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Prolonged Use of Ritalin May Change Brain

THURSDAY, Dec. 18 (HealthDayNews) -- Misuse of Ritalin (news - web sites) may have possible long-term effects on the brain and behavior, claim three animal studies in the December issue of *Biological Psychiatry*.

Ritalin is the recommended treatment for attention-deficit hyperactivity disorder (ADHD). Numerous previous studies have shown it's safe and effective when used as prescribed.

But these three studies found Ritalin caused changes in the brains of adolescent and pre-adolescent animals that persisted into adulthood. If the findings are applicable to humans, they could offer important information about young people who use Ritalin and similar stimulants as recreational drugs.

The first study found low doses of Ritalin caused changes in rat brain cells that made them more sensitive to the rewarding effects of cocaine. The second study found exposing pre-adolescent rats to Ritalin actually decreased sensitivity to cocaine reward when the rats reached adulthood, but increased other behaviors that could indicate depression.

The third study found adult rats chronically exposed to Ritalin before adolescence were less responsive to natural rewards, such as sugar and sex, and more sensitive to stressful situations. The adult rats also demonstrated increased anxiety behaviors and enhanced blood levels of stress hormones.

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