MAT for the Addicted Brain
What Works

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Unique Issues with Addiction

- Endless speculation on the causes of addiction
- No clear consensus on the etiology
- Is it a biological disease?
- Characterological disease?
- Moral and spiritual failing?
- Is medical intervention helpful?
- Stigma and shame
Dark History of Past Treatments

- Eugenics – involuntary sterilizations
- Water therapy – mineral water injections
- Convulsive therapies – drug and ECT
- Psychosurgery – lobotomy era
- Inebriate asylums
- Miracle and fraudulent cures with patent medicines
- Morphine maintenance clinics
For Body and Brain

Most popularly used tonic-stimulant in Hospitals, Public and Religious Institutions everywhere.

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HEROIN
The sedative for coughs

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Unintended Consequences of Using Dependence-Producing Drugs

- Distrust of science and medical community
- Pharmacophobia - ETOH treatment
- Pharmacohegemony - opioid substitution
- Domination of the field by people in recovery
- Marginalization of drug and alcohol treatment
- Lack of parity with mental illness
- Continued stigma for the disease and some treatments e.g. methadone
Why the Stigma?

- Unsocial/criminal behavior
- Embarrassment to self and family
- ‘Free Will’ Issue
- Lack of Self-control
- Moral/Spiritual failing
- No personal responsibility
- Repeated treatment failures
Evolution of the Non-Dependence Producing Drugs

**Lexington Addiction Treatment Experiment**

- Heroin addicts housed at center for three – six months
- Intense psychotherapy and psychoanalysis to curb addiction
- Patients reported no cravings, desire or thoughts for drugs
- Both patients and therapist considered the treatment a success
Lexington Addiction Treatment Experiment

- High relapse rates when patients returned home
- Many patients experienced symptoms similar to acute withdrawal despite being drug-free for three months
- Failure completely baffled and disappointed researchers
Dr. Abraham Wikler’s Prophetic Quote

“Psychotherapy and psychoanalysis are complete failures in the treatment of addictions because there are forces at work that neither the therapist nor the patient is aware of”
What are these Forces?

**Conditioned Abstinence Syndrome**

- Symptoms similar to acute withdrawal
- “Sui Generis”
- Caused by the addiction getting embedded into the memory, emotional and motivational centers through neuro-circuitry changes
- Major cause of relapse

**Deprivation Effect**
Components of Effective Treatment- Integrated Approach

- Healing the neuronal damage of the reward system - MAT
- ‘Rewiring’ of the ‘Thinking’ brain through behavioral modification
- Address behavior, social, emotional, legal, employment, family, spiritual aspects of addiction
- Bulk of the treatment should occur in the patient’s ‘home’ environment – The Drug Court Approach
Why Integrated Treatment?

- Medications essential to treat following symptoms
  - Cravings
  - Withdrawals
  - Seizures, delirium tremens (DTs)
  - Euphoria (High)
  - Depression, anxiety, insomnia

- Critical component to prevent relapse in early recovery
Behavioral Changes Treatable with Counseling

- ‘Triggers’
- Motivation
- Emotions (anger, loneliness, boredom)
- Habits and routines
- Relationships
- Diet, exercise, sleep habits
Anticraving Medications

What is Craving?

- Craving is the intense overwhelming desire/compulsion to use drugs

- Cravings occur in
  - Anticipation of reward
  - In response to withdrawal

- Cravings are caused by external and internal triggers
Triggers

**External**
- Sights
- Sounds
- Smell
- People
- Places
- Time of Day

**Internal**
- Loneliness
- Stress
- Euphoric Recall
- Anger
- Testing control
Factors Rekindling Craving

- Inadequate detoxification procedures
- Release from jails/prison, inpatient treatment (deprivation effect)
- Formal end of probation/parole
- Emotional loneliness, boredom
- Testing personal control
Anticraving Medications in Clinical Use

- METHADONE (opioids)
- NALTREXONE (opioids and ETOH)
  (immediate release tablets and once a month injection VIVITROL)
- Buprenorphine SUBOXONE/SUBUTEX (opioids)
- ANTABUSE (Disulfiram) (ETOH)
- Acamprosate (CAMPRAL) (ETOH)
Methadone

- Opioid Agonist
- Developed by the Germans during World War II as a substitute morphine
- Highly effective in curbing the cravings for heroin
- Approved in 1974 for the treatment of heroin and opioid addiction
Methadone

- Patients need to be on methadone for a long time.
- High failure rates (80%) to heroin use when methadone discontinued
- Controversy about ‘substitution’ and needless stigma
- Overdose deaths not related to clinic use
- Patients need to be slowly weaned off
Buprenorphine

- Opioid Agonist/antagonist
- Approved by in 2002 for the treatment of opioid addiction
- Sublingual tablets containing buprenorphine available in two formulations
- SUBUTEX contains only buprenorphine
- SUBOXONE contains buprenorphine and naloxone to prevent misuse by injecting the medication
Buprenorphine

- Buprenorphine is most effective when patients start showing early signs of withdrawal.
- Patients should be off opioids at least 12 hours and 24 hours for methadone
- Rapid attenuation of the withdrawal symptoms
Naltrexone (Opioid Indication)

- Opioid antagonist
- Approved in 1984 for opioid patients from relapsing when they returned home
- Patients have to be off all opioids for 4-10 days before starting medication
- Produces no ‘high’ or withdrawal symptoms
- Usual dose 50 mg/day. Can be given daily or two tablets every other day
- Available as a monthly injection (VIVITROL)
Naltrexone ETOH Indication

- Opioid antagonist
- Approved in 1994 for the treatment of alcoholism
- Takes away the ‘high’ when alcohol ingested
- Patient need to off all opioids before starting treatment
- Available as monthly injection (VIVITROL)
Disulfiram (ANTABUSE)

- Approved in 1954 as aversion therapy for the treatment of alcoholism
- Prevents the metabolism of alcohol by blocking the enzyme alcohol dehydrogenase
- Patients become violently ill if ETOH consumed
- Disulfiram should never be administered to patients intoxicated or without their knowledge
Disulfiram (ANTABUSE)

- Initial dose 500 mg for 1-2 weeks followed by maintenance dose of 125-250 mg)
- Observed ingested administration a must
- Patients should be warned not to take any preparation containing alcohol including mouth wash, food and deserts cooked with alcohol
- Can be given with acamprosate and naltrexone
Acamprosate (CAMPRAAL)

- Approved for relapse prevention after detoxification
- Stabilizes the glutamate system which is strongly effected by chronic alcoholism
- Restoring the balance of the glutamate system prevents patients from ‘turning to the bottle’
- Usual dose: 2 tablets three times a day
Medications Approved by the FDA for Treating Addictive Disorders

- Acamprosate (CAMPRAL)
- Bupropion (ZYBAN)
- Buprenorphine (SUBOXONE, SUBUTEX)
- Disulfiram (ANTABUSE)
- Methadone
- Naltrexone (REVIA)
- Naltrexone – Monthly Injection (VIVITROL)
- Nalmefene (REVEX)
- Verenicline (CHANTIX)
Partial List of Other Medications Used in Treatment

- Baclofen (cocaine)
- Amantidine (cocaine)
- Topiramate (alcohol)
- Vigabatrin (cocaine, methamphetamine)
- Ondansetron (alcohol)
- Nalmefene (alcohol, opioids)
- Bupropion (ZYBAN) (smoking)
- Verenicline (CHANTIX) (smoking)
- Clonidine (treatment of withdrawal symptoms)
- Benzodiazepines (for alcohol withdrawal)
- Gabapentin (NEUROTIN) (alcohol withdrawal)
Behavioral Therapies that Work

- **Contingency Management Therapy**
  - Patients receive incentive or rewards for meeting specific behavioral goals
  - Voucher-based incentives for medication compliance; keeping appointments; testing clean
  - Take home doses of medication like methadone
  - Drug Courts have used this very effectively
Behavioral Therapies that Work

- Cognitive Behavior and Skill Training Therapy
  - Carefully analyze the cost of drug use and consequences.
  - Skills training to promote abstinence
  - Skill training to evaluate and avoid high-risk situations to achieve long-term relapse prevention goals
Behavioral Therapies that Work

- **Motivational Interviewing**
  - Enhance the intrinsic motivation to change
  - Effective is reducing high-risk behaviors
  - Effective for both inpatient and community-based treatment program
  - Combine MI with other appropriate therapies
Behavioral Therapies that Work

- **Couples and Family Treatment**
  - Treatment in the context of family
  - Family member involvement is a powerful predictor of change
  - Opportunity to build social communication skills
  - Reduced drop out of attrition rates
  - Better rating of happiness and fewer social problems
Case Management

- Help with job, job training
- Ongoing medical services for non-addiction related problems
- Housing
- Legal help
- Health-home concept
Creating the Treatment Paradigm for Long-term Success

- Individualized treatment
- Medication compliance
- Appropriate individual and group counseling
- Random drug testing
- Psychiatric services
- Addressing other life skills and needs - case management
- Length of treatment
Other Critical Factors

- Cost of medications
- Support from insurance companies, EAPs, State agencies etc.
- Developing a disease management program similar to other chronic diseases like diabetes, asthma etc.
- Comprehensive treatment teams – judges, therapists, probation and parole, physicians,
Long Term Benefits of Integrating Anticraving Meds with Counseling

- Improved treatment outcomes
- Reduce the stigma associated with the disease and drugs
- Treat psychiatric and addictive symptoms simultaneously
- Changing societal views on addictions
- Bridging the treatment divide
- Reducing the hostility towards medications
- Broaden treatment choices
- Bring treatment of addictions into the mainstream of medicine
The Future Belongs to Integrated Treatment

How prepared are we?

- Much needs to be done at the level of
- Medical schools
- Schools of social work
- Briefing judges, correctional staff, elected officials on advances in treatment
- Working with existing treatment centers, hospitals and professionals
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