WHY IS MY BRAIN STRESSED? #Addiction #NervousSystemHealing #psychology Transcript

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Why Relapse Happens

I bet you've thought about, maybe wondered why some people relapse when they genuinely do not want to. Why does someone with, say, six months of sobriety, a sponsor with therapy, medications that are appropriate, family support, and every reason in the world to stay sober, why do they suddenly, often out of the blue, return to using?

many clinicians still frame relapse as a motivation problem. Patients sometimes still describe it as character flaw. The neuroscience shows something totally different.

Today, I want to explore what modern addiction science tells us about relapses, why the brain often makes the decision even before conscious awareness catches up, and how understanding these mechanisms can dramatically shift the way we treat and think about substance use disorders.

I'm Dr. Arwen Podesta, functional and integrative psychiatrist, triple-boarded in psychiatry, in addiction medicine, and in forensic psychiaty. After treating many thousands of patients with substance-use disorders, I've become convinced of one thing, while many things, but this about relapse.

Relapse is rarely a failure of knowledge.

Addiction as a Chronic Brain Disease

Much more often, it's a fail of regulation And understanding that distinction really changes everything, changes the way we think about it and the ways we treat folks going through it.

One of the many important developments in addiction medicine over the past four decades is the recognition that addiction is fundamentally a chronic brain disease that involves reward, motivation, memory, executive control circuitry.

You know, patients often tell me, Doc, I knew exactly where I was going. I know exactly what would happen if I used. And I believe them. The problem wasn't knowledge.

It was the neurobiological system that is responsible for survival, for habit, stress response, and reward that temporarily was overpowering the systems responsible, the thinking part of the brain, that planning and restraint part Tons of research, including from the National Institute on Drug Abuse, has repeatedly demonstrated that chronic substance use produces measurable changes in all parts of the brain responsible, prefrontal cortex, the amygdala, hippocampus, nucleus accumbens, and the stress response systems of brain.

These aren't theoretical changes, they're actually visible on functional imaging studies. And that helps explain why relapse remains common even among highly motivated patients.

Research suggests that between 40 and 60 percent of individuals with substance use disorders will experience relapse some point in their lives. You see it.

Numbers remarkably similar to other chronic illnesses like diabetes, like hypertension and asthma. Yet relapsed and addiction continues to carry a super huge amount of stigma.

Cue-Induced Craving and Learned Relief

So I want to dive in and talk about what the brain is actually doing. The brain remembers relief, and one of the

biggest misconceptions about addiction is that substance creates pleasure.

Initially, yes, substances tend to cause a pleasurable feeling, but over time, sometimes quickly, they become associated with just balance with relief or just really lack of withdrawal, or sometimes numbing out.

Well, the brain stores that relief. Let me tell you about a patient of mine. He described walking past a certain bar about six months into his recovery.

he wasn't thinking about drinking, but he saw the bar, space, and boom, a cue-induced craving occurred. And then he went in. He later told me, I felt like my body had already decided.

Yeah, you bet. People, places and things, they can all do that. Neuroscientifically, that's the truth. There's insula, which is a brain region involved in interoception and bodily awareness that connects internal states with memories of prior relief.

You know, functional imaging studies show activation of the insula during craving states. All right, and the hippocampus, you've heard it before, that is a memory storage area.

The amygdala assigns emotional significance and together, they create what addiction researchers call a conditioned cue response. If the brain learns, when I feel this, That helped.

And this is the essence of salience. the trigger can be a smell, a location, A relationship, a memory, people, places, and things. And the craving isn't irrational.

It is actually learned survival coding. One real deal is that stress systems remain overactive during stress and during relapse. Many patients assume withdrawal ends when detox ends.

Clinically, we know that is not true. Okay, the hypothalamic pituitary axis, HPA axis often remains dysregulated for months.

Stress, Trauma, and Emotional Memory

Stress hormones remain elevated and stress tolerance remains reduced. This helps explain why early recovery can feel emotionally exhausting. Minor stressors producing major reactions, small frustrations feeling overwhelmed.

a disagreement with a spouse, a difficult work day, financial problem, any sort of stressor, even a good or a bad stressors. It's just that the stress response is over amplified in early recovery.

So researchers describe addiction as a disorder of reward and stress. Over time, the brain becomes less responsive to normal rewards and more responsive stress, And that combination creates a powerful vulnerability to relapse when patients tell us i don't know what i use i i dont know why i used nothing even happened while something usually happened settle.

Their stress system simply interpreted it as a lot larger than objectively it may have been. This is one of the many reasons that I really want to influence trauma-informed care.

It's so important in addiction treatment because trauma sensitizes the stress response and substance use often becomes an attempt to regulate that stress All right, we know that emotional memory is in there and it often overrides logic.

This is where this is all happening in the limbic system, that emotion part of the brain. Patients often understand recovery intellectually, the thinking part, of brain, and the problem, however, is that relapse frequently occurs when intellectual processing is not in charge.

Under significant stress, activity in the amygdala increases while prefrontal cortical activity decreases. Emotion gets

stronger and louder, whereas logic gets quieter.

And I hear this all the time. Patient relapses after a breakup. When we explored the event, they weren't even craving, or there wasn't really any issue going on except for The feeling of abandonment, I felt like I was drowning, he would say.

The substance wasn't the goal, but escape was the go. This is why attachment wounds matter. Many patients with substance disorders have history of childhood trauma, of neglect, emotional abandon, and inconsistent caregiving.

Dopamine Prediction and Trigger Loops

Not everybody, but some. And when modern experiences reactivate those older emotional networks or wounds, the brain reaches for that familiar coping strategy.

The underlying process often began much earlier than the relapse. A useful clinical question would be, what happened emotionally before the craving started?

And the answer is often more important than a substance itself. Here's something many clinicians underestimate. We talk about dopamine a lot, but dopamine is not actually the primary pleasure chemical.

It's so smart to view it as a prediction chemical, not a reward only. The brain starts releasing dopamine before the reward arrives, actually. Researchers call this reward prediction.

And over time, environmental cues become powerful triggers. passing by that gas station, that old neighborhood, the friend who used to use with them, people, places and things.

And the brain begins to anticipate reward before conscious choices occur. The glutamate pathway, which connects the prefrontal cortex, amygdala and nucleus accumbens, is highly efficient at driving these learned patterns and responses.

Patients tell me, you know, I wasn't even planning on using. And that's so often true. The predictive circuitry has already activated itself. That's why relapse prevention must include trigger management.

Patience are not simply avoiding temptation. They're disrupting learned neural pathways. Useful interaction is helping patients map the sequence, the trigger, emotion, thought, behavior, reward.

Once this is visible the loop becomes interruptible. This is actually a form of cognitive behavioral treatment, cognitive behavior therapy and the most studied type of therapy in addiction.

Executive Function Goes Offline

Lots of other stuff works, but this planning changing and cognition is a key. All right. When the prefrontal cortex, the CEO of the brain, when that goes offline, that's where things get hectic.

The pre-front cortex planning, impulse control, decision-making, delayed gratification, risk assessment. But unfortunately, stress actually suppresses that.

Sleep deprivation suppress it. Trauma. suppresses it. Substance use suppress it and even after substance cessation recovery of executive functioning can take months.

Studies demonstrate measurable improvements in executive function throughout the first year of recovery. And this is why insight alone is not enough. Patients frequently know exactly what they should do, what think they do.

But knowledge isn't always accessible when the brain enters survival mode. One patient described it to me perfectly. The smart part of my brain just was not there.

It was offline. And from a neuroscience perspective, that is super accurate. Alright, so what helps? What do we do from individuals going through it to clinicians and loved ones?

I think the most important thing is to stop framing relapse as failure. Frame it as data. A clinician or a loved one or an individual can ask what was the brain trying to solve in this moment?

What did the relapse mean? Then we've got to regulate the body before trying reason with the Brain.

Regulation, Connection, and Treatment

Evidence supported interventions are things that jolt the nervous system like diaphragmatic breathing, exercise, mindfulness training, biofeedback, neurofeed back, even cold plunges because that can snap the using ice on the neck sleep restoration for sure and then we really want to go back to what I said just a moment ago cognitive behavioral type of methodologies identify the trigger emotion thought behavior and consequence and one thing I cannot not ignore is strengthening connection We've got to have connection because most of the time relapses occur in isolation, even if it's not physical isolation.

Recovery is rarely a solo neurobiological event. We often say the opposite of addiction is connection, right? Humans regulate best in relationships. Finally, remember medications actually matter.

Buprenorphine, methadone, naltrexone and campersate and other evidence-based treatments that are FDA approved. and also off-label and lots of non-pharmacological stuff that I talk about because they directly influence the biology of all those different parts of the brain we talked about.

All right, so let's wrap up and make some sense of this stuff. The biggest mistake I see is asking why did you relapse or how much? as if that's the simple answer.

A better question really is what was happening in your brain, in you body, and in the environment before that relapse occurred. That question leads to learning and learning leads recovery.

Relapse is absolutely not proof that treatment failed or that the individual failed. More often, it reveals where additional healing regulation, connection, and support is actually needed.

If this resonates with you, check out some of my other videos tackling things equally important. I'm Dr. Arwen Podesta. Thanks for watching and let's keep building better outcomes together.