rewards
    - To provide executive control over drug seeking

The Addicted Brain Exhibits Pathology in:
- Motivation and choice
- Learning and memory
- Reward
- Inhibitory control
- Dysfunctional brain circuits

Stress and Cues in Addiction
- Stress
  - Mediated by CRF (corticotrophin releasing factor)
  - Multiple stressors can impact addiction
- Cues/Triggers
  - “People, places, and things”
  - Visual, auditory, olfactory, situational, etc.
  - Impact neural circuitry in drug seeking
  - Impact the final common pathway

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Neural Circuitry Mediating Drug Seeking

Priming
- After previous drug exposure, using a drug once or in small amounts can prime the response to drugs and lead to relapse
- "One drink is too many and a thousand is not enough…"
- Anti-priming medications could keep a "lapse" from becoming a relapse
  - N-acetylcystine increases glutamate and blocks cocaine-induced priming
  - Rimonabant blocks cue-induced but not stress-induced priming

Reinstatement
- Animals are given drug in response to lever pressing
- Drug is taken away
- Lever pressing extinguishes
- Drug is reintroduced
- Lever pressing returns at high intensity

Incubation of Craving
- Time-dependent increases in drug seeking after withdrawal
  - Increases in BDNF (brain-derived neurotrophic factor) in mesolimbic dopamine areas
  - In molecular and neuroanatomical studies, amygdala ERK (extracellular signal-regulated kinase) and glutamate are involved in the incubation of cocaine craving
- Cue-induced craving increases over time in abstinence
- "The disease progresses even when you are not using."

Inhibitory Deficits in Addiction
- Increased impulsivity
- Adverse life events can increase impulsivity
  - Conflicts, incarceration, homelessness, etc.
- Problems with reversal learning
  - Addicts don’t know they are doing it wrong
  - Perseverate doing the wrong thing
  - "Doing the same thing over and over expecting different results."
- Inferior frontal gyrus gray matter deficits
- Drugs damage frontal lobe inhibitory systems
  - Can we strengthen these systems with medications and/or therapies?

I do not hold with those who believe that alcoholism is entirely a problem of mental control. I have had many men who had, for example, worked a period of months on some problem or business deal which was to be settled on a certain date, favorably to them. They took a drink a day or so prior to the date, and then the phenomenon of craving at once became paramount to all other interests so that the important appointment was not met. These men were not drinking to escape; they were drinking to overcome a craving beyond their mental control.

--Alcoholics Anonymous: The Doctor’s Opinion

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How can we maximize brain recovery from addiction?
Areas of exploration

Principles of Effective Treatment NIDA
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 his or her drug use
4. An individual’s treatment and services plan must be assessed continually and modified as necessary to ensure that the plan meets the person’s changing needs
5. Remaining in treatment for an adequate period of time is critical for treatment effectiveness

Principles of Effective Treatment NIDA
6. Counseling (individual and/or group) and other behavioral therapies are critical components of effective treatment for addiction
7. Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies
8. Addicted or drug-abusing individuals with coexisting mental disorders should have both disorders treated in an integrated way
9. Medical detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug use

Principles of Effective Treatment NIDA
10. Treatment programs should provide assessment for HIV/AIDS, Hepatitis B and C, tuberculosis, and other infectious diseases, and counseling to help patients modify or change behaviors that place themselves or others at risk of infection
11. Treatment does not need to be voluntary to be effective
12. Possible drug use during treatment must be monitored continuously
13. Recovery from addiction can be a long-term process and frequently requires multiple episodes of treatment

ASAM Patient Placement Criteria
● Using objective criteria to recommend placement, continued stay, and discharge for persons with substance use disorders
● Well-accepted around the U.S. and in several countries around the world
● Research supports improved outcomes for patients receiving care in accordance with criteria

Conceptual Models for Length/Type of Service
● Medical Necessity (Detox only)
● Fixed: Program-Driven
● Variable: Insurance-Driven
● Variable: Clinically-Driven

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### Individualized Treatment

- Match Severity of Illness (SI) or Level of Functioning (LOF) (assets and obstacles to improvement) With:
  - Intensity of Service (treatment modalities, strategies, sites of care)

### Acronyms

- ASAM == American Society of Addiction Medicine
- PPC == Patient Placement Criteria
- ASAM PPC-2R == Revision, 2001

### History of Patient Placement Criteria

- Cleveland Criteria (1989)
- NAATP
- ASAM PPC-1 (1991)
- ASAM PPC-2 (1996)
- ASAM PPC-2R (2001)
- Ongoing Improvement

### Criteria Issues

- Choice of Treatment Levels
- Continuum(s) of Care
- Admission into a System of Care
- Use as many or as few Levels as Appropriate
- Self-Help Groups are NOT a Treatment Level
- Biopsychosocial Assessment and Treatment

### Six Dimensions

#### ASAM Patient Placement Criteria-2R

1. Acute Intoxication/Withdrawal Potential
2. Biomedical Conditions and Complications
3. Emotional, Behavioral, or Cognitive Conditions or Complications
4. Readiness to Change
5. Relapse/Continued Use/Continued Problem Potential
6. Recovery/Living Environment

### ASAM PPC-2R Levels of Service

- **Outpatient**
  - Level 0.5 == Early Intervention
  - Level I == Outpatient (Traditional or Low Intensity) (PPC-1 Level I)
  - Level II == Intensive Outpatient/Partial Hospitalization (Structured Outpatient)
    - II.1 == Intensive Outpatient
    - II.5 == Partial Hospitalization

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### ASAM PPC-2R Levels of Service

**Residential/Inpatient**
- **Level III** = Clinically-Managed Low-Intensity Residential Services
  - III.1 = Clinically-Managed Low-Intensity Residential
  - III.3 = Clinically-Managed Med-Intensity Residential
  - III.5 = Clinically-Managed High-Intensity Residential
  - III.7 = Medically-Monitored Intensive Inpatient (= PPC-1, Level III)
- **Level IV** = Medically-Managed Intensive Inpatient Treatment (= PPC-1, Level IV)

**Medical-Monitored Intensive Inpatient Treatment (= PPC-1, Level IV)**

### Dual Disorders

**Moderate severity co-occurring disorders:**
- Stable mood or anxiety disorders of moderate severity (e.g., resolving bipolar disorder)
- Personality disorders of moderate severity (perhaps some severe ASPD)
- Signs and symptoms of mental disorders that are not so severe to meet the diagnostic threshold

**High severity co-occurring disorders:**
- Schizophrenia-spectrum disorders
- Severe mood disorders with psychotic features
- Severe anxiety disorders
- Severe personality disorders (e.g., fragile borderline conditions)

**Best managed in dual diagnosis specialty programs offering integrated mental health and addiction treatment**
**Update on Addiction and Mental Health**

**ASAM PPC-2R**

**Dual Disorders**

- Dual Diagnosis Capable programs
  - Primary focus: treatment of substance-related disorders
  - Capable of treating relatively stable co-occurring mental health problems
- Dual Diagnosis Enhanced programs
  - Designed to treat patients with unstable or disabling co-occurring mental disorders

**Potential Treatments for Brain Recovery from Addiction**

- What treatments might help the brain recover more effectively from addiction?
  - Therapies:
    - 12-Step Facilitation Therapy
    - Cognitive-Behavioral Therapy
    - Motivational Enhancement Therapy
    - Behavioral Marital Therapy
    - Exposure and Response Prevention
    - Contingency Management
    - Cognitive Rehabilitation
    - Others
  - Medications
  - Combinations of therapies

**Co-Occurring Disorders Treatment**

- CSAT TIP 42

**Co-Occurring Disorders Treatment**

Key Techniques for Working With Clients Who Have COD

1. Provide motivational enhancement consistent with the client's specific stage of change.
2. Use contingency management techniques to address specific target behaviors.
3. Use cognitive-behavioral therapeutic techniques.
4. Use relapse prevention techniques.
5. Use self-help and support groups.
6. Facilitate client participation in mutual self-help groups.

Guidelines for Developing Successful Therapeutic Relationships With Clients With COD

1. Develop and use a therapeutic alliance to engage the client in treatment
2. Maintain a recovery perspective
3. Manage countertransference
4. Monitor psychiatric symptoms
5. Use supportive and cognitive counseling
6. Use culturally appropriate methods


**12-Step Brain Recovery**

- Supports abstinence
  - Tones down the drive of the pleasure-reward pathway
- Retrains the brain
  - Provides healthier structure and ritual
  - Offers specific suggestions on a new way of living and behaving
- Retools the emotional brain
  - Modulates emotions
  - Works through connections with other people
  - Provides safe structure for emotional expression

Elizabeth F. Howell, MD

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Combination Treatments
● A combination of medications, counseling and psychotherapies may be the best addiction treatment we have at this point
  ◆ Address the survival/pleasure system dysfunction with medications
  ◆ Strengthen the cortical decision-making system with counseling and therapies
  ◆ Address subcortical dysfunction with therapies, retraining, etc.
● Treat co-occurring mental disorders
  ◆ With therapies and non-addicting* medications

Cross-Addiction
General Principles
● AVOID the use of any psychoactive substances in persons with a history of alcohol/drug abuse or dependence
● Use of any psychoactive substance may lead to:
  ◆ Addiction to or craving for that substance
  ◆ Craving for or relapse back to the "drug of choice"
● "Dear Doctor" letter

Cross-Addiction
General Principles
● Physicians (and other prescribers) are woefully ignorant about, or choose to ignore, the risks for cross-addiction and iatrogenic relapse
● Relapse can result even when there is a legitimate medical or psychiatric rationale for medication use
● Examples
● Exceptions
  ◆ Methadone, Suboxone, or Subutex for opioid dependence

Compliance and Relapse for Medical Disorders

<table>
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<tr>
<th></th>
<th>IDDM</th>
<th>Hypertension</th>
<th>Asthma</th>
<th>Addiction</th>
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<td>&lt;50%</td>
<td>&lt;30%</td>
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<tr>
<td>Diet/Other</td>
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<td>Compliance</td>
<td></td>
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<tr>
<td>Retreated within 12</td>
<td>30-50%</td>
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<tr>
<td>months</td>
<td></td>
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</table>


What will heal the addicted brain's changes and damage?
● STOP using drugs
● TIME abstinent
● Appropriate treatments
  ◆ Including pharmacotherapies
● More TIME abstinent
● More appropriate treatments
● MORE and MORE TIME

Abstinence
Time
Repetition
Retraining
Relationship
Is the recipe for brain recovery from addiction

http://www.efhmd.medem.com/Howell