A multi-faceted approach to Cravings Management

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Timeline for Today

• 1:30 pm – Introductions
• 3:00 pm – Break
• 3:20 pm – back to the Workshop
• 4:45 pm – Questions and feedback
• 5:00 pm – We’re all done!
Outline for Lecture

• Definitions
• How do we diagnose addiction?
• Craving Patterns
• **BREAK**
• Medications
• Stages of Change concerning cravings
• Techniques
• Discussion
• Questions
Multi-faceted Approach

• BBQ Sauce
  ▫ In the 19th Century, the French declared that bechamel, veloute, espagnole, tomate, and hollandaise are the ‘Mother Sauces’ for all other sauces in French cuisine.
  ▫ Similarly in American Cuisine, there are three major ingredients for BBQ sauces: vinegar, tomato and mustard. Each region has its own distinct properties: Lexington, Memphis, Carolinas, St. Louis, Kansas City and Texas.
Multi-faceted Approach

- BBQ Sauce
  - “I’ve never met a BBQ sauce I didn’t like”.
  - In the same way, our clients are in the process of perfecting their own BBQ sauce. We can help them by suggesting they add or remove certain ingredients of their sauce. Once they have their sauce right where they want it, they can feel a sense of accomplishment and their sauce begins to work FOR THEM.
  - They will have the 4 or 5 major ingredients of health: mental, physical, spiritual, emotional and psychological.
  - We can help them to prioritize these areas while adding ingredients to improve the overall flavor of their new life in recovery.
Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.

Craving is the only symptom that can be present regardless of substance use and can remain present even with years of abstinence.

Craving is intimately tied to memory.

Reading by Russell Brand...
What is “Craving”?

• “intense, emotional, obsessional experience”
• Awake when they want to be asleep
• Elevated pulse, distracted, irritable
• Want to thinking about other things, but the mind keeps bringing them back to the same thought over and over, “just one more time”.
• Genuine human suffering and our #1 job as helpers is to reduce suffering.
• Cravings can take on many different forms...
What is Craving?

- “What alcoholism is really like”
  - From “My name is Bill W.”, 1989.
DSM changes from IV to V

1) Addition of “Cravings”
   - Described as “a strong desire or urge to use”
   - “an intense, urgent, or abnormal desire or longing”
   - Examples:
     - Thoughts, feelings
     - Physiological symptoms like sweating palms, dry mouth, upset stomach
     - Triggers like smells, sounds, people, places
Continuum: mild, moderate, severe

2) Continuum of severity
   ▫ Moving away from abuse vs. dependence
   ▫ SMART Recovery says: “We assume that there are degrees of addictive behavior, and that all individuals to some degree experience it. For some individuals the negative consequences of addictive behavior (which can involve several substances or activities) become so great that change becomes highly desirable.”
   ▫ Mild – presence of 2-3 symptoms
   ▫ Moderate - presence of 4-5 symptoms
   ▫ Severe - presence of 6 or more symptoms
Craving Patterns

• As adapted from the book: The Cocaine Recovery Book, by Paul Earley, MD.

• Although the book is specifically about “Cocaine” the information generalizes into any substance of choice.

• Four types of cravings:
  ▫ Reinforced-Use
  ▫ Overt Interoceptive
  ▫ Covert
  ▫ Conditioned-Cue
Obstacles to Recovery

• The largest obstacle to recovery is craving
  ▫ It’s the most troublesome and frequent complication that results from addiction
  ▫ Appears randomly and can completely interrupt daily activities
  ▫ Makes a patient think that drug use is imminent
  ▫ Some experience relentless daily craving and others are only occasionally bothered
  ▫ Craving is at best, distracting and at worst, life-threatening
  ▫ Frequently results in relapse.
Substances and Memory

- During substance use the mind feels intense euphoria and stimulation.
- The memory of this creates two changes in the neurophysiology of the brain: 1) a drug tape and 2) euphoric recall
Substances and Memory

- **Drug Tape**
  - Imprinted memories
  - Float around the mind in the same manner as any other memories

- **Euphoric Recall**
  - Drive to escape the crash from the substance intoxication or ward off withdrawal symptoms creates euphoric recall
  - When the patient thinks of drug use, they can only see as far as the initial high and does not learn that drug use will be followed by a crash or withdrawal.
  - Peculiar type of short sightedness and a frustrating feature to families.
Reinforced-use

• Triggered by the introduction of substances into the system
  ▫ Person may plan to use a specific amount
  ▫ Attempt to control intake fails after taking in even the smallest amount
  ▫ Some have established rituals that limit intake
    • Exception rather than the rule
  ▫ Stress the avoidance of the first hit, dose, drink or shot
  ▫ Can result in DUI, assaults, falls and arrests, etc.
Reinforced-Use

• Type of craving that occurs after using.
  ▫ Once exposed to substances, continued use is driven by brain chemistry and is beyond the volitional control of most human beings.
  ▫ Depends on the substance class as to the strength
    • Cigarettes – most self-reinforcing drug we know of
    • Stimulants (cocaine and meth) – strongest of euphoric drugs
    • Alcohol – very strong
    • Opiates (heroin, roxycodone, percocet) – less severe and progresses to be about “not getting sick”
    • Entheogens (LSD, marijuana) – probably the weakest

• Stress the avoidance of the first hit, dose, drink or shot
Reinforced-Use
Overt Interoceptive

- Overt – the patient experiences craving directly
- Interoceptive – triggered by sensations in the body: GI discomfort, racing pulse, dry mouth, sweaty palms.
- Type of craving that occurs AFTER substance use stops.... A story may help...
Overt Interoceptive

- Outside the control of patient in early recovery
- First type of craving that “Residential” is designed to treat
- Here are some ways to deal with these cravings:
  1) Determine what caused the craving: singular event like something that was said, body sensation.
  2) Catalogue the events a craving triggers for future reference.
  3) Briefly describe the trigger to supportive friends/treatment team member
  4) Stop and experience the craving while avoiding any elaboration of what would be done if substances were available.
Overt Interoceptive
Overt Interoceptive

• **Drug romancing**
  ▫ is different from craving
  ▫ Self-induced elaboration in which substance use is seen as grand adventure.
  ▫ A way of accelerating and prolonging craving
  ▫ Can produce a high caused by memories of past use.
Overt Interoceptive

- Using Dreams
  - Normal part of recovery
  - Dreams tend to parallel the increasing comprehension of negative consequences of substance use
  - “What do dreams mean?”
Covert Craving

- 7-90 days into abstinence
- Involve a feeling of restlessness combined with a false sense of confidence that one will never be tempted use again.
- Behavioral craving – patient does not think or feel that substance use is imminent.
- “I gotta go’s”
- An example will illustrate...
Covert Craving

- Second type of craving that “residential” treatments are designed for.
- Lasts one to two days and in rare cases longer.
- If decisions are made during this time, in subtle ways, it places the patient in jeopardy.
- Everything else needs to be secondary to recovery.
Covert Craving

- Helpful hints that it could be Covert Craving:
  1) begins as overt cravings disappear
  2) never recognized by the person experiencing it
  3) if patient doesn’t acknowledge that his behavior reflects covert craving, no amount of arguing will convince otherwise
  4) subsides in 1-2 days
  5) feeling of “being cured” is best indicator
Covert Craving

- Don’t make decisions during this time
- Judgment about self is misguided at best
- Learn more about themselves by observing behavior rather than analyzing thoughts.

- Clip from Denzel Washington’s “Flight”: 1:41:00 to 1:47:30
Conditioned Cue Craving
Conditioned Cue Craving

- Produced by the learning that occurs during substance use.
- Anticipation signals: PAY ATTENTION!!
- “Why do I feel this sense of reward?”
- Brain attaches meaning to more minor events and thoughts that surround substance use.
Conditioned Cue Craving
Conditioned Cue Craving

• Unusual associations with euphoria/reward:
  ▫ Person
  ▫ Object
  ▫ Setting
  ▫ Music
  ▫ If tripped, they will repeatedly produce craving
  ▫ Can be extinguished through behavioral conditioning
Recent Study

• In a French study published in the June, 2015 of *Addiction*, the authors found that cues were more severe (duration and intensity) when they were person-specific rather than substance-specific.
• Person-specific include: the presence of a specific friend or hearing a specific song
• Substance-specific include: the presence of bottles, syringes, or lighters
• Craving intensity, in turn, predicted increases in later substance use.
• One of the authors, Dr. Marc Auriacombe said, “...Clinicians should really focus their treatment programs on craving reduction and control of its determinants,”
Conditioned Cue Craving

- “Residential” treatment does not address this
- IOP does; since the patient has moved back into the “real world”.
- Begins two week after last exposure to substances
- Major milestone in recovery is when you can experience craving, allow it to grow, sit with it and watch it disappear without using.
Conditioned Cue Craving

1) Unavoidable Cues:
   ▫ Cannot avoid even while in treatment
   ▫ Hearing words, smells or other sensations that you associate with substance use.

2) Temporarily avoidable
   ▫ Include things like passing through a neighborhood where you used to purchase substances or returning home if you used there.
Conditioned Cue Craving

3) **Avoidable cues**
   - Includes listening to the same music played while using, reading books or watching movies that contain graphic drug use.
   - Having substance paraphernalia around the patient.

4) **Danger cues**
   - Seeing old friends who still use or deal
   - Being exposed to drugs or alcohol at social events like concerts.
Conditioned Cue Craving

- **Danger cues**
  - Avoid these at all costs
  - Serve **NO** benefit
    - Using substances other than your “substance of choice”
    - Direct exposure to your substance of choice within “arm’s reach”.
    - Hanging around drug dealers or saving drug dealer’s contact information
    - Engaging in compulsive sexual activity
    - Selling drugs
Let’s take a BREAK...
Medications to treat Cravings

- n-acetylcysteine
- Campral
- Topamax
- Buprenorphine
- Naltrexone/Vivitrol
N-Acetylcysteine (NAC)

- **History**
  - N-Acetylcysteine (NAC) is an anti-oxidant, amino acid; an essential building block of proteins.
  - First used to counteract acetaminophen (Tylenol) overdose in the 1970’s
  - Clinical applications expanded to include mucolytic, HIV, COPD, neuropathy, Alzheimer's and various psychiatric conditions.
  - For our purposes, we will explore its use for marijuana (THC) cravings.
N-Acetylcysteine (NAC)

- Study in 2010 was the first known experiment looking at clinical effects of NAC on young marijuana users.
- 24 cannabis dependent males (n = 18) and females (n = 6), age range 18–21; all were interested in cutting down on THC use.
- Twenty-two were Caucasian, one African-American and one Hispanic.
N-Acetylcysteine (NAC)

- Participants were given 1200 mg of NAC, twice daily. Medication adherence was 82.6%.
- They were given loose instructions to reduce their marijuana use, but no cessation instructions or psychosocial treatments were provided.
- Side effects were mild and primarily included abdominal discomfort, muscle pains/aches and insomnia. None were severe enough to cause discontinuation of the medicine.
N-Acetylcysteine (NAC)

- The conclusion was that NAC treatment influenced a general downward trend in THC use over the course of treatment.
- It is thought to allow for regulation of glutamate release, reducing compulsive drug-seeking behaviors.
- Analyses revealed that participants reported significantly reduced ratings on three of the four Marijuana Craving Questionnaire (MCQ) domains over the course of NAC treatment.
Campral

- Mechanism of action has not been clearly established, but it is thought that acamprosate helps modulate and normalize alcohol-related changes in brain activity, thereby reducing symptoms of postacute (protracted) withdrawal, such as disturbances in sleep and mood, that may trigger a relapse to drinking.
- Typically started 5 days after alcohol cessation; reaching full therapeutic benefit in 5-8 days.
- Compliance is an issue since medicine has to be taken 3 times per day.
Campral

• **Advantages over other medicines:**
  ▫ Can be taken during relapses and if alcohol consumption is continued with no side effects.
  ▫ Can be used in conjunction with other anti-craving medicines like Naltrexone.
  ▫ Is not metabolized in the liver so patients in liver failure can still use
Campral

- Liabilities
  - Compliance is an issue since the medicine has to be taken 3x/day.
  - Cannot be taken by those with renal impairment and renal testing is highly recommended prior to starting.
  - Most common side effect is diarrhea, but other side effects include: Suicidal ideation (less common, but serious), Intestinal cramps, Headache, Flatulence, Increased or decreased libido, Insomnia, Anxiety, Muscle weakness, Nausea, Itchiness, Dizziness
Topamax

- FDA approved for prevention of seizure and migraine headaches
- Seizure types - partial onset, primary generalized tonic-clonic and those associated with Lennox-Gastaut syndrome
- Not marketed or promoted by the manufacturer and used “off label” for:
  - Bulimia nervosa, obsessive-compulsive disorder, substance dependence, nicotine cessation, psuedotumor cerebri (intercranial hypertension not associated with tumor), neuropathic pain, bipolar disorder, PTSD, and other disordered eating.
Topamax for substance abuse

• 371 male and female alcoholics between the ages of 18 and 65 took part in a multi-regional study. The subjects received either Topamax or a placebo. Over 14 weeks, patients taking Topamax showed a significantly higher rate of abstinence for 28 consecutive days or more. Rates of abstinence increased slightly in the placebo group as well. Both groups received some psychological counseling.
Topamax

• Has shown efficacy in lowering the number of heavy drinking days and raising the number of total abstinence days in persons who did not attempt to cut back or cease alcohol use before the study
• The drug seems to reduce craving by inhibiting the release of the pleasure-related neurotransmitter glutamate and promoting the release of the glutamate inhibitor GABA
Topamax - Side Effects

- Change of taste - especially carbonated beverages including beer and soda
- Cognitive deficiencies - nicknamed “Dopamax” or “Topa-stupid”
  - Problems with word finding
- Parasthesia - “pins and needles” in the extremities
- Upper respiratory infection including pharyngitis
- Eye pain, transient or permanent vision loss and glaucoma (raised pressure inside eye ball)
- Renal complications including kidney stones
- Loss of appetite, diarrhea and nausea
Topamax - Side Effects

- Secondary Gain
  - Weight loss - for those struggling with body image issues, this may present with additional clinical concerns, i.e. significant weight loss and resistance to cessation of drug therapy; and after cessation, possibility of regaining weight and (re)triggering eating disorder
  - Sedation - for those who drugs of choice are sedating substances, Topamax may trigger “benzodiazepine-like” sensation
Buprenorphine

• Semi-synthetic opiate with partial agonist and antagonist actions
• History
  ▫ First marketed as an analgesic (pain reliever) by Reckitt & Colman in the 1980’s
  ▫ Temgesic - 0.2 mg sublingual (dissolves under the tongue) tablet
  ▫ Buprenex - 0.3 mg/ml injectable suspension
Buprenorphine
Current marketing

- **Subutex - pure buprenorphine given sublingually**
  - 0.4 mg, 2 mg, & 8 mg (tablet can be broken in half and taken as 4 mg)
  - FDA approved for opiate dependence
  - Used primarily for detoxification of patients whose drug of choice is any type of opiate
  - Generally, patient starts at standard dose and decreased over a period of time, then finally cease use
  - Ideally, withdrawal syndrome is greatly diminished, but most often the “last step is a doozy”
    - Although opiate dependant patients often have a subjectively lower threshold for discomfort and pain, the withdrawal syndrome from the last dose of subutex to no medication may be an action of this
Buprenorphine
Current marketing

- Suboxone - combination of buprenorphine and naloxone
  - “Maintenance” formula most often used as an alternative to Methadone
  - Naloxone - one part for every four parts buprenorphine
    - Because of Buprenorphine’s high abuse potential, naloxone is added to deter intravenous or intranasal preparation
    - Although the efficacy of this claim is not sufficiently substantiated by research, theoretically, naloxone’s antagonist actions would attenuate the euphoric effects of buprenorphine
Buprenorphine
Current marketing

• Suboxone - combination of buprenorphine and naloxone
  ▫ Naloxone - mostly not absorbed sublingually and mostly passes through the body unmetabolized
  ▫ Theoretically, if intravenous or intranasal preparation is attempted, naloxone would be absorbed and would attenuate buprenorphine’s effect
Buprenorphine

- What has been your experience with Suboxone?
- Any particular age groups that it seems to work better with?
- Here’s one anecdote: “When I'm taking suboxone, the ‘allergy’ is still there, but I can’t get high on it. So, I’m left with feeling suicidal”.
- For some, the damage to opiate receptor sites can be so severe, that they’re left with potentially permanent mood disorders that may only respond to maintenance doses of opiates.
Naltrexone

- History - synthesized in 1963 and patented in 1967
- Methods of administration
  - Oral - *Revia* and *Depade*
  - Injection - *Vivitrol*
  - Implants/Pumps
Naltrexone (Advantages)

- **Low Dose Naltrexone**
  - 1/10th the dose used in Alcohol and Drug
  - Has shown efficacy in treatment of the following:
    - HIV/AIDS
    - Multiple Sclerosis
    - Parkinson’s
    - Cancer
    - Rheumatoid arthritis
    - Crohn’s Disease
    - Ankylosing Spondylitis
      - Painful inflammatory arthritis of the spine and sacroiliac joint, leading to eventual fusion of the spine
Vivitrol - XR-NTX

- Injectable, extended release form of Naltrexone
- Administered intra-muscular in the buttocks, alternating sides each month
- 380 mg / large injection, leaves a “ball” of gel for 24-48 hours until partially absorbed
Vivitrol

• Advantages
  ▫ Improved compliance over oral variety
  ▫ Lasts up to 30 days per injection
  ▫ FDA approved for alcohol cravings and opiate dependence (October 12th, 2010)
    • Exact pathway is unknown but it is thought to interact on the dopaminergic pathway that alcohol activates
  ▫ Also has shown some efficacy in the following:
    • Self injurious behavior, sexual dysfunction, nicotine cessation (women only)
Efficacy

• A 6 month, multi-center, double-blind, placebo-controlled clinical trial involved DSM-IV outpatients who were alcohol dependent
• Heavy drinking was defined as $\geq 5$ drinks per day for men, $\geq 4$ drinks per day for women
• The standardized psychosocial intervention used with all subjects was BRENDA, which consists of biopsychosocial assessment, reporting the assessment to the patient, an empathetic approach, identified and stated patient needs, direct advice regarding drinking behavior, and assessment of treatment adherence
Efficacy (cont.)

- Among the subset of patients (n=53, 8% of the total study population) who abstained completely from drinking during the week prior to the first dose of medication, compared with placebo-treated patients, those treated with VIVITROL 380 mg had greater reductions in the number of drinking days (97% difference, $P=0.02$) and the number of heavy drinking days (92% difference, $P<0.05$). In this subset, 40% of patients treated with VIVITROL plus psychosocial support were also more likely than placebo-treated patients to maintain complete abstinence throughout treatment.
Side Effects

• Can cause abrupt opiate withdrawal if opiate use is not suspended for at least 7-10 days prior to administration
• Heptocellular injury (liver damage) if given in excessive dosages
• Close monitoring of patients with Renal (kidney) impairment
• If opiate based analgesics are required (i.e. car accident), close monitoring of respiration is required and may require intubation
  • Overriding the antagonist properties of Naltrexone can cause respiratory failure, similar to an overdose
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<tr>
<th>Side effects occurring in &gt; 10% of patients</th>
<th>Vivitrol %</th>
<th>Placebo %</th>
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<tr>
<td>Injection Site Reaction</td>
<td>65</td>
<td>50</td>
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<tr>
<td>Nausea</td>
<td>29</td>
<td>11</td>
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<tr>
<td>Headache</td>
<td>21</td>
<td>18</td>
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<td>Asthenic Conditions (loss of strength)</td>
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<td>12</td>
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<td>Diarrhea</td>
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<td>Pharyngitis</td>
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<td>Insomnia, sleep disorder</td>
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<td>Dizziness</td>
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<td>Anxiety</td>
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Vivitrol...

- Is shown to decrease alcohol cravings by decreasing the euphoria associated with drinking making it less desirable
- Will block 100% of the euphoria associated with opiates.
- “other-drug use” can sometimes increase
- Little to no associated secondary gain.
Vivitrol...

- Is not aversion therapy
- Does not cause physical or psychological dependence
- Has no associated euphoria
- Is shown to have similar efficacy for patients taking antidepressants and those not taking antidepressants
- Is most commonly recommended for those undergoing outpatient therapy for substance abuse and is not a “cure”
- Is recommended for up to 13 months of continuous use and will provide an external support for those with motivation for recovery
Injection Site

- Tenderness, induration (hardening of tissue at site), pain, and pruritus (uncomfortable scratching).
- In extremely rare occasions, surgical removal of injection “ball” was necessary because of infection.
In closing...

- Questions???
- Comments???
- Thoughts???

- Need more information? See the next slide...
References