How the brain processes humour helps us understand emotions felt by vegetative state patients

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(Medical Xpress) -- How the human brain processes jokes may help researchers determine if a person in a vegetative state can experience positive emotions - a breakthrough that could help friends, relatives and doctors better understand a patient's mental state of mind.

A team of researchers from Canada and the United Kingdom, led by Adrian Owen at The University of Western Ontario's internationally-renowned Centre for Brain and Mind, used functional magnetic resonance imaging (fMRI) technology to scan the brains of 12 healthy volunteers and compare their reactions to jokes with their reactions to standard, non-joking dialogue.

Owen says, "Although our study looked at the brain's response to jokes, our reasons for doing that were very serious. One of the main questions that families of severely brain injured patients ask us is can they still experience emotions? With the brain imaging technique we've developed here, we can answer that question in a simple and painless way."

The study and resulting paper, published in the prestigious *Journal of Neuroscience*, finds that the "reward" area of the brain lights up to a much greater degree when a joke is told compared to that of simply listening to regular conversation.

Recruited from the United Kingdom as the Canada Excellence Research

Chair in Cognitive Neuroscience and Imaging this past year, Owen studies cognitive deficits - problems in perceiving, thinking, reasoning and remembering - in patients suffering from neurodegenerative diseases like Parkinson's, Huntington's, Alzheimer's and ALS (Lou Gehrig's disease).

More information: www.jneurosci.org/content/31/26/9665.full

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