Training Considerations for Clients in Recovery from Substance/Alcohol Use Disorders

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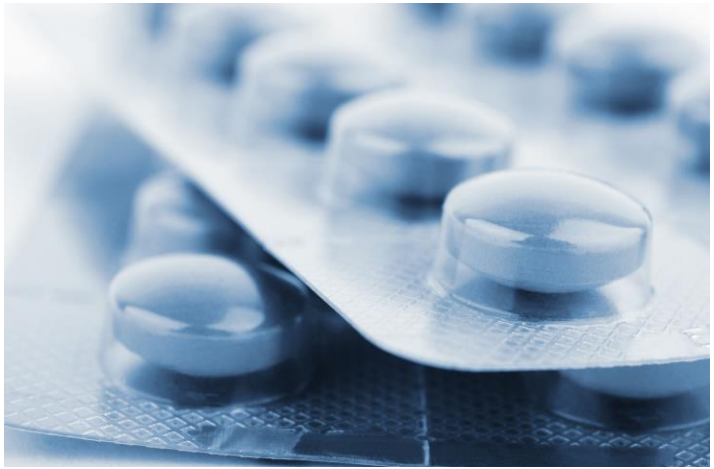
Learning Objectives

- Demonstrate understanding of the pathophysiology of abuse of alcohol, opiates, and stimulants.
- Demonstrate understanding of the common movement compensations which may be seen in this population.
- Demonstrate an understanding of the nutritional considerations which may be relevant in this population as well as how to collaborate with a Registered Dietician and physician regarding nutrition and exercise prescription.



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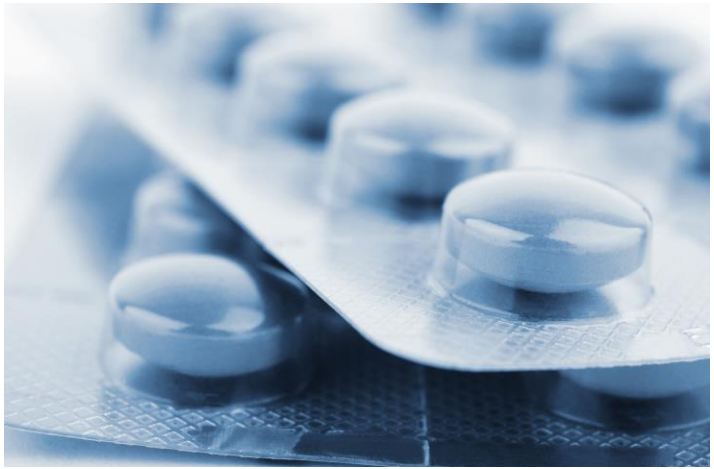
Learning Objectives

- Select appropriate fitness assessments and correctly identify the frequency of when assessments need to be conducted
- Create safe and effective programming based on the client's individual needs taking into consideration their history of substance abuse and other co-morbidities.



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About Us

- Our program began in 2016 as a single weekly fitness class offered at Bradford Recovery Center offered through the Bradford County YMCA.
- There was a bit of a stigma regarding working at an in-patient rehab center. It was difficult to find an instructor to go.
- It was a huge learning curve.

How did we begin our work with this population?

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About Us

- Several group fitness formats were tried at BRC, but the patients seemed to enjoy Pound Fitness.
- The counselors began to share stories about how the demeanor of the patients changed on days they participated in their fitness class.
- The owner of the center then requested the development of a full fitness/wellness program in-house at the Bradford Recovery Center.

How did we begin our work with this population?

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Introduction to Substance and Alcohol Abuse Disorders

Think of a behavior you may use frequently to deal with stressful situations.

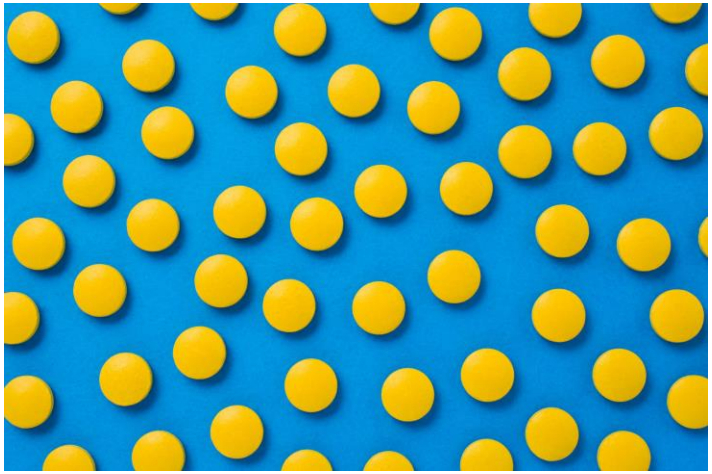
What is it?

Is it healthy?

Is it counterproductive to your goals?

What triggers the behavior?

Is there a stigma associated with the behavior?



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The Stigma of Substance Abuse

- Many people with addiction can hide it effectively, sometimes for many years, though this leads to lack of treatment for the affected person.
- A **stigma** is a set of negative beliefs held towards a group of people.
- Stigma can lead to **discrimination and exclusion.**
- Many of these potential clients may be afraid to admit they suffer from addiction.
- Some fitness professionals may have apprehension about working with this population.

21 million Americans have at least one addiction, yet only 10% of them receive treatment (Crapanzano et al., 2018).

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Exercise Therapy and Substance Abuse: What Does the Research Say?

Wang et al. (2014) conducted a meta-analysis to determine if and what types of exercise can be used as a treatment for SUD and AUD.

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Exercise Therapy and Substance Abuse: What Does the Research Say?

- Moderate to high intensity aerobic exercise and mind-body exercises such as yoga and mediation were found to be an effective treatment for SUD.
- Exercise was may be more effective in relapse prevention in patients with a history of illicit drug use.
- A 12-month exercise program promotes the repair of drug-induced neurological damage.
- Exercise eases anxiety and depression for patients in Recovery from SUD and AUD.

(Wang et al., 2014)

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Introduction to Substance and Alcohol Abuse Disorders

Interview with Dr. Daniel Golden, MD, F.A.C.S,

Board Certified in General Surgery and Surgical Critical Care

Associate Professor of Surgery for Geisinger Commonwealth School of Medicine

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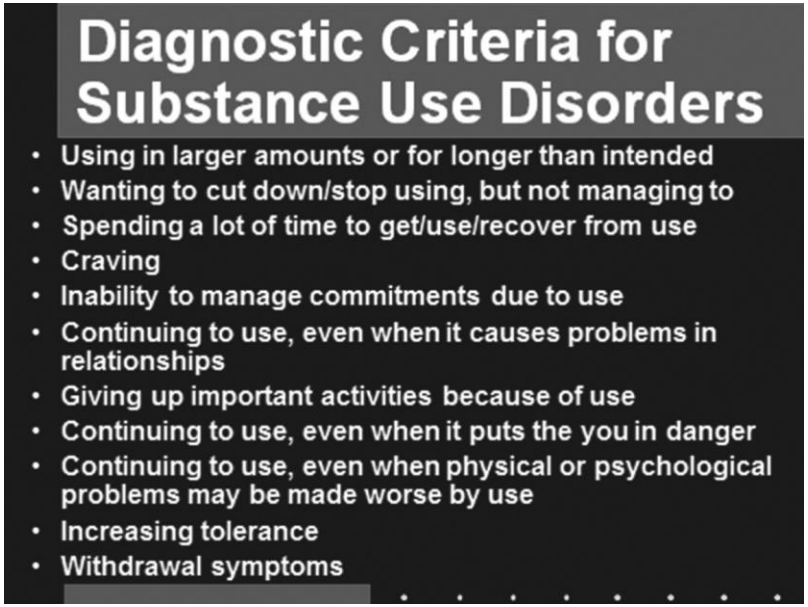
Diagnosis of Substance and Alcohol Abuse Disorders



- It is estimated that 40-70% of SUD/AUD cases are caused by a genetic predilection.
- 85% of individuals who develop SUD/AUD will do so in adolescence.
- Major risk factors include a family history of SUD, mental illness, history of abuse/neglect and domestic violence or trauma (McClellan, 2017).

Fewer than 2 symptoms = no disorder; 2-3 = mild disorder; 4-5 = moderate disorder; 6 or more = severe disorder

Diagnosis of Substance and Alcohol Abuse Disorders

Interview with Dr. Matthew D'Ortona, PsyD

Clinical Psychologist

Diplomate of the American Board of Psychological Specialites

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Treatment of Substance and Alcohol Abuse Disorders

Interview with Dr. Matthew D'Ortona, PsyD
Clinical Psychologist

- The 12-step program is the cornerstone of most SUD/AUD treatment plans.
- Cognitive Behavior Therapy is an adjunct therapy
- Group therapy
- Pharmacological treatment for mental health disorder co-morbidities.
- SUD/AUD is a chronic illness with many individuals having several episodes of relapse before recovering.
- Treatment is very piecemeal and not necessarily concise or any specific protocol well-validated.
- Co-morbidities (depression, anxiety, schizophrenia, bipolar disorder, etc) are likely.

(Laudet, 2008)

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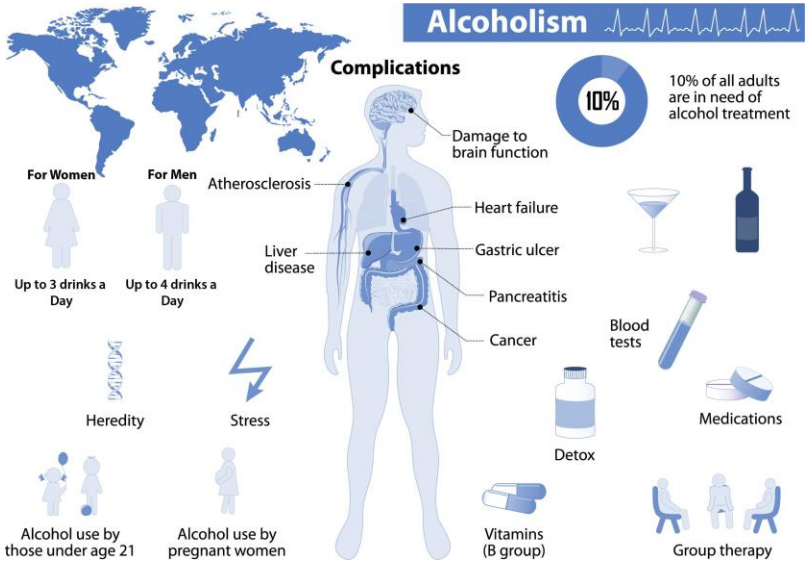
Recovery and the 12 Steps

1. We admitted we were powerless over alcohol—that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God as we understood Him.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God, as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual awakening as the result of these Steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs

(Alcoholics Anonymous, 2019)

Facts about Alcohol Use Disorder

- AUD is a chronic condition that must always be managed as relapse occurs in 60-90% of patients
- Approximately 17.6 million Americans are diagnosed with alcohol addiction or dependence each year
- Withdrawal from alcohol can be deadly, even under medical supervision, in severe cases of AUD.
- (Brown et al.,2009).



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Alcohol Use Disorder: Pathophysiology

- Alcohol is a central nervous system depressant.
- It binds to glutamate receptors, specifically the N-methyl-D-aspartate *receptor (NMDA).*
- Chronic exposure to high volumes of alcohol causes the body to adapt by upregulating these receptors
- AUD can cause malnutrition and severe vitamin/mineral deficiencies

(Clapp et al., 2014)

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Alcohol Detox: What Happens in the Body

- Chronic exposure to high volumes of alcohol causes the body to adapt by upregulating NMDA receptors
- Withdrawal of alcohol leaves too many NMDA receptors behind leaving the patient with potentially life-threatening symptoms
- Withdrawal can be life-threatening and must be done under medical supervision.
- Patients are often through the worst of the detox phase after about a week.

(Mirijello et al., 2015)

Agitation

Tremors

Tachycardia

Delirium Tremens

Seizures

Fever

Coma

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Alcohol Use Disorder: What the Trainer May Encounter

- Muscle wasting/weakness
- Poor coordination/balance
- Reduced aerobic capacity
- Prior orthopedic injuries
- Frequent cancellations and need for accountability.
- Short-term goals only

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Alcohol Use Disorder: What the Trainer May Encounter

Video interview with Heather H.

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Facts about Opiate Use

- There are 3 million Americans suffering from opiate abuse.
- More than 500,000 in the United States are dependent on heroin.
- It is thought that the 1990s campaign “pain is the fifth vital sign” and over prescription of opioids has contributed to the opiate addiction epidemic.
- Once addition prescriptions for opioids becomes difficult for the user, they may turn to heroin as it is cheaper and still obtainable.
- Opioid abuse was declared a national emergency in 2017.
- Opioids include but are not limited to heroin, morphine, oxycontin, codeine, methadone.

(Huecker et al., 2019)

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Opiates Use Disorder: Pathophysiology

- Opioids bind to receptors in the central and peripheral nervous system.
- These receptors are upregulated as use continues rendering the drug less effective over time.
- Chronic use causes alterations to pain sensation creating hyperalgesia or the sensation of pain much higher than the stimulus.
- Users will often continue opioid use to avoid withdrawal symptoms or pain.

(Huecker et al., 2019)

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Opiate Detox: What Happens in the Body

- Neurons present in locus coeruleus are noradrenergic and have increased number of opioid receptors.
- The excess of these receptors that are not bound induces withdrawal symptoms.
- Symptoms can be seen within 8-24 hours of the last dose, will peak in 1-3 days and continue for 7-10 days overall (Mansi Shah & Huecker, 2019)
- Hyperalgesia may still be present for months or into perpetuity for some users. Negative affect can heighten these symptoms (Carcoba et al., 2011).
- Naltrexone and Buprenorphine may be used to mitigate withdrawal symptoms as these drugs bind to the excess opioid receptors without producing the dopamine surge (Kosten & George, 2002)

Restlessness

Vomiting/Diarrhea

Severe anxiety

Hyperalgesia

Elevated heart rate

Perspiration

Rhinorrhea

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Opiates: What the Trainer May Encounter

- Persistent hyperalgesia Decreased muscular endurance.
- Negative affect.
- Co-morbidities such as HIV infection, orthopedic injury, post-traumatic stress disorder, hepatitis may also be present.
- Low motivation to exercise and complete workouts. This can persist for 18 months or longer.

(Weinstock et al., 2020)

Interview with Liz K.

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Opiates: What the Trainer May Encounter

- Clients may require very slow progression through phases of training.
- The trainer must possess very strong coaching skills.
- Delayed onset muscle soreness may be very problematic in this population.
- Coaching outside of PT sessions will be critical to support client.
- Moderate exercise is recommended
- Goal setting, contingency management and consistent reinforcement are necessary for sustainability.

(Weinstock et al., 2012)

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Stimulants: Facts

- Stimulants include drugs such as cocaine, crack, and amphetamines (including methamphetamine), Adderall, speed.
- Initial uses create extreme euphoria and is extremely reinforcing for future use.
- Tolerance can develop and users often develop a binging pattern with use. Tolerance can develop in just a few weeks of use.

(Ciccarone, 2011)

- Users are described as “on the go” and may use the drugs to enhance performance in school, work, or being able to spend many hours dancing/partying.

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Stimulant Use: Pathophysiology

- Stimulants induce a rapid neurotransmitter release (dopamine, serotonin and norepinephrine) from the brain resulting in euphoria and increased energy.
- Appetite and fatigue are reduced.
- Tachycardia, elevated blood pressure and insomnia occur.
- Reward centers in the brain (VTA) is highly stimulated.
- Dopamine, serotonin and norepinephrine receptors quickly up-regulate to accommodate the increase in these neurotransmitters.

(Ciccarone, 2011)

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Stimulant Detox: What Happens in the Body

- Severe fatigue
- Depression (often severe as patients are at risk for suicide)
- Increased appetite
- Poor cognitive skills
- Body aches

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Stimulants: What the Trainer May Encounter

- Clients may have severe dysphoric mood in the early phases. This may last several weeks.
- Symptoms are more emotional and less physical.
- Group fitness for this client/patient may be preferable to one on one training.
- Clients may prefer higher intensity exercise, but trainer/instructor must be careful to screen for co-morbidities.
- Long-term co-morbidities such as memory loss, mental health concerns (i.e., depression), cardiac problems (i.e., history of heart attack or endocarditis is possible).

Interview with Marina K.

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Nutrition Deficiencies

- Nutrition deficiencies may arise from drugs and alcohol replacing food in the diet.
- Alcohol also blocks the absorption of many vitamins/minerals (thiamin, B12, zinc, folate, magnesium, iron and vitamin C)
- These deficiencies can lead to cerebral atrophy, memory loss and heart failure.
- Caloric intake may be low and users may be deficient in necessary proteins and carbohydrates for normal bodily functions.
- Osteoporosis, osteomalacia, depression and anxiety may be a result of malnourishment.
- Intense cravings for sweets are common amongst individuals in recovery, especially in the earlier phases.

(Jeynes & Gibson, 2017)

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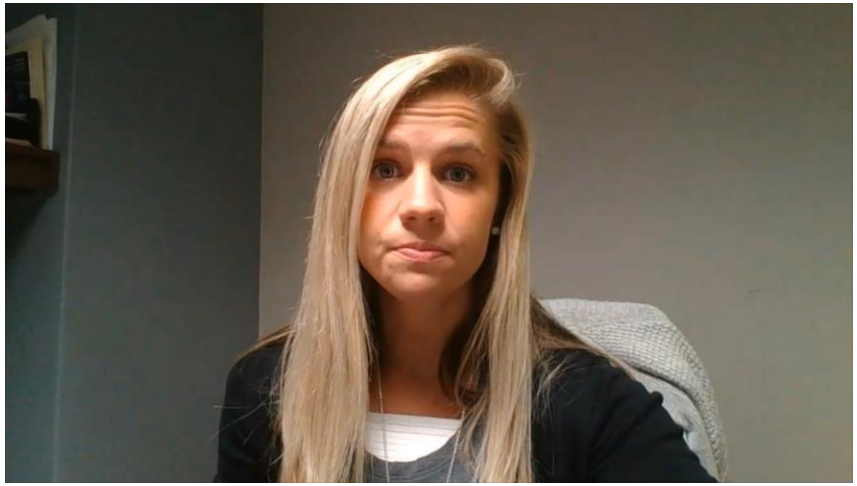
Nutrition Deficiencies



Interview with Melissa Underdown, MS, R.D.

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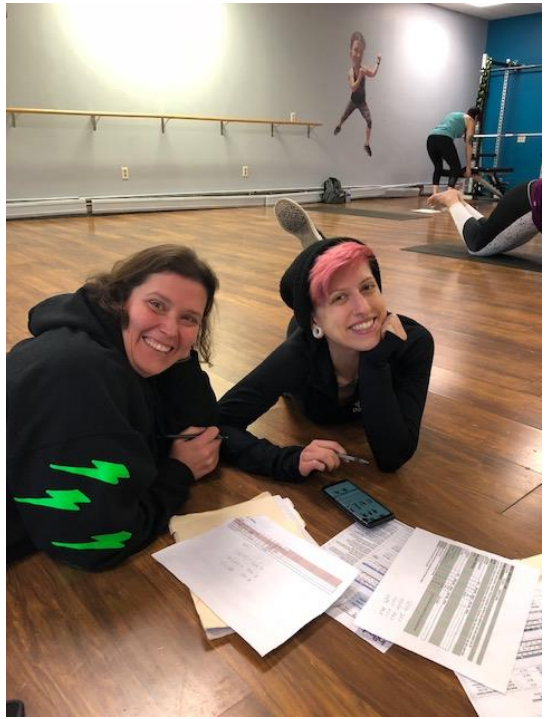
Getting to Know your Client

- Many clients will be ashamed of their past addiction. It is CRITICAL to build trust with the client immediately.
- The client must not feel judged. If teaching in a rehab facility, the group must feel comfortable and not stigmatized.
- Extra time for the initial assessment (if training one-on-one) or time at the beginning of a group fitness class to screen for potential co-morbidities
- PAR-Q form and medical clearance is a must.
- Your role as a coach both inside and outside the gym is critical for the success of clients in this population.
- Patience and understanding is key.



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Assessments

- Medical clearance
- PAR-Q form
- Overhead squat assessment
- Additional assessments if OHSA determines significant movement compensations (i.e., shoulders, knees, etc).
- Berg Balance Assessment (especially for clients with a history of AUD).
- 6-minute YMCA walk test.
- Additional time set aside for overview of client's goals.
- Readiness for change assessment (transtheoretical model).
- Screen for diagnosis of mental health disorders if client will share.**

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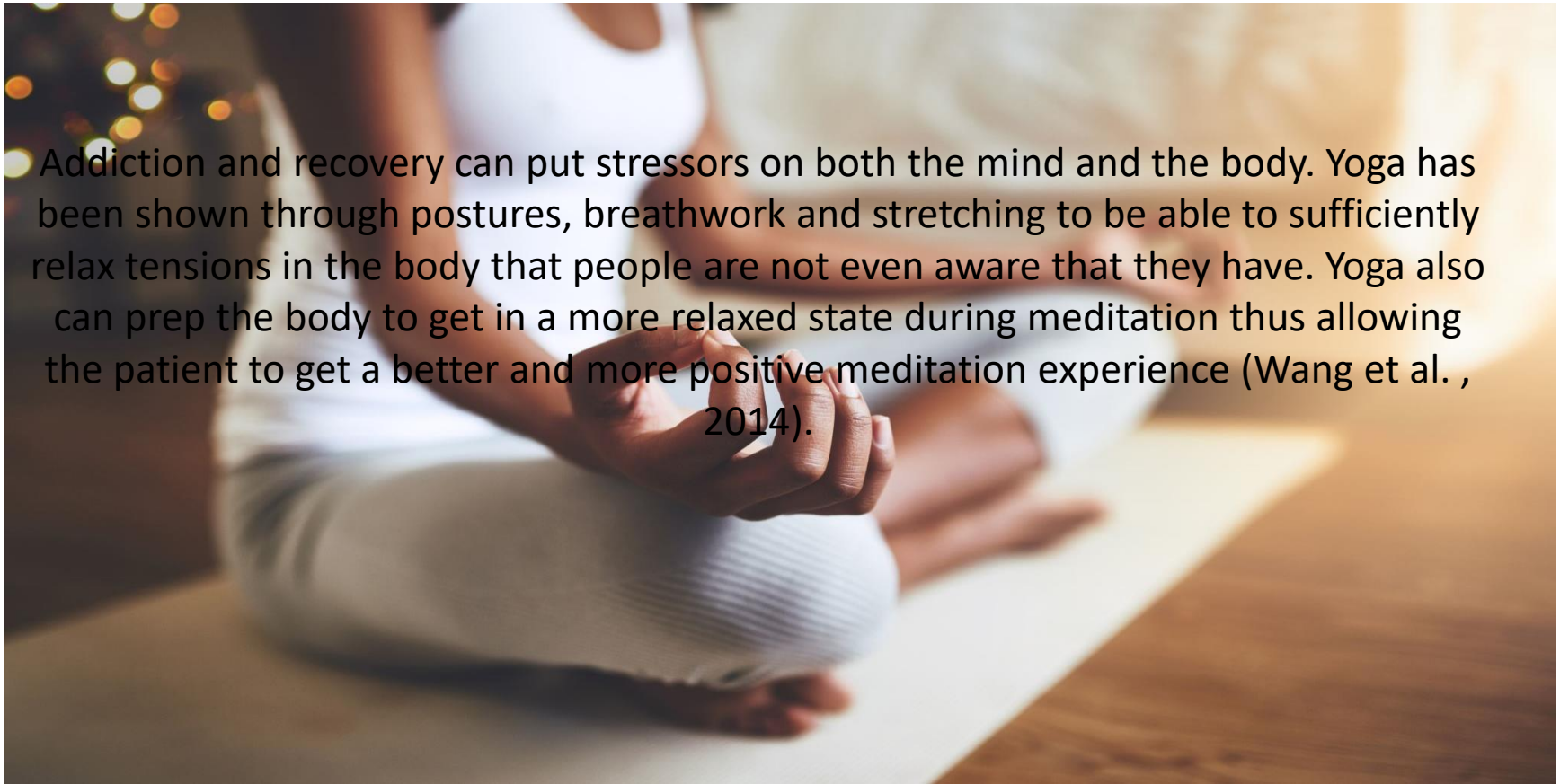
The Mind Body Connection: Yoga and Meditation



Addiction and recovery can put stressors on both the mind and the body. Yoga has been shown through postures, breathwork and stretching to be able to sufficiently relax tensions in the body that people are not even aware that they have. Yoga also can prep the body to get in a more relaxed state during meditation thus allowing the patient to get a better and more positive meditation experience (Wang et al. , 2014).

The Mind Body Connection: Yoga and Meditation

- Rapport is key
- Avoid making the class extremely rigid.
- Class should be for participants only- no spectators.
- ALWAYS ask before touching a patient/student.
- Be aware of past traumas. If a patient is uncomfortable with a specific pose, give them an alternative without question. Do not ask why they are uncomfortable.
- Refrain from leading guided mediation with specific visualizations.
- Have chairs available for patients/students with mobility difficulties.

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The Mind Body Connection: Yoga and Meditation

Interview with Jennifer Rought, ACE-CPT, ACE-GFI, Behavior/Life Coach

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Program Design and Monitoring

- Extended corrective exercise and/or stabilization-endurance phase.
- Slow progressions.
- Frequent re-assessment as client's physiologic function improves after drug discontinuation.
- Avoid high-intensity exercise in the early phases. This is especially true in clients recovering from opioid or alcohol addiction.
- Clients will need additional support outside of the gym to adhere to schedule.
- Short-term rather than long-term goal setting.
- Be cognizant of the potential for prior trauma, especially with yoga/meditation practice and tactile cueing.

Final Thoughts

Patience, kindness, and understanding.

Thorough assessment.

Excellent coaching.

Know your physiology- do your homework.

Slow progressions.

YOU are part of the Recovery team! YOU can make a huge impact in this population.

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