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News

Friday, May 25, 2001

New clue to being impulsive

PEOPLE who cannot resist acting on impulse may have damage to a small part of the brain involved in making choices, Cambridge scientists suggested today.

A balance is normally struck between giving in to instant gratification and waiting for delayed rewards, but some individuals - including drug addicts and those suffering from attention deficit hyperactivity disorder - cannot control their urge to "have it now".

Cambridge scientists found that a small neural region called the nucleus accumbens, buried deep within the brain, may hold the key to this behaviour.

In laboratory tests, trained rats with surgical lesions to the nucleus accumbens could not help acting on impulse when faced with the choice between an immediate small food reward or a more generous one later.

Rather than wait for a better meal, they ate what was offered to them first.

Before undergoing surgery, the rats behaved in a very different way. Until the delay became great enough to defeat their memories, they chose to hold out for the larger reward.

Rudolf Cardinal and colleagues at the Cambridge University report their results in the journal *Science*.

The researchers wrote: "This finding suggests a mechanism by which Acb (nucleus accumbens) dysfunction may contribute to addiction, ADHD, and other impulse control disorders."

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