

# Addiction a brain disorder, not just bad behavior

August 16 2011, By LAURAN NEERGAARD , AP Medical Writer

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Addiction isn't just about willpower. It's a chronic brain disease, says a new definition aimed at helping families and their doctors better understand the challenges of treating it.

"Addiction is about a lot more than people behaving badly," says Dr. Michael M. Miller of the American Society for Addiction Medicine.

That's true whether it involves drugs and alcohol or gambling and compulsive eating, the doctors group said Monday. And like other [chronic conditions](#) such as heart disease or diabetes, treating addiction and preventing [relapse](#) is a long-term endeavor, the specialists concluded.

Addiction generally is described by its behavioral symptoms - the highs, the [cravings](#), and the things people will do to achieve one and avoid the other. The new definition doesn't disagree with the standard guide for diagnosis based on those symptoms.

But two decades of neuroscience have uncovered how addiction hijacks different [parts of the brain](#), to explain what prompts those behaviors and why they can be so hard to overcome. The society's policy statement, published on its website, isn't a new direction as much as part of an effort to translate those findings to [primary care](#) doctors and the general public.

"The behavioral problem is a result of [brain dysfunction](#)," agrees Dr.

Nora Volkow, director of the National Institute on Drug Abuse.

She welcomed the statement as a way to help her own agency's work to spur more primary care physicians to screen their patients for signs of addiction. NIDA estimates that 23 million Americans need treatment for substance abuse but only about 2 million get that help. Trying to add compassion to the [brain](#) findings, NIDA even has made readings from Eugene O'Neill's "Long Day's Journey into Night" a part of meetings where primary care doctors learn about addiction.

Then there's the frustration of relapses, which doctors and families alike need to know are common for a chronic disease, Volkow says.

"You have family members that say, 'OK, you've been to a detox program, how come you're taking drugs?'" she says. "The pathology in the brain persists for years after you've stopped taking the drug."

Just what does happen in the brain? It's a complex interplay of emotional, cognitive and behavioral networks.

Genetics plays a role, meaning some people are more vulnerable to an addiction if they, say, experiment with drugs as a teenager or wind up on potent prescription painkillers after an injury.

Age does, too. The frontal cortex helps put the brakes on unhealthy behaviors, Volkow explains. It's where the brain's reasoning side connects to emotion-related areas. It's among the last neural regions to mature, one reason that it's harder for a teenager to withstand peer pressure to experiment with drugs.

Even if you're not biologically vulnerable to begin with, perhaps you try alcohol or drugs to cope with a stressful or painful environment, Volkow says. Whatever the reason, the brain's reward system can change as a

chemical named dopamine conditions it to rituals and routines that are linked to getting something you've found pleasurable, whether it's a pack of cigarettes or a few drinks or even overeating. When someone's truly addicted, that warped system keeps them going back even after the brain gets so used to the high that it's no longer pleasurable.

Make no mistake: Patients still must choose to fight back and treat an addiction, stresses Miller, medical director of the Herrington Recovery Center at Rogers Memorial Hospital in Oconomowoc, Wis.

But understanding some of the brain reactions at the root of the problem will "hopefully reduce some of the shame about some of these issues, hopefully reduce stigma," he says.

And while most of the neuroscience centers on drug and alcohol [addiction](#), the society notes that it's possible to become addicted to gambling, sex or food although there's no good data on how often that happens. It's time for better study to find out, Miller says.

Meanwhile, Volkow says intriguing research is under way to use those brain findings to develop better treatments - not just to temporarily block an addict's high but to strengthen the underlying brain circuitry to fend off relapse.

Topping Miller's wish list: Learning why some people find recovery easier and faster than others, and "what does brain healing look like."

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Citation: Addiction a brain disorder, not just bad behavior (2011, August 16) retrieved 27 April 2024 from <https://medicalxpress.com/news/2011-08-addiction-brain-disorder-bad-behavior.html>

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