

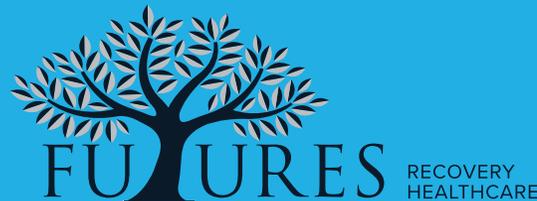
# The Neurobiological Treatment of Addiction

The use of experiential therapies as the primary treatment modality in the treatment of addictive use disorders

A Lecture Series Presented by:  
John D. Hawkins Jr., M.S., C.A.P., L.M.H.C.



Hosted By:



# Treatment Approach: A New Way of Thinking

Innovation requires open-mindedness and release from dogma

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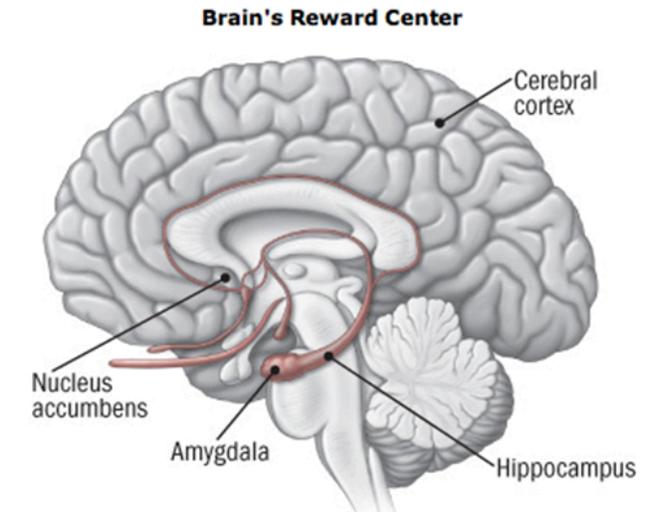
- Despite thousands of dedicated, compassionate individuals in the treatment field, what we have done to date can be more effective
- Addiction is a subcortical problem that cannot be overcome through insight, information and self-awareness; talk-therapy alone cannot resolve addiction and trauma
- We have to be evidence-based and have a willingness to let go of old paradigms if the data points in another direction
- There is often the same degree of dogma in science as religion
- Just because you got sober that way doesn't mean that's the path for everyone – individualized treatment



# Treatment Approach: A New Way of Thinking

Addiction conceptualized as a developmental disorder

- The "Disease Model" is overly simplistic and outdated
- Addiction is complex and has biological, psychological, social, cultural, and spiritual contributors
- Compulsive behaviors develop as an attempt to regulate overwhelming affect and meet core individual and relational needs
- Addictive use disorders develop as a result of maladaptive learning



# Treatment Approach: A New Way of Thinking

Addiction conceptualized as a developmental disorder

- A considerable part of our genes are dependent on environmental stimulus – emotions trigger gene expression
- Although some degree of genetics are hard-wired, as humans we are the great adaptors
- The science of epigenetics is one of the primary reasons I am asserting the disease model is inaccurate; you are not doomed by your genetics

Roughly  
**80%**  
of the brain  
develops after  
birth from the  
bottom-up



# The Triune Brain Model

Developed by neuroscientist Paul MacLean in the 1960's

Reptilian  
Complex

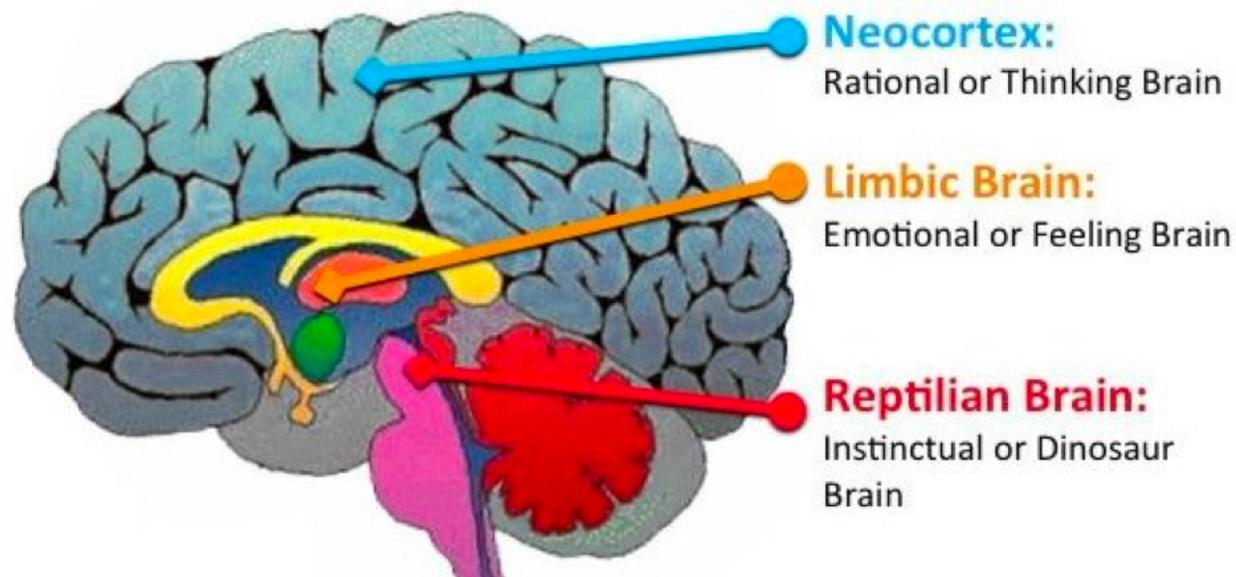
Paleomammalian  
Complex

Neomammalian  
Complex

Basal Ganglia

Limbic System

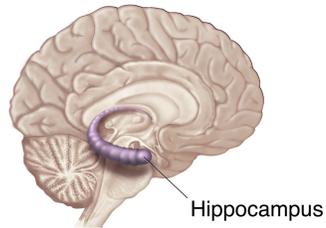
Neocortex



The reptilian and paleomammalian brain are more survival based and will override the neocortex; survival is the highest priority



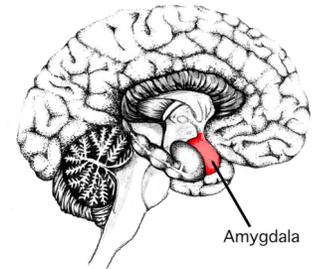
# Implicit and Explicit Memory Networks



**Explicit Memory**  
Conscious memory – images and facts memorized (hippocampus)

**Implicit Memory**

A felt-sense in the body – you are typically unaware you are experiencing a memory; it is just an emotional state

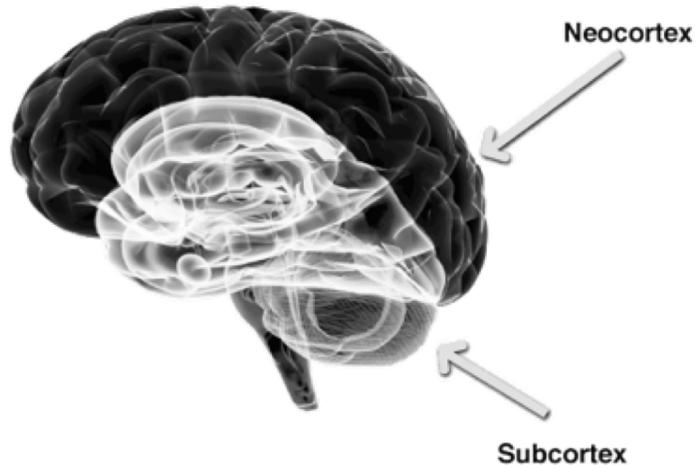


When implicit memories are triggered, they release the emotional states of past incidents and dysregulate the individual

The brain registers emotional dysregulation as a survival threat and initiates a fight, flight, or freeze response, which also includes dissociative behaviors

# Memory Reconsolidation

## Cortical and Subcortical Functions



- Traumatic memories and pleasurable using memories are stored subcortically; they cannot be shifted cortically
- They both release intense emotional experiences that initial survival response and override the neocortex

## The Process:

1

Activate the emotional memory

2

Introduce a different emotional model that contradicts the brain's original assumptions

3

Create experiences that erase or revise the existing implicit memory



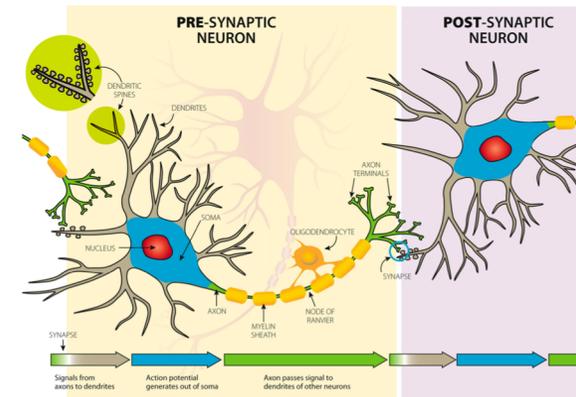
# Neuroplasticity:

The brain's ability to change continuously throughout one's lifetime

- The idea was first proposed by William James in, *The Principles of Psychology* in 1890

- Two types:

- 1) Functional -> The brain's ability to alter and adapt the communication between neurons
- 2) Structural -> The brain's ability to change its neuronal connections



- Neuroplasticity is not causal but reinforces addictive pathways
- Creating neuroplastic changes, both structural and functional, is key in recovery from addiction
- Cognitive interventions can generate neuroplastic changes, but they will not eradicate implicit memories; top-down interventions will only go so deep

# The Use of Experiential Therapies in Creating Memory Reconsolidation and Neuroplasticity

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- The necessity of activating a felt-sense in the body and tracking with focused attention (bottom-up processing) to clear implicit memories and generate neuroplastic changes
- Accessing alpha and theta brain wave states to unlock subcortical healing potential – we are hard-wired to self-correct
- Change is rapid and occurs at a somatic level
- Subcortical associations are unlinked and new learning can occur



# Research Backed Experiential Therapies:



1

**Accelerated  
Experiential Dynamic  
Psychotherapy (AEDP)**



2

**Eye Movement  
Desensitization Therapy  
(EMDR)**



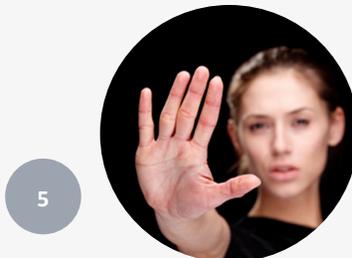
3

**Brainspotting**



4

**Somatic  
Experiencing (SE)**



5

**Sensorimotor  
Psychotherapy**



6

**Emotionally  
Focused Couple's  
Therapy (EFT)**



# 4 Subcortical Domains to Be Addressed:

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1

Disassociated  
thoughts, emotions,  
implicit memories,  
parts of self, behaviors

2

Pleasurable using  
memories and  
conditioned stimulus

3

Implicit imprinted  
attachment patterns

4

Survival needs  
neurologically fused with  
compulsive behaviors



# Disassociation, Integration, and Development

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- Dysregulated affect is registered by the brain as a survival threat
- When attachment is inaccessible, and fight or flight is not adaptive or an option, the brain will release endogenous opioids resulting in dissociation
- Anything that threatens attachment during development will be blocked or dissociated
- Integration of dissociated material and completion of emotional development
- Largest portion of the therapeutic work



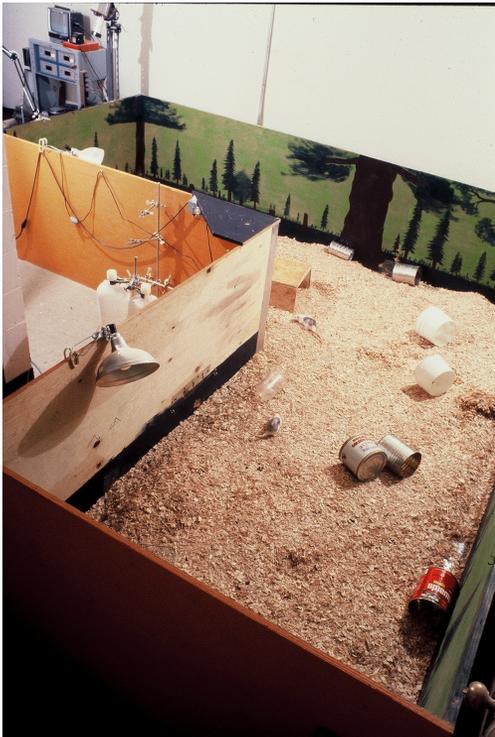
# Pleasurable Using Memories and Associative Cues

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- Dopamine is associated with learning as well as pleasure
- Evolution wired the brain to pay attention to anything that triggers high levels of dopamine; it has survival value
- Pleasurable using memories get stored implicitly as a felt sense in the body similar to trauma memories as an intense emotional experience
- Memories can be cued outside of conscious awareness
- Using memories are not linked to memories of negative consequences – euphoric recall with no downside
- Conditioned triggers – Neurons that fire together, wire together



# Attachment Styles



- Attachment styles are learned behaviors stored in implicit memory
- Attachment is survival-based and will override the prefrontal cortex
- Secure attachment is necessary to develop the ability to regulate affect and achieve memory reconsolidation, as well as overcome addictions (Rat city research project)
- Shifting insecure attachment styles can be expedited through clearing the original imprints stored in the implicit memory networks
- Individuals can now more easily develop secure patterns with others



# Survival needs fused with compulsive behaviors

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- Feeling-state protocol in EMDR developed by Robert Miller
- Core survival needs, such as safety, connection, belonging, aliveness, agency, etc. become linked neurologically with a substance, behavior, person when experiencing a high felt sense of the need for the first time
- EMDR and Brainspotting can break the associative link allowing new subcortical learning to take place
- This also leads to gaining access to the underlying emotional wound that created the vulnerability to the addictive behavior

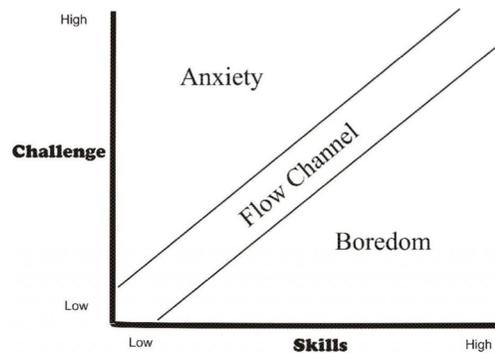
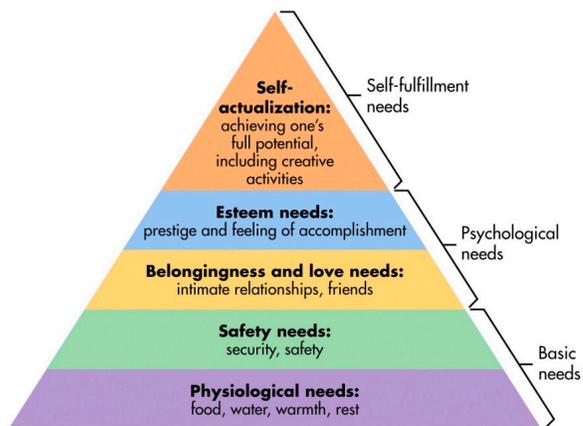


# Intrinsic Reward and Flow States

Pursuing intrinsic rewards versus external rewards – intrinsic reward + mastery + contribution = fulfillment

## Maslow's Peak Experiences

## Mihaly Csikszentmihalyi's Flow States



According to Csikszentmihalyi's research, the happiest and most fulfilled individuals are the one's who experience the most flow states

- The most pleasurable state the brain can produce: Dopamine & Norepinephrine (Cocaine), Endorphins (Opiates), Anandamide (Cannabis), Serotonin (MDMA)
- Flow unlocks your ultimate potential cognitively, physically, relationally, and spiritually
- Individuals who experience flow regularly have low rates of addictive behaviors



# Biochemical Balance

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- Most individuals have never been in balance neurochemically
- Neurotransmitter levels – Amino Acids
- Hormone levels
- Vitamin & Mineral Deficiencies
- Genetic Abnormalities
- Gut issues
- Environmental toxins



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# Q&A

For More Information  
Email me at [johnh@gatewaycounseling.com](mailto:johnh@gatewaycounseling.com)

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Thank you for your time

To learn more about Futures, visit: [www.futuresrecoveryhealthcare.com](http://www.futuresrecoveryhealthcare.com)



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# About Futures Recovery Healthcare

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## Comprehensive care for the complicated disease of addiction

Futures Recovery Healthcare is a Joint Commission-accredited provider treating addiction and co-occurring mental health disorders using an evidence-based, holistic approach that integrates somatic medicine, psychotherapies, physical therapy, and wellness services.

Our three residential programs for emotionally-mature adults include a comprehensive inpatient program, the Orenda executive program, and the Rebound activity-based program. All Futures programming emphasizes individualization, quality, compassion, continuing care, and alumni involvement.

*Futures is a proud member of Florida's behavioral healthcare community. We uphold the highest standards to improve patient outcomes and to help individuals, families, and referring professionals feel confident in our care. We strive to reduce the stigma surrounding addiction and its treatment by exemplifying the excellence, compassion, and innovation of Florida's exceptional caregivers.*



# About Futures Recovery Healthcare

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## Core Clinical Summary

### Conditions Treated

Futures treats substance use disorders, addiction, and co-occurring mental health disorders. The program acknowledges the highly nuanced and personalized experiences of these conditions and tailors approaches and care plans to each client's needs.

- Substance use disorder and addiction
- Traumatic experience
- Depression
- Anxiety disorders
- Non-acute personality and mood disorders
- Non-acute psychosis
- Eating disorders not requiring intensive care
- Physical pain and associated self-medication issues

### Therapeutic Approach & Modalities

Futures emphasizes therapeutic flexibility to make treatment more effective and comfortable for clients. Psychotherapy modalities utilized:

- CBT
- DBT
- Motivational Interviewing
- EMDR

Twelve-Step programming is optional and multiple groups including Alcoholics Anonymous, Celebrate Recovery program, Refuge Recovery program, and others are introduced.

Family education, counseling, support, and therapy are integrated into the program for patients living with family members or who wish to restore familial relationships.



# About Futures Recovery Healthcare

## Medical Leadership

### **Gloria Dunkin, MD**

Medical Director

- 15 years of addiction medicine experience and a member of:
- The Florida Psychiatric Society
- The American Medical Association
- The American Academy of Addiction Psychiatry
- American Society of Addiction Medicine

The Futures team provides clients with comprehensive specialized care including psychiatry, psychology, nursing, psychotherapy, physical therapy, physical fitness, nutrition, mindfulness and meditation, recovery coaching, and alumni programming.

## Licensure, Accreditation & Affiliations

- Accredited by The Joint Commission
- Primary sponsor of TPAS (Treatment Professionals in Alumni Services)
- NAATP members
- LegitScript-certified
- Licensed by the State of Florida as a medical facility

### **Here for You**

To reach a member of the Futures Recovery Healthcare team at any time, please call our referral line at (866) 549-8187.

