

Research shows behavior greatly impacts recovery from brain injury, addiction and other conditions

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New research is providing a deeper understanding of how individual actions -- such as exercising, sensory stimulation, or drinking -- influence brain health and outcomes. This new knowledge could ultimately lead to interventions in age-related cognitive declines, drug abuse, stroke, and brain injury, separate from or in combination with traditional pharmacological approaches.

These findings were presented at Neuroscience 2010, the annual meeting of the Society for Neuroscience and the world's largest source of emerging news on brain science and health.

Specifically, today's new findings show that:

- Mild sensory stimulation within the first two hours of stroke may be a life-saving intervention before patients reach emergency rooms. Research showed whisker stimulation in rats protected against [brain damage](#) and restored function (Ron Frostig, PhD, abstract 14.10, see attached summary).
- Musical training may help mitigate age-related hearing loss, suggesting that the old adage "use it or lose it" applies to hearing (Benjamin Zendel, abstract 481.14, see attached summary).

- [Aerobic exercise](#) lessens excessive cocaine use in rats. The findings suggest physical activity may be helpful in treating or preventing [drug addiction](#) (Mark A. Smith, PhD, abstract 574.12, see attached summary).
- Being physically fit prior to injury alleviated effects of [traumatic brain injury](#) in mice. This finding builds on existing research showing [physical exercise](#) after injury improves cognitive function (Jerome Badaut, PhD, abstract 356.7, see attached summary).

Other recent findings discussed show that:

- Behavior and lifestyle interventions can improve brain health and function, and may be effective in slowing or preventing age-related diseases. Both human and animal studies support the effectiveness of physical activity, cognitive training, and other lifestyle changes to benefit brain health, learning, and memory (Carl Cotman, PhD, see attached speaker's summary).

"Evidence indicates that our actions have broader and more complex ties to brain function and health than previously thought," said press conference moderator Carol A. Barnes, PhD, of the Evelyn F. McKnight Brain Institute of the University of Arizona, an expert on the aging brain. "We are learning a great deal about the brain, and today can fully appreciate our own role in keeping it healthy."

More information: [www.sfn.org/am2010/press/OmniP ...s/data/press/008.pdf](http://www.sfn.org/am2010/press/OmniP...s/data/press/008.pdf)

Provided by Society for Neuroscience

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