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Babies' brains could unravel the mystery of stuttering

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University of Sydney researchers are launching a world-first study to see if it's possible to detect whether a baby will go on to stutter in later life - well before they start to talk.

Researchers will scan newborns with a family history of the disorder to try and find transmission problems in the parts of the brain related to speech that they know are present in older children and adults who stutter.

Director of the University of Sydney's Australian Stuttering Research Centre, Professor Mark Onslow said the study will shed light on the cause of the disorder and could revolutionise diagnosis and treatment.

"It will take us a step closer to understanding the cause of stuttering and could potentially lead us to discover more effective early-intervention treatments," said Professor Onslow.

"This would be a huge breakthrough as stuttering is only noticeable when a child starts stringing words together at two to three-years-of-age and the current window for effective treatment is so small."

Stuttering is a communication disorder which disrupts speech fluency and is reported to affect one in nine children in Australia by the age of four. To be most effective, treatment is required during the pre-school years.

The University of Sydney's Australian Stuttering Research Centre and Brain and Mind Research Institute are teaming up to conduct the first research in the field of stuttering to examine children's brains from birth.

Associate Professor Jim Lagopoulos, an expert in imaging at the Brain and Mind Research Institute, said imaging research shows that people who stutter have problems with the transmission of information along fibres of the brain, but it's not clear if this is a cause or an effect of stuttering.

"We currently don't know if the structural problems we see in the brain are present prior to the onset of stuttering, or result from stuttering. This is because previous studies have only examined the brains of older children and adults who have already developed a stutter," said Associate Professor Lagopoulos.

"The scanning of newborns is a safe and well-established practice that will lead us to new understanding about what causes this disorder."

Key facts about stuttering:

- Stuttering is a communication disorder which disrupts speech fluency
- It affects one in nine children in Australia by the age of four
- Chronic stuttering can interfere with social interaction and lead to social anxiety and depression
- Around 70 percent of stutterers have a family history of the disorder
- The cause of stuttering is not fully understood, although It is known that children and adults who stutter have problems with the transmission of information along the fibres of the brain in areas of speech production
- There is an efficacious treatment, the Lidcombe Program, for

pre-schoolers who start to stutter

Provided by University of Sydney