

ON THE BRAIN

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Addiction and the Brain



The American Society of Addiction Medicine defines addiction as “a primary, chronic disease of brain reward, motivation, memory, and related circuitry.” With the recent rise in opioid abuse and overdose, which has quickly become a national health epidemic, scientists are focused increasingly on understanding the science behind addiction and its effect on the brain, in hopes of finding new ways to treat and ultimately prevent the disease from occurring.

Kerry J. Ressler, MD '97, PhD '97, chief scientific officer at McLean Hospital and professor of psychiatry at Harvard Medical School, is pursuing groundbreaking research aimed at unraveling the intersections between childhood traumatization and substance use disorders, and their joint associations with post-traumatic stress disorder (PTSD) outcomes. [Read more »](#)

Faculty First Person



A conversation with Clifford Woolf, MD, PhD, and Bruce Palmer Bean, PhD

Pain is an experience that is part of our daily life and critical to our survival and protection. However, acute pain following injury and surgery remains a critical issue in hospitals and in the field. Opiate therapies are effective for acute pain, but they can be habit-forming and lead to addiction and overdose. In fact, the Center for Disease Control and Prevention reports that nearly half of all people that die from opioid overdose in the US have received a prescription for pain relief. [Read more »](#)

In the News

A Better Carrier

Using a novel form of gene therapy, scientists have managed to restore partial hearing and balance in mice born with a genetic condition that affects both. [Read more »](#)

Sleep Regulator

Scientists have uncovered an immune-based sleep regulator in the brain triggered by sleep deprivation and infection. [Read more »](#)

Spotting Speedy Brain Activity

Using ultra-fast MRI scans, a research team was able to track rapid oscillations in brain activity that previously would have gone undetected. [Read more »](#)