Treating Opioid Addiction – An Abstinence Approach

Goals of Program

• Abstinence is an achievable and preferable outcome for opiate dependent clients.
• Learn clinical interventions that support abstinence.
• Learn about MATs that support abstinence
• Continue future dialogues regarding best practices.

Presenters

Saul Selby MA LADC
Dr Suzanne Lee DNP
Recovery Panel
Jeff Jensen
HEROIN USE
A full public-health approach is required
The recent summit on heroin use in Minnesota is a good step toward coordinating efforts to address the surge in heroin and opioid painkiller medication addiction (“Heading off heroin,” Sept. 5). Unfortunately, the article’s focus seemed almost exclusively on law enforcement — the least-effective way to deal with it, according to many studies. Although mention was made of speakers urging a public-health approach, that approach was given short shrift. It is good that first responders now have naloxone available to give to someone suffering an overdose. Unfortunately, there was no mention of the desperate need for availability of the only treatment ever proven to work: maintenance on either buprenorphine (Suboxone and others) or methadone. Abstinence-based treatments, such as 12-step programs and others, have repeatedly been shown to be ineffective, leading to further relapses and death.

MARK WILLENBRING, St. Paul

Key beliefs of the Presenters
- Abstinence does work with clients addicted to Opioids
- Clients who achieve abstinence have a more fulfilling life than clients who are on Opioid replacement therapy
- A culture of abstinence reinforces abstinence.

Important Terms
- MAT – medication assisted therapy is the use of medications, in combination with counseling and behavioral therapies, to provide a whole-patient approach to the treatment of substance use disorders
- Opioid Replacement Therapy – a form of Harm Reduction – a medical treatment that involves replacing an illegal opioid, such as heroin, with a longer acting but less euphoric opioid; methadone or buprenorphine are typically used and the drug is taken under medical supervision
- Abstinence Approach: Therapy designed to help the client be free from addictive drugs and alcohol. This approach can include medications to deal with withdrawal or mental health symptoms.
Types of MAT's

- Medications used to treat mental health disorders.
- Medications used to manage withdrawal in route to abstinence.
- Medications used for opioid maintenance.
- Medication used to manage cravings.
- Medications like Antabuse which discourage continued use.

Maintenance MAT's for Opioid Addiction

- Methadone – synthetic opioid agonist.
- Suboxone – two medications, agonist and antagonist.

Potential Benefits of Opioid Replacement Therapy

- Can be an effective form of harm reduction.
- Can reduce heroin use & use of other addictive drugs.
- Can reduce criminal behavior.
- Can stabilize a persons life long enough to consider abstinence.
- Some studies suggest it improve employment.
- Prevents onset of withdrawal symptoms for
Potential Problems with Opioid Replacement Therapy

- High dosages make withdrawal issues very challenging.
- Many clients sell, trade and abuse doses
- Many clients continue to use illegal drugs.
- Costs associated with prolonged use.
- Cognition problems
- Employment issues
- Regulating proper dosages
- Limitations on travel
- Stigma of daily drug use.
- Overdoses and deaths.
- Extensive focus on physical and emotions comfort

Potential Benefits of Abstinence Approach

- Improved relationships
- Improved employment opportunities
- Improved financial stability
- Improved self-worth and MH
- Improved spiritual condition
- No restriction on travel, driving or heavy equipment operation.

Benefits of Abstinence

- Improved Cognitive Function
- Opportunity to manage emotions
- Not limited by regular clinic visits.
- Increased employment opportunities
- Improved self-worth
- Hope for the future
Potential Problems of Abstinence Approach

- Lack of client motivation
- Managing withdrawal and cravings
- Potential for overdose due to reduction of tolerance

Best Practice - Culture of Abstinence

- Culture impacts behavior
- Abstinence is more likely to be achieved when the client is assimilating into a community that values abstinence.
- 1970's Study of Returning Vietnam Vet Heroin Addicts
- Nicotine Cessation at Hazelden
- Gambling in Minnesota

Operation Golden Flow

- In 1970, high-grade heroin and opium flooded Southeast Asia.
- Military physicians in Vietnam estimated 10 - 25 percent of enlisted men were addicted to narcotics.
- Deaths from overdosing soared.
- White House announced that no soldier would be allowed to board the plane home unless he passed a urine test. Those who failed could go to an Army-sponsored detoxification program before they were re-tested.
- Most GIs stopped using narcotics as word of the new directive spread and the vast minority who were detained produced clean samples when given a second chance.
- More startlingly, only 12 percent of soldiers who were dependent on opiate narcotics in Vietnam became re-addicted to heroin at some point in the three years after their return to the states.
**Research Issues**

- Who does the research?
- What is being measured?
- Not all treatment is the same.
- DAANES seems to contradict research addressing the benefits of Methadone – why?
- Painting with a broad brush, not all Opioid dependent people are alike.

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**What we do at MNTC**

- Manage Withdrawal – referal to detox, flexibility with clients, mentoring.

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**Clinical Keys to Achieving Abstinence**

- Help client find a culture of abstinence
- Help client connect to mentors who have achieved abstinence
- Help clients manage withdrawal
- Help clients manage cravings
At MNTC We

- Support the used of medications to manage withdrawal and mental health issues
- Taper clients with suboxone
- Have a support group for opiate addicts
- Warn clients about overdose potential

Panel Input

- Why did you choose an abstinence program instead of an MAT program like methadone or suboxone?
- What are the strengths and challenges with the abstinence approach?
- What are the strengths and challenges with the MAT approach?
- How long did you withdrawal last and how did you cope with it?
- How long did craving last and how did you cope with them?
- What are the most important thing people can do be successfully achieve abstinence?

Abstinence is possible!

Many clients go on to live sober happy lives free from Opioid dependence
Peer support
- Recovery support group
- Emotional Support
- Buddy system

Prayer
- Healthy distraction method
- Cravings and withdrawals can decrease or disappear

Healthy Choices
- Regular exercise
- Sleep hygiene
- Sober fun outings
Distraction Methods

- Reading
- Praying
- Snapping a rubber band
- Thinking about goals/consequences
- Reaching out

Withdrawal issues

- Short Suboxone tapers can be helpful
- Three weeks to three months is ideal. The shorter the better.
- Suboxone and Methadone can be harder to quit than heroin
- Withdrawal can be longer and more uncomfortable

Some Alternatives and Assisted Medications for the Treatment of Addiction

Suzanne Lee DNP, PMHCNS-BC
CARN-AP
2015
**Medications Commonly Used In the Treatment of Addiction**

**Images of Commonly Prescribed Medications in the Treatment of Addiction**

**Medications Used in the Course of Treating Addiction**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Addiction</th>
<th>Mechanism of Action</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naltrexone (Rexin, Trexan); a mu opiate receptor antagonist</td>
<td>Alcohol and opiate—reward reduction to mediate a reduction or extinguishing of using</td>
<td>Is an opioid antagonist so it blocks the release of endogenous opiates such as enkephalin into the VTA which interferes with spillage of dopamine in the NA</td>
<td>50mg/day oral or injection monthly of 330mg IM every 4 weeks</td>
</tr>
<tr>
<td>Campral (Acamprosate); a derivative of the amino acid taurine and is a glutamate antagonist</td>
<td>Alcohol</td>
<td>Works to mitigate the glutamate system hyper excitability in withdrawal and reduce GABA deficiency thereby reducing cravings</td>
<td>333mg tid for 3 days then maintain at 666mg tid orally</td>
</tr>
<tr>
<td>Gabapentin (Neurontin); anticonvulsant</td>
<td>Alcohol</td>
<td>Mitigates excitatory glutamate system and may decrease positive reinforcement and craving</td>
<td>900-1800mg in divided doses per day orally</td>
</tr>
</tbody>
</table>
### Medications Used in the Course of Treating Addiction

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<tbody>
<tr>
<td>Ondansetron (Zofran)</td>
<td>Alcohol craving</td>
<td>Blockade of 5HT3 receptor results in decrease in alcohol-induced dopamine release in NA.</td>
<td>4 mg per Kg weight twice a day</td>
</tr>
<tr>
<td>Topiramate (Topamax)</td>
<td>Alcohol</td>
<td>Mitigates excitatory glutamate system and may decrease positive reinforcement and craving.</td>
<td>12.5 mg - 25 mg once or twice a day with increases by 12.5 - 25 mg per week up to 300 mg per day for some</td>
</tr>
<tr>
<td>Disulfiram (Antabuse)</td>
<td>Alcohol</td>
<td>Inhibits acetaldehyde dehydrogenase which is necessary to break down alcohol.</td>
<td>Begin with 250 mg once daily and increase to 500 mg daily</td>
</tr>
<tr>
<td>SSRI + Gabapentin</td>
<td>Alcohol</td>
<td>Reduces cravings</td>
<td>Gabapentin 300 mg tid</td>
</tr>
</tbody>
</table>

### The Quandary About Treatment

There remains much controversy and confusion about Medication-Assisted Treatment (MAT), especially the use of Opioid Treatment Programs (OTPs) for opioid dependence. Opioid Dependences (or Opioid Use-Related Disorders) are frightening addictions, because …

- Opioid addicts tend to die younger than other addicts
- Severity of the addiction is higher than other substances
- Respiratory arrest is random and very hard to predict with high opioid doses prescribed for tolerance problems
- Opioids have lethal drug interactions with other CNS drugs and alcohol
- Relapse after periods of abstinence present the greatest risk period for overdose death
As a result, the development of Opioid Treatment Programs (OTPs) have been marketed aggressively. However, there remains considerable controversy on long term effectiveness of the OTP approach. The measures used to prove effectiveness of suboxone and methadone relate to harm reduction ideology i.e., compliance in taking substitution opioids, retention in treatment (despite dirty urines sometimes), avoidance of heroin use, etc. The costs are enormous. Is there really improved functionality and quality of life? Are these mediations safe for the brain or do they continue to alter structure and function like all opioids are known to do? We don’t have the long term, high quality research results yet to guide us in the implementation of this expensive and risky form of treatment.

OTPs provide treatment to more than 300,000 opioid dependent individuals in the US. OTPs increased from 849 in the year 2000, to 1,175 in 2011 and are surely higher than that today. Private for profit OTPs are increasing everywhere. The percentage of programs operating "for profit" have increased and the public OTPs have decreased.

An examination of the research and Cochrane Systematic Reviews present a mixed picture of the findings related to Opioid Treatment Programs.

- Many studies find a difference in success of OTPs based on whether opioid addict is heroin addict or pain pill addict, with pain pill addict more likely to be retained in suboxone/naltrexone or methadone program than heroin addict.
- Comparisons between cohorts of detoxed opioid dependent addicts on suboxone/naltrexone versus methadone showed better retention in treatment on methadone, which requires more intense and structured treatment, than office-based suboxone/naltrexone, and is more lethal in terms of overdose risks.
- Participants in suboxone/naltrexone programs often diverted their drug.
- Many studies are of short duration with low numbers of participants and quality of research is low.
- Many of the outcomes for evidence of success are questionable, such as:
  - Retention in treatment
  - No or low illicit other drug use
  - No or low other opioid use
  - No or low criminality
  - No or low heroin use.
The researchers concluded with the following statement:

"This was the first study to examine long-term treatment outcomes of patients with prescription opioid dependence. Long-term outcomes for those dependent on prescription opioids demonstrated clear improvement from baseline. These results are consistent with research on heroin dependence in supporting the value of opioid agonist therapy for prescription opioid dependence. However, half of the follow-up participants reported good outcomes without agonist therapy as well. Additionally, a subset exhibited a worsening course, by initiating heroin use and/or injection opioid use. These data underscore the importance of longer-term follow-up in understanding the course of this increasingly prevalent substance use disorder."

N = 375 participants agreed to a follow-up telephone interview after conclusion of the original 9 month POATS study, at months 18, 30, and 42: 31.7% abstinent without agonist therapy; 29.4% were on agonist therapy but did not meet symptom criteria for current opioid dependence; 7.5% were using illicit opioids while on agonist therapy; 31.4% were using opioid therapy without agonist therapy; 8% used heroin for first time in follow-up, 10.1% reported first time injection heroin use.

There Exists Enormous Pressure to use Opioid Treatment Programs as the Gold Standard for the Treatment of Opioid Dependence
In the USA, especially in the medical/pharmaceutical industry, the problem of opioid dependence is thought best addressed through Medication-Assisted Therapy, most particularly, through Opioid Treatment Programs (OTPs). There are two major medications that provide opioid substitution for the opioid addict: Suboxone/naltrexone (a mu partial agonist) and methadone (a mu full agonist). Many abstinence-based treatment programs have a basic objection to substitution opioid therapy.

In Russia, OTPs are not allowed but full opioid antagonist medication, Naltrexone (in oral, implant, and injection formulations), is allowed and its use and effectiveness has been studied and found to offer statistical significance compared to placebo and SSRIs and psychotherapies in criteria that serve as evidence of effectiveness, especially the evidence of opioid-free urine toxicologies, something OTPs can’t use.
A review of several studies done in Russia over 10 years that looked at various formulations of naltrexone (oral, implant, and injection) compared to other interventions (placebo, psychosocial therapies, SSRIs) in detoxified opioid addicts, found that the naltrexone group had more favorable results that were statistically significant for relapse prevention and abstinence stabilization than the control groups. Reasons for this success were cited as the lack of alternatives to treatment in the form of opioid substitution therapy, and stronger family control for adherence to the treatment. The studies that looked at the long-acting, slow-release formulations showed more statistical significance than the oral formulations.
Concerns about Injectable Naltrexone for Opioid Dependence

(Criticism from OTP advocate)

“The FDA should justify why it has lowered the scientific, regulatory, and ethical standards in approving depot naltrexone for treatment of opioid dependence. Although there is public demand and a market for new treatments for opioid dependence, approval in this instance might endanger patients, and sets a precedent that unjustifiably degrades standards for all treatment of opioid dependence.”


Naltrexone

• Approved in 1984 for treatment of opioid dependence
• Pharmacologic profile:
  ◦ blocks opioid effects (is antagonist) at the mu opioid receptors
  ◦ Blockade depends on concentration of agonists to antagonists and affinity to opioid receptors
  ◦ Is perfect antagonist for heroin dependence as 50 mg naltrexone blocks heroin effects for 24-36 hours
  ◦ Is safe and has no serious side effects at recommended doses
  ◦ Is well tolerated and has no addictive potential and does not produce tolerance

Naltrexone

• One problem reduces naltrexone efficacy—daily adherence to oral formulation
• More success in certain groups that have external monitoring programs such as physicians
• More success in countries that do not offer opioid substitution
• More success with long acting, slow release form of naltrexone, called Vivitrol
• Vivitrol is once monthly naltrexone injection

Vivitrol, a depot form of naltrexone, diminishes opioid use, cravings, and increases retention in treatment, and is NOT a substitution opioid, and therefore stops opioid induced brain damage on reward circuitry (NIDA, FACT sheet, October 2010) information@nida.nih.gov
What the Russian studies suggest is that when substitution opioids are not available, opioid antagonists are effective compared to placebo and treatment as usual. The major outcome was opioid free urine toxicologies as well as retention in treatment and improved functionality.

If in the USA, we offered something similar to OTPs, to the alcoholic, would it prevent many from recovery and improved quality of life?

**EVIDENCE**
- Retention in treatment
- Reduction in use of other sources of alcohol
- Ethoh of choice free urine toxicologies
- Other drug free urine toxicologies
- Reduction in DUIs/criminality
- Reduction in alcohol induced medical problems
- Reduction in overdoses/mortality
- Increase in functionality

**LEGEND**
- Substitution Alcohol = Ethoh (other than alcohol of choice) Treatment
- Naltrexone=opioid antagonist
- TAU=treatment as usual (withdrawal and abstinence based treatment)
Dysregulated excitatory synapses become a source for pharmacological interventions in the treatment of addiction and pain by inhibiting excitatory neurons and thereby ameliorating addiction craving and pain overstimulation to pain receptors.

<table>
<thead>
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<th>Side Effects / Contraindications</th>
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<tbody>
<tr>
<td>Gabapentin</td>
<td>100–300mg at HS; increase by 100-300mg every 3 days up to 1800-3600mg per day taken in divided doses tid</td>
<td>Drowsiness, dizziness, fatigue, nausea, sedation, edema, weight gain. No drug/drug interactions of significance</td>
</tr>
<tr>
<td>Lamotrigine</td>
<td>25mg/day for 2 weeks, then 50mg/day for 2 weeks, then 100mg thereafter and can increase to 400mg per day</td>
<td>Stevens-Johnson syndrome, rare life threatening rash unlikely with gradual dose titration. Dizziness, drowsiness, headache, nausea, blurred/double vision</td>
</tr>
</tbody>
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<tr>
<td>Oxcarbazepine</td>
<td>Start 150mg-300mg bid. Increase by 600mg/day each week to maximum 1200mg bid daily</td>
<td>First drug of choice for trigeminal neuralgia. Similar adverse effects to carbamazepine but less likely. Fewer drug/drug interactions.</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>200mg – 400mg twice daily. Increase to maximum 600mg bid</td>
<td>First drug of choice for trigeminal neuralgia. Beware hyponatremia, leucopenia, rash (Stevens-Johnson syndrome). Other side effects: dizziness, drowsiness, blurred vision, ataxia.</td>
</tr>
<tr>
<td>Topiramate</td>
<td>25mg twice daily to start; increase by 25-50mg per week up to 200-400mg per day</td>
<td>Migraine prevention; other neuropathic pains may respond. Side effects: drowsiness, abnormal thinking, weight loss, urinary tract stones, increased intraocular pressure</td>
</tr>
</tbody>
</table>
## Medications: Antidepressants, especially those medications containing noradrenaline

<table>
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<tbody>
<tr>
<td>Duloxetine</td>
<td>20-60mg per day taken once or twice daily in divided doses (for depression): 60mg for fibromyalgia</td>
<td>Side effects: nausea, dry mouth, constipation, dizziness, insomnia</td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>37.5mg per day; increase by 37.5mg per week up to 300mg per day</td>
<td>Side effects: headache, nausea, sweating, sedation, hypertension, seizures. Serotonergic properties in dosages below 150mg per day; mixed serotonergic and noradrenergic properties in dosages above 150mg per day. Also used for hot flashes along with Pristiq.</td>
</tr>
<tr>
<td>Fetzima</td>
<td>Titrated from 40, to 80 or 120mg</td>
<td>Side effects: nausea, dry mouth, constipation, dizziness, insomnia</td>
</tr>
</tbody>
</table>

## Medications: Tricyclic Antidepressants

<table>
<thead>
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<th>Drug</th>
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<tbody>
<tr>
<td>Amitriptyline, Imipramine</td>
<td>10-25mg at bedtime; increase by 10 to 25mg per week up to 75-100mg at HS</td>
<td>Initial drug of choice: Tertiary amines have greater anticholinergic side effects and may cause arrhythmia, orthostatic hypotension; therefore these agents should not be used in the elderly patients.</td>
</tr>
<tr>
<td>Desipramine, Nortriptyline</td>
<td>25mg in the morning or at HS; increase by 25mg per week up to 100mg per day or a therapeutic drug level</td>
<td>Secondary amines have fewer anticholinergic side effects, but should still be used cautiously in elderly patients.</td>
</tr>
</tbody>
</table>

## Supplements

Some psychiatric supplements that are formulated to be in a bioavailable form in amounts that have been shown to be therapeutic for various mental illnesses are helpful as augmentation to psychiatric medications.
### N-Acetylcysteine

NAC has been shown in animal studies to restore glutamatergic tone in inhibitory presynaptic receptors thereby abolishing re-instatement of drug seeking after withdrawal from cocaine. Human studies have shown a similar effect.

### Common Active Ingredients in Many Topicals for Treatment of Pain

<table>
<thead>
<tr>
<th>POTENTIAL INGREDIENTS</th>
<th>INGREDIENT OVERVIEW</th>
<th>TREATABLE SYMPTOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>KETAMINE</td>
<td>Blocks NMDA Receptor</td>
<td>Neuropathic Pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chronic Pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peripheral Neuropathy</td>
</tr>
<tr>
<td>GABAPENTIN</td>
<td>Blocks AMPA receptor</td>
<td>Neuropathic pain</td>
</tr>
<tr>
<td></td>
<td>Inhibits NMDA receptor by blocking Glutamate</td>
<td></td>
</tr>
<tr>
<td>TRICYCLIC ANTIDEPRESSANTS and CYCLOBENZAPRINE</td>
<td>Noradrenaline &amp; Serotonin Reuptake Blocker, Binds Opioid Receptors, Blocks histamine, peripheral alpha-adrenergic and muscarinic receptors, Blocks NMDA Receptors</td>
<td>Neuropathic Pain, Diabetic Neuropathy, Post Herpetic Neuralgia, Chronic Inflammatory Pain</td>
</tr>
</tbody>
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### Common Active Ingredients

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<tr>
<td>CLONIDINE</td>
<td>Blocks peripheral NE release to prevent activation of peripheral adrenergic receptors</td>
<td>RSD/CRPS, Trigeminal Neuralgia, Phantom Limb</td>
</tr>
<tr>
<td>BACLOFEN</td>
<td>Modulates neurotransmitter release by mimicking GABA (chief inhibitory neurotransmitter)</td>
<td>Fibromyalgia, TMJ</td>
</tr>
<tr>
<td>ANESTHETICS (Lidocaine/bupivacaine)</td>
<td>Blocks AMPA receptors</td>
<td>Neuropathic and inflammatory pain</td>
</tr>
<tr>
<td></td>
<td>Inhibits prostaglandin production, Decreases pain receptor sensitivity and inflammatory response</td>
<td>Musculoskeletal pain</td>
</tr>
<tr>
<td>NSAIDs (Flurbiprofen/diclofenac, etc.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Medications: Topicals OTC

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<tr>
<td>Lidocaine</td>
<td>Up to 3 patches to intact skin 12 hours per day (12 hours on/off)</td>
<td>Indicated for post herpetic neuralgia. Commonly used for other neuropathic conditions. May be used daily or as needed</td>
</tr>
<tr>
<td>Capsaicin</td>
<td>0.025% or 0.07% apply to intact skin 3-4 times per day</td>
<td>Burning irritation of skin, eyes, airway. Requires regular application for 4-6 weeks to achieve effect; then maintenance. Available without script</td>
</tr>
</tbody>
</table>

### Other Ingredients Used in Topicals

- **Nifedipine**
  - Used to improved perfusion to area
  - Add to formula when concerned about circulation
  - Typical concentration – 2%

- **Verapamil**
  - Used to improved perfusion to area
  - Decreases production of collagen and fibronectin from fibroblasts; increases activity of collagenase
  - Used for fibrosis, scarring, acute post surgical and for plantar fibromatosis
  - Typical concentration for fibrosis – 10%

- **Pentoxifylline**
  - Improves blood flow through peripheral blood vessels
  - Used as a driving agent
  - Typical concentration 2-5%

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Have a headache/migraine?
Submerge your feet and hands in hot/warm water and put a bag of frozen peas at the base of your skull. The heat on your extremities pulls the blood from your head relieving some/all of your headache.

DON’T FORGET TO SHARE......
Tip to help with an anxiety attack

- Look around you.
- Find 5 things you can see, 4 things you can touch, 3 things you can hear, 2 things you can smell and 1 thing you can taste.

This is called grounding. It can help when you feel like you have lost all control of your surroundings.

Please reblog, it could really help someone in need.

Help with Sleep Architecture

- Acupuncture
- Aromatherapy
- Cognitive behavioral therapy
- Herbal remedies
- Relaxation techniques
- Sleep hygiene

Medications: Sleep Problems

<table>
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<tr>
<th>Drug</th>
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<tbody>
<tr>
<td>Trazodone (Desyrel)</td>
<td>Can be dosed as low as 25mg up to 200mg or more; has short half life (6-8 hours) so does not cause day time drowsiness</td>
<td>Suicidal thoughts, priapism, mania-like symptoms, drowsiness, dizziness, vision changes, constipation, dry mouth, altered sense of taste</td>
</tr>
<tr>
<td>Diphenhydramine (Benadryl)</td>
<td>25mg one or two tablets</td>
<td>Some anticholinergic effects; blurred vision, constipation, memory problems, dry mouth</td>
</tr>
<tr>
<td>Ramelteon; Rozerem (Melatonin 1 &amp; 2 receptor agonist)</td>
<td>8mg at HS; however there best to increase dose before concluding lack of efficacy doses 4-64 mg have been studied</td>
<td>Possible day time sedation, dizziness, headache</td>
</tr>
</tbody>
</table>
Remeron (Mirtazapine) works on Histamine 1 receptor antagonism which likely explains sedation

- 15-45mg at HS; breaking the tablet in half may actually increase sedation
- Dry mouth, constipation, increased appetite, weight gain

Doxepin (Sinequan)

- At low doses is quite selective for histamine 1 receptors, thus is used as hypnotic at 1-6mg with liquid formulation
- Blurred vision, constipation, urinary retention, increased appetite, dry mouth, nausea, diarrhea, heartburn, weight gain; however, few side effects at low doses

Gabapentin (Neurontin)

- Anti-seizure med and treats chronic pain; can improve slow wave delta sleep
- 300mg at HS but may use less than that dose and may go higher (900mg)
- Usually few side effects
- Sedation, dizziness, ataxia, fatigue, nystagmus, tremor

Advocate for Good Nutrition & Regular Exercise & Play/Fun & Spirituality

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Eat Colors For Your Health

- White: to strengthen the immune system
- Yellow: to fortify skin elasticity
- Orange: to prevent inflammation
- Red: to improve heart and blood health
- Purple: to protect the nervous system
- Green: to detoxify

Thank You Very Much!

Sobriety is the strength of the soul, for it preserves its reason unclouded by passion.
(Pythagoras)

http://lighthouserecoveryinstitute.com

The End 😊