

## Neurobiology of Substance Use Disorder

INTEGRATED ADDICTION TREATMENT ADDRESSING THE COGNITIVE, SOMATIC, BEHAVIORAL, NEUROBIOLOGICAL AND SOCIOECONOMIC ROOT CAUSES OF ADDICTION

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### How Addiction Develops:

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Less than adequate nurturing in-utero	Neural Pathways Re-routed				
attachment 1 <sup>st</sup> year On-going chronic trauma through out childhood Acute traumatic experiences Environment modifies genetics	Orbito-frontal Loop Disconnect Deep Right Limbic System by-passed Amygdala over-sensitized Hippocampus compromised Implicit trauma memories created vs explicit memories	Lower Serotonin Levels Lower Dopamine Levels Too little or too much Norepinephrine High Cortisol Levels	Unrelenting Pain Dopamine-		
			Neurotransmitter imbalance can result in debilitating pain: Physical Psychological Emotional Self-medicating and chemical coping begin	driven Behaviors	
				Need of system to create homeostasis and balance creates dopamine seeking behaviors.	
				Under stress, these behaviors become obsessions and compulsions ADDICTION BEGINS	

## Early Childhood Trauma/SUD Progression

### In-Utero:

- Somatosensory Distress
- Neural path disconnect

#### 0-12 mos:

- "Sense of Self" can't develop
- Trauma/Stress memories can't release
- Fight/Flight/Freeze experience is the norm

### 1-3 yrs:

- Attachment patterns established:
  - Dominance, Dependence, Disordered
  - "Not Belonging" established
  - Superiority/Inferiority established
- No authentic sense of self
- Hard to make sense of experiences = trauma
- Non-verbal: Language learning and understanding

### Early Childhood:

- Verbal: language integrated into thought process
- No authentic sense of self
- Mask/Persona created
- Core beliefs, behaviors & emotions created by external experiences

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- "Trauma Cluster" begins to develop:
  - Depression
  - Anxiety
  - 0CD
  - PTSD
  - Suicidality

### Adolescence:

- Black & white thinking established
- Perfectionism
- Unrealistically high expectations
- Feelings of shame, guilt, humiliation and rejection
- Self-hatred, Self-loathing
- Sense of not belonging reinforced
- Trauma Cluster issues increase in intensity
- Beginning of chemical coping/self medicating
  - Occasional relief drinking/using
  - Increase in Tolerance
  - Increasing dependence
  - Guilt
  - Unable to discuss problems
  - Persistent remorse
  - Loss of other interests

### Young Adult:

- No "Sense of Self"
- No release of trauma memories
- Self-hatred, self-loathing
- Feelings of shame, guilt, humiliation and rejection
- Chronic stress/fight, flight, freeze
- Hopelessness
- Escape from unceasing, painful self-awareness becomes compelling:
  - Sleep
  - Cutting/self mutilation
  - Alcohol
  - Drugs
  - Eating disorder
  - Death
- Family and friends avoided
- Unreasonable resentments
- Drinking/using with chronic users
- Impaired thinking

### Adult:

- Obsessive drinking/using continues in vicious cycles
- Unable to initiate action
- Family, relationship, money and employment troubles
- Unbearable emotional, physical, psychological pain

## Early Childhood Trauma/SUD Recovery

### Consequences of Early Childhood Trauma:

- Co-occurring Mental Illness
- Trauma memories not released
- Chronic stress/fight, flight, freeze
- Black & white thinking
- Perfectionism
- Unrealistically high expectations
- Feelings of shame, guilt, humiliation and rejection
- Sense of not belonging reinforced
- Superiority/Inferiority established



- Diminished "Sense of Self" (don't know who they really are)
- Self-hatred, Self-loathing
- Attachment patterns established: Dominance, Dependence, Disordered
- "Trauma Cluster issues manifest



- Mask/Persona created
- Core beliefs, behaviors & emotions created by external experiences, not internalized learning/development
- Hopelessness
- "Trauma Cluster issues increase in intensity

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### Beginning of Chemical Coping/Self Medicating:

- Occasional relief drinking/using
- Increase in Tolerance
- Increasing dependence
- Guilt
- Unable to discuss problems
- Persistent remorse
- Loss of other interests
- Escape from unceasing, painful self-awareness becomes compelling:
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### Process of Recovery:

### Month 1

- Detox/MAT
- Assess co-occurring mental illness
- Assess medical issues
  - Assess chronic stress

### Months 1 - 3

- Calm the Body
- Create safe, trusting relationships: increase sense of belonging
- Increase body awareness
- Activate right brain
- "Sense of Self" Development
- Create Hope

### Months 3 - 12

- Attachment Patterns
- Core Beliefs
- Spiritual Self/Mindfulness/Detachment
- Emotions: Moment of Choice
- Building a Tribe (relationships)

### Year 2

- Superiority/inferiority
- Mask/Persona or Authenticity
- Blk & Wht Thinking or Rainbow Thinking
- Self Acceptance
- Shame

## Steps to Prepare Clients Neurobiologically



Create a Safe Relationship

Calm the Body





Activate the Right Brain

Integrate the Whole Brain and Whole Body



Reframe & Release, Validate & Support





## Techniques to Prepare Clients Neurobiologically

Limbic Resonance

Guided Relaxation Movement/Stretching Breathwork Tapping Acudetox

Rhythmic Stimulation Storytelling Writing Role-playing Experiential Exercises

Continuous Check-in with Somatosensory Experience

> Child Wild Woman Wise Woman



Create a Safe Relationship

Calm the Body



Activate the Right Brain

Integrate the Whole Brain and Whole Body



Reframe & Release, Validate & Support



## Areas to Focus on Using Therapeutic Interventions

Trust Nonjudgement

Body Awareness Easy Ways to Ground

Development of an Authentic Sense of Self

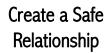
Trauma Memory Release Integrate All the Parts: Child Wild Woman Wise Woman

Reframe Past Memories Refine Sense of Self Develop Meaning and Purpose

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Calm the Body



Activate the Right Brain

Integrate the Whole Brain and Whole Body



Reframe & Release, Validate & Support



## The Effects of Neurotransmitter Imbalance are Chronic and Cumulative:

	Trauma	Genetics & Environment	Opioid Use	
In-utero	F/F/F constant state: Depression, anxiety, OCD, PTSD - severe	F/F/F sensitivity: Depression, anxiety, OCD, PTSD - probable	F/F/F reaction to danger Neurotransmitter balance	
0-12 mos	Low concentration ability,	Ability to concentrate and focus	High ability to concentrate and focus	
12-36 mos	Sense of Self under- developed	Sense of Self somewhat	Healthy Sense of Self	
3-10 yrs	Low trauma release: low	Some trauma release:	Healthy trauma release:	
10-19 yrs	resiliency Low confidence/self	some resiliency Low confidence/self	High resiliency Healthy confidence/self	
Adult	esteem	esteem	esteem	

Not all addiction is the same; treatment needs are based on amount & length of trauma-based neurotransmitter imbalance.

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## Recent Brain Science Enhances Psychotherapy

## Old Paradigm

- 1. An expert authority
- 2. Clients are patients with psychological disorders
- 3. A component approach
- 4. Focus on symptom reduction
- 5. Remove negativity
- 6. Medical way to treat mental health

## New Paradigm

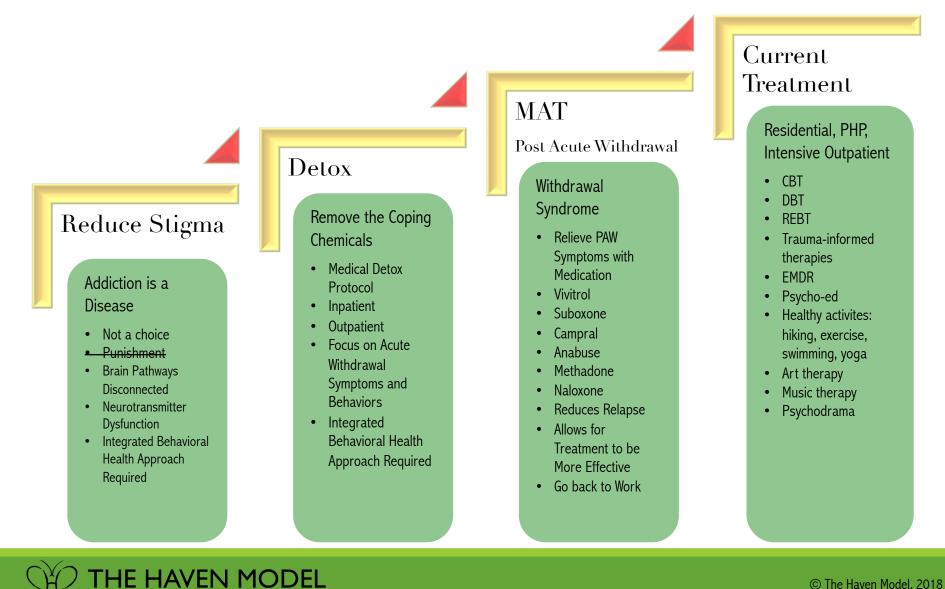
- 1. A wounded healer
- 2. Clients are worthy human beings
- 3. A holistic approach
- 4. Focuses on both healing & flourishing
- 5. Embraces negativity
- 6. Nature's way to mental health

## Operational Implementation of a Neurobiologically-based Program

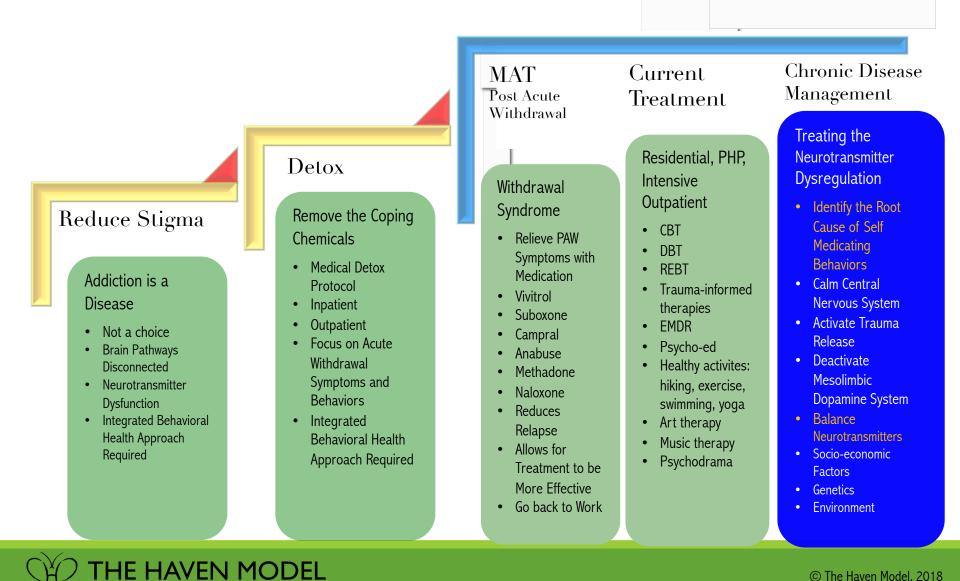
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### Current Substance Use Disorder/Addiction Treatment



### Medical Model for Substance Use **Disorder/Addiction Treatment**



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### Systems & Structure

#### Human Resources

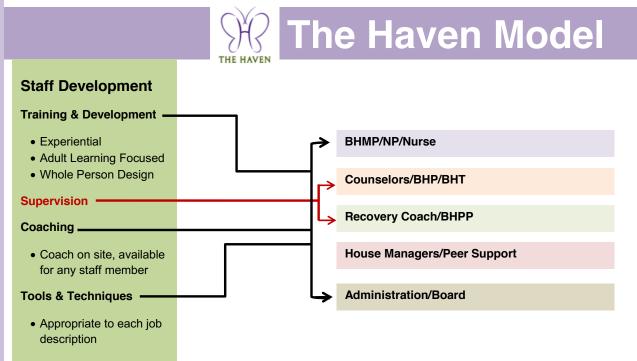
- Policies & Procedures
- Job Description

#### **Quality Management**

- Aggregate Outcome Measures
- Training Effectiveness
- Client Experience
- Clinician Experience
- Assessments

### Full Immersion Treatment

• Every Haven employee implements the Treatment Objectives as each objective applies to their job description



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### **Clinical Treatment Objectives**

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- 1. Create a Safe Relationship: Therapeutic presence, neurophysiological mechanisms mediating feeling safe in therapeutic relationships
- 2. Calm the Body: Activation of the parasympathetic nervous system to calm the amygdala-mediated autonomic pathway. Promote a continuation of the somatosensory process to a resolution by uncoupling the language-based overlay that interrupts its needed, logical progression to resolve historical distress.
- 3. Quiet the mind: Quiet the left-brain cognitive processing, in order to access non-verbal states.
- 4. Activate the Right Brain: Entrainment to allow access back to primary awareness encoding.
- 5. Integrate Whole Brain: Reframe implicit memory/Externalize and objectify trauma memories through narrative; encourage self-reflection of beliefs, intentions and values in order to "re-author" and "re-remember" the experience, trauma release
- 6. Integrate Mind & Body: Bring attention to somatosensory experience in the moment. Whole Person integration.
- 7. Validate & Support: Create a shift in self-image and a sense of belonging. Encourage and practice non-dualistic thinking in the context of the individual's emotional experiences providing integration of their internal belief system with memories, both implicit and explicit

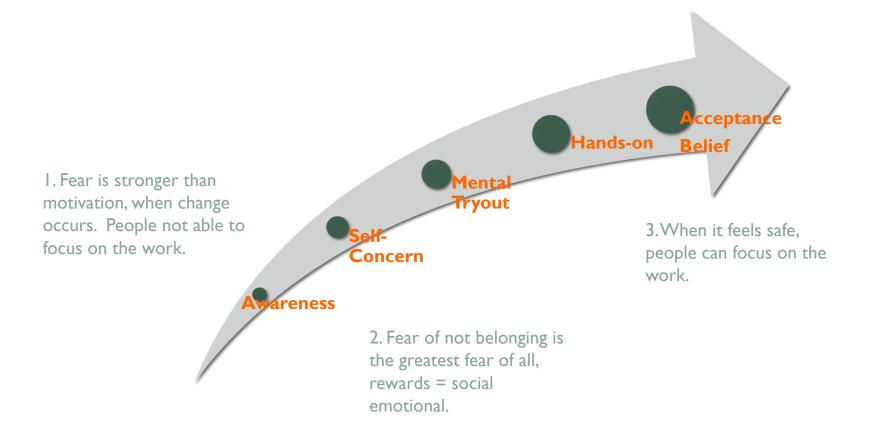
## Full Immersion Treatment

Clinical Objectives	Medical: BHMP	Nursing	House Managers	Counselors, BHT, BHP	Recovery Coach/BHPP
Reduce anxiety	Medication, MAT, acupuncture, OTC remedies, timely meds, Treat Trauma Cluster	Talk about anxiety & how to relax, document symptoms, timely meds, document efficacy of BHMP's interventions	Observe & document behaviors and symptoms, offer distractions, music, aromatherapy, calming tea	Somatic therapies, problem identification added to treatment plan, DBT, document efficacy of BHMP's interventions, trauma release	Full body relaxation daily, stress reduction groups, guided meditation, assist with problem resolution
Increase individual's ability for personal insight	Reduce racing thoughts Cognitive clarity, psychosis	Role model self- insight and accountability, timely meds	Redirect inappropriate or negative discussions in the milieu, role model accountability	CBT, REBT, DBT, Storytelling, acudetox, trauma release, psychodrama, expressive therapies	Accountability group, role modeling, identify defensive behaviors, acknowledge progress, grounding
Connect Thoughts, Feelings & Behaviors	Address unhealthy sleep patterns Assess regularly	Observe, Document, Assess regularly, discuss observations with BHMP	Question: What were you thinking when you just did that? Document answer	CBT, DBT, REBT, narrative therapy, trauma release, address survival resources,	6x6 group, visualization boards, art therapy, guided visualization, identify creative resources

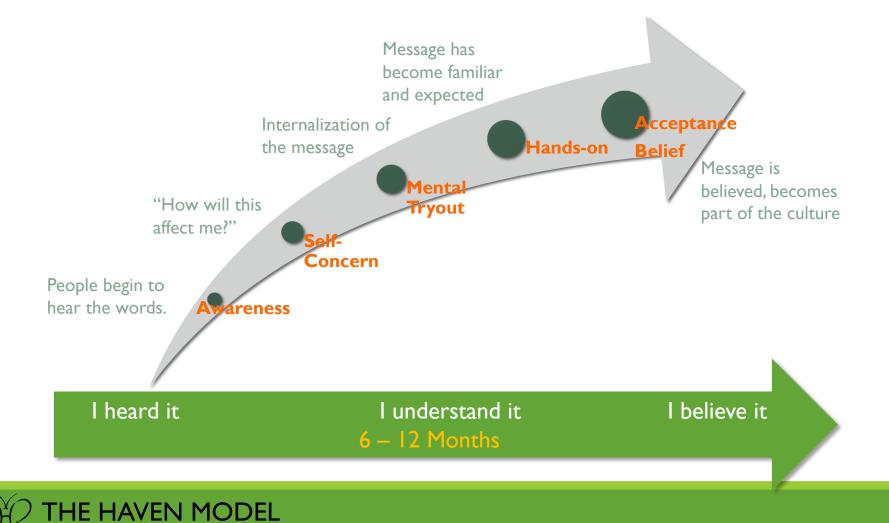
- Work/Life Balance
- Continual Growth of Professional Skills and Approaches
- Fill Your Cup
- Personal Beliefs About SUD
- Examine Your Own Story

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# Neuroleadership: Using How the Brain Works to Create Lasting Change



# Neuroleadership: Using How the Brain Works to Create Lasting Communication



## Creating a Culture of Recovery With Respect

- Respect and Compassion Starts with Yourself
- Our Neurobiological Treatment Approach Addresses the Root Causes of Addiction
- Adverse Childhood Experiences (ACE)
- Resilience: The Ability to Adjust to Misfortune
- Personal Adaptation: Can Manifest as SUD



## What is Compassion?

If you want others to be happy, practice compassion. If you want to be happy, practice compassion.

Dalai Lama



Wisdom, compassion, and courage are the three universally recognized moral qualities of men

Love and compassion are necessities not luxuries. Without them humanity carinot survive.

## **Recovery with Respect**



## Delivering Integrated Trauma-Informed Care



Vicarious trauma changes the brain. These changes can make everyday life unbearable. The pain of merely existing affects people:

- Physically
- Emotionally
- Psychologically
- Spiritually

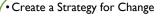
Over time, the person can't even tell where the pain is coming from, it's all one exhausting experience every day and night.

# Highly Engaged Employees Outperform Their Peers by:

17% in higher productivity 19.2% increase in operating income earned 21% greater profitability Profits grow 3 times faster than competitors 147% higher in earnings per share 24% to 59% lower turnover (employee churn costs can easily be 200%) 41% less absenteeism 70% fewer safety incidents

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## Overview of Change Management Strategy



- Organizational Assessments
- Create Communication Strategy
- Develop Vision & Mission
- Influential Leadership Visible
- Relationship Building approach

### Strategy

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### Implementation

- Full Immersion Training & Development
- Encouraging & Supporting External Professional Development
- \$2500 Budget for Each Employee
- Providing New Curriculum Manual, Videos, and Audio
- Monitor Training & Development Outcomes
- Service Delivery Outcomes
- Overall Program Measures and Outcomes

### • Leadership Development: Communication and Relationship Building

- Align Business Strategy with the New Culture
- On-going Training & Development
- Continued Quality Measurements and Performance Improvement

### Maintenance