Alberta Health Services | UNIVERSITY OF CALGARY

News Release

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New study looks at brain activity in teens with autism

CALGARY — Researchers at Alberta Children's Hospital hope to shed light on how adolescents and young adults with autism learn.

A better understanding of brain function in people with autism could help create more effective training and vocational programs for them, thus improving independence, employment opportunities and quality of life.

"In people with autism spectrum disorders, there may be some abnormalities in brain circuitry that contribute to differences in learning," says Dr. Signe Bray, PhD, principal investigator in the study and a member of the Alberta Children's Hospital Research Institute.

"One of the theories is that the brain's reward system – which is critical for facilitating learning – operates differently in people with autism," says Dr. Bray, who is also an assistant professor of radiology in the Cumming School of Medicine at the University of Calgary.

Researchers are using magnetic resonance imaging (MRI) and electroencephalography (EEG) to compare brain activity of 62 teens and young adults with autism and 62 without. The brain scans are taken while they're engaged in computer tasks and while viewing pleasurable or unpleasurable images.

People with autism generally have difficulties with communication and social interaction. They can exhibit repetitive behaviours or show a preoccupation with specific subjects.

About one child in 68 is diagnosed with an autism spectrum disorder. It is more common in boys than girls and there is no known cure.

Linda MacInnis has identical twin boys, Ryan and Jeremy, both of whom have autism. They were among the first to join the research study.

"I'm so glad someone is looking at this," MacInnis says. "The only way the systems and supports will start to change is through studies like these. The more we know, the better off we'll be as a society."

Her sons, now 21, both struggled through the school system. They are currently working with the Ability Hub in Calgary, an organization dedicated to helping individuals and families with autism spectrum disorders.

"To me, they're like normal teenage boys – they spend a lot of time playing video games and don't much like doing their chores," MacInnis says.

It remains unclear what the exact causes of autism are but scientists suspect there could be a number of risk factors, including genes, environmental effects, or early injury to the brain.

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Researchers are currently looking for teens and young adults between the ages of 14 to 20. If eligible, they undergo testing on three separate visits to Alberta Children's Hospital, including an MRI and EEG.

For more information about the study, phone 403-955-7440 or visit the website at http://www.asdbrainresearch.ca/.

Alberta Health Services is the provincial health authority responsible for planning and delivering health supports and services for more than four million adults and children living in Alberta. Its mission is to provide a patient-focused, quality health system that is accessible and sustainable for all Albertans.

The University of Calgary is a leading Canadian university located in the nation's most enterprising city. The university has a clear strategic direction – "Eyes High" – to become one of Canada's top five research universities by 2016, grounded in innovative learning and teaching and fully integrated with the community of Calgary. For more information, visit ucalgary.ca.

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B-roll is available at the ftp site below of a study participant undergoing an MRI.

URL: ftp://208.118.126.84
Folder: B-ROLL ACH AUTISM NEUROIMAGING
Username: media
Password: share

NOTE: Video must be downloaded for viewing.