

# Solitary confinement puts brains at risk

4 November 2018

Some 80,000 Americans are incarcerated in solitary confinement on any given day, a practice that has been deemed cruel and unusual punishment by the United Nations Committee on Torture. Those in solitary confinement typically have no physical contact and little interaction with others. This extreme isolation can be damaging and may cause or worsen depression, anxiety, and other mental illness. A roundtable of scientists, a physician, a lawyer, and an individual held in solitary for 29 years will explore the psychological and neurobiological burdens of solitary confinement at Neuroscience 2018, the annual meeting of the Society for Neuroscience.

Social isolation has been shown to heighten stress hormone responses and change structures within the brain. It may also lead to [post-traumatic stress disorder](#). While solitary [confinement](#) is an extreme example affecting a relatively small portion of the population, [social isolation](#) and persistent loneliness are a growing problem in the United States. As the population ages, so does the number of individuals living in nursing homes, where isolation and loneliness are common. Social isolation and loneliness are associated with depression, hostility, heightened stress response, sleep fragmentation, and increased mortality.

The Social Issues Roundtable will include personal experiences with extreme social isolation, the legal and social movements against solitary confinement, and scientific discoveries on the physiological and psychological effects of social isolation in humans and other animals.

Speakers at the roundtable will discuss:

- A first-hand experience of 29 years of solitary confinement (Robert King).
- Brain health and the evolutionary theory of loneliness (Stephanie Cacioppo).
- How stress alters the brain chemistry and behavior (Huda Akil).
- How motor and sensory regions of the mouse brain shrink after months of isolation

(Richard Smeyne).

- The use of neuroscience to fight solitary confinement in court and in print (Jules Lobel).

"The social and ethical questions raised by this roundtable discussion warrant broad public attention," said moderator Michael Zigmond, Ph.D., a neurologist at the University of Pittsburgh who studies neurodegeneration and the effects of socialization and environmental enrichment on [brain](#) adaptability and health. "Socialization and environmental novelty are key to protecting [brain health](#). The potential for harm caused by [isolation](#) due to incarceration or due to aging or disability is significant and the issues raised today are relevant to the entire population."

**More information:** [www.brainfacts.org/](http://www.brainfacts.org/)

Provided by Society for Neuroscience

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