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RECOVERY

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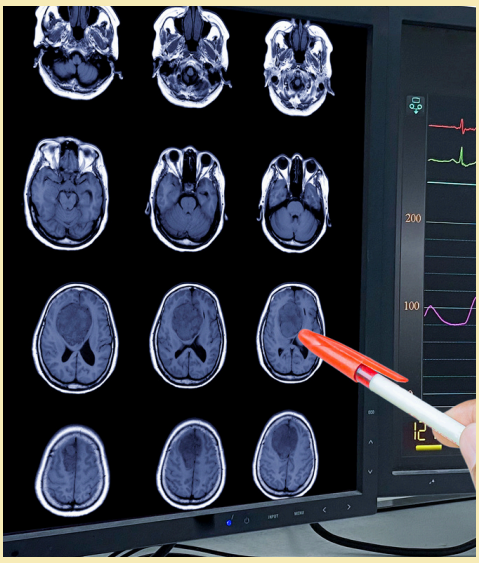

THE SCIENCE OF RECOVERY

by Founder and Chief Medical Officer Dr. Ernie Fletcher

Early thinkers wondered about the brain, but did not fully understand it. Though the microscopic structure of biological cells and tissues was studied as early as 1665, it was another 200 years before better instruments provided definitive visual evidence. Thanks to new tools like advanced imaging and genetic mapping, we can today see with our own eyes how the brain grows and reshapes itself over time.

As Fletcher Group Chief Operating Officer Amy Jeppesen explained in our most recent monthly webinar, substance use has been a particularly fruitful subject of neurobiology. The ability to witness the brain's reaction to substance use has not only shifted our understanding of addiction from a behavioral flaw to a measurable brain disorder. It's also enabled us to understand, predict, and assist each step in the healing process.

Science cannot dictate fundamental moral values, but an evidence-based understanding of how the brain really works—as opposed to moralizing, condemning, or stigmatizing—increases by the day, and with it the hope that compassion, empathy, and understanding will win the day.

CONDITION, NOT CHARACTER

We know that addiction is a neurobiological condition rather than a character failure, says Fletcher Group COO Amy Jeppesen, because behaviors observed in recovery—such as impulsivity, mood swings, and memory issues—are driven by observable biological changes in the brain's reward, stress, and executive control systems as well as the brain's ability to learn and remember.

The Reward System
"People never want to get addicted and never think they will," says Jeppesen. "They also think they can stop anytime they want. But with repeated use the brain changes. Normal daily activities no longer bring joy and substance use is needed just to reach a baseline feeling of comfort. "People move from, 'I want to use because I really like the feeling of it,'" says Jeppesen, "to, 'I need to use because I don't feel normal without it'."

The Stress System
Another challenging effect is hyperactivity of the extended amygdala, the part of the brain that perceives danger. Imagined threats create constant anxiety as high levels of the stress hormone cortisol focus the brain solely on immediate relief at the expense of other concerns such as long-term goals and relationships. "This is when the automatic survival mechanism called 'Fight, Flight, or Freeze' takes over" says Jeppesen. "The fight response shows up as up as anger, tension, or defensiveness. Flight takes the form of escape or self-isolation. And freeze is when the body shuts down and becomes numb and immobile."

Executive Control
Substance use also dulls or even completely blocks a person's access to the prefrontal cortex, the part of the brain that oversees impulse control, the weighing of risk versus benefit, and the making of rational decisions.

Learning and Memory
Because substance use often occurs when stress and dopamine levels are elevated, memories of people, places, and things while high tend to be stronger, more vivid, and more pleasurable. Such memories can contribute to an automatic response that promotes reuse and that remains, even years later, powerful enough to trigger cravings.

WATCH THE VIDEO
of our August 6 Webinar presented by Fletcher Group Chief Operating Officer Amy Jeppesen

CLICK HERE

A Better Understanding
"If you've worked in a recovery home, you've seen all kinds of behavior," says Jeppesen. "The important thing to know is that it's not coming from a conscious decision to be defiant or uncooperative. It's actually because of neurobiological changes in the brain caused by substance use—changes people really have no control over.

"My own experience has taught me to think of such behavior as simply the brain trying to heal. That approach can lead to a calmer, more thoughtful response that can make a real difference in their recovery."

A PREDICTABLE PATH

According to Jeppesen, brain healing follows a 12- to 18-month timeline as the nervous system recalibrates its chemical production and repairs its neural connections. The timeline is comprised of four distinct and predictable phases:

Phase 1: Acute Withdrawal (1 to 4 weeks)
In this initial phase, the brain stops receiving the external chemicals it has come to rely on, but has not yet resumed producing its own dopamine. Dopamine levels drop significantly (to 25 to 35 percent of normal) while the stress hormone cortisol spikes, keeping the brain's stress system hyper-activated. As a result, residents often experience cognitive fog, insomnia, and emotional volatility. The brain is also in "threat mode," leading to involuntary fight, flight, or freeze responses, such as being argumentative, self-isolating, or appearing numb and unmotivated.

Phase 2: The Pink Cloud (4 to 6 weeks)
The brain now overcorrects for the previous chemical deficit by producing too much dopamine (up to 140 percent of normal levels) while cortisol levels drop. As a result, residents experience euphoria and become extremely optimistic. Some may even feel and say that they are "cured." Overconfidence can unfortunately lead them to underestimate the challenge and unwittingly expose themselves to high-risk environments, decreased vigilance, and reuse.

Phase 3: The Crash (6 weeks to 5 or 6 months)
Now aware that it has produced too much dopamine, the brain shuts down, causing dopamine levels to crash to 45 percent below the normal baseline even as cortisol spikes up again to 140 percent of normal levels. As a result, residents experience anhedonia—a low-grade depression caused by the inability to feel pleasure combined with significant brain fog. This is the highest-risk period for reuse because the brain lacks natural reward signals and is highly sensitive to stress and shame. (Another common term for this phase is the acronym PAWS which stands for Post-Acute Withdrawal Syndrome.)

Phase 4: Early Stabilization (6 to 18 months)
In this final phase, the brain transitions from survival mode back to a more normal and healthy condition. The prefrontal cortex—the part of the brain responsible for rational decision-making and impulse control—is the slowest system to recover. As it comes back "online," natural cortisol production begins to diminish. As a result, residents become less frustrated, more consistent in their behavior, and better at solving problems. Providers can now begin what some call "scaffolding," the gradual reduction of the external guardrails that were essential in phase one. (Note: Many clinicians prefer the term "regulation" or "self-regulation" when referring to the stabilization that occurs in this phase of recovery.)

"The time needed for each phase will of course depend on the person and how heavy their substance use has been," says Jeppesen. "But the overriding good news is that the human brain can heal and that there's a lot we can do to help it happen."

YOU ARE THE DIFFERENCE

"Regulation" is a term often used by clinicians to refer to the neurobiological state where the brain's various systems—particularly the reward and stress systems—return to a balanced, coordinated, and functional baseline, thereby enabling people in recovery to make safe, reasoned decisions rather than reacting purely to perceived threats.

The Physical Environment
Healing the brain is virtually impossible without a safe, quiet, and predictable environment. Effective recovery housing fills the bill by providing a physical environment in which the brain's threat response is calmed and nervous systems are stabilized. "The brain doesn't heal at the treatment facility," says Jeppesen. "It heals in quiet, calm, peaceful places where expectations are clearly set and understood."

The Human Environment
"The dysregulated nervous system cannot regulate itself alone," says Jeppesen. In what's called co-regulation, staff and residents work together to regulate themselves. "A calm, steady tone of voice, slow breathing, and being as calm and relaxed as possible can do wonders," says Jeppesen. Instead of interrogating a resident with "why" questions that can sound threatening and trigger a fight-or-flight response, it's better to say, "Help me understand." Other no-no's include raising your voice, shaming, or leaving people alone in their room for long periods of time. "Simply sitting down near a resident and breathing slowly with them without trying to fix anything can really make a difference," says Jeppesen. "It's also important to validate what they're feeling by saying, for example, 'You know what? Your nervous system is on high alert right now. But don't worry. This is going to pass. It's going to be okay. Just stick with me for a while.'"

Structure and Its Relaxation
Consistent routines are critical in helping deactivate a resident's hyper-activated nervous system, but they shouldn't be carved in stone. "When people first arrive it's very important to have a strong protective structure in place," says Jeppsen. "But, as time goes on and the brain heals, it's equally important to relax some of that structure so they can test and restore their own ability to make rational decisions."

Grounding Exercises
Providers can also promote healing with specific calming techniques. In an exercise called "5-4-3-2-1" that used to stop "shame looping," people are asked to name five things seen, four things felt, three things heard, two things smelled, and one thing tasted.

An exercise called "Box Breathing" helps regulate the vagus nerve and activates the parasympathetic nervous system by having participants take breaths to a count of four.

And the "HALT Check" exercise helps residents identify when they are Hungry, Angry, Lonely, or Tired. It's useful because those sensations can mimic the feelings and urges that can lead to reuse."

In It Together
"The key thing is to stay regulated yourself," says Jeppesen, "because it helps residents co-regulate along with you." Co-regulation also puts you more directly in their shoes. That deeper understanding can reduce your stress and theirs while helping you respond as effectively as possible to each situation and behavior.

"The neurobiology is complex," says Jepessen, "but your job is simple: Create safety, build relationships, and stay consistent. You are the difference!"

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