

Why is this research study being done?

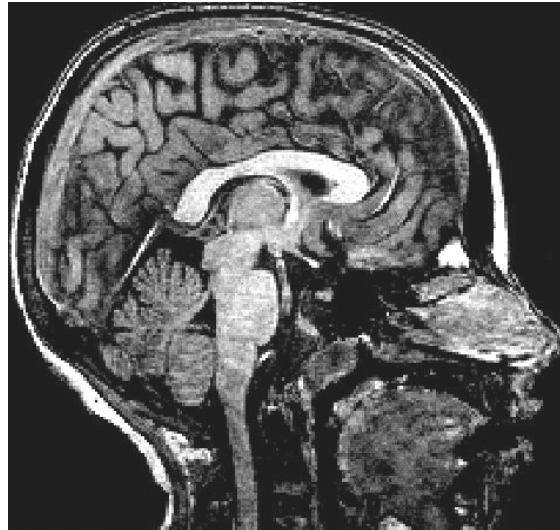
The goal of this study is to learn more about how the brain develops in typical, healthy children and adolescents. By using Magnetic Resonance Imaging (MRI), a safe and painless procedure, changes in the brain can be observed and related to thinking, feeling, and behavior.

This study will enroll approximately 500 children, ranging from infancy to young adulthood, who will be seen at different time points over a six-year period. It will involve seven different sites across the United States as well as a central Data Coordinating Center in Montreal, Canada, and a Clinical Coordinating Center in St. Louis, Missouri.

The information obtained during the study will provide essential knowledge for scientists for years to come. It can help us understand the causes of serious childhood conditions like psychosis, obsessive-compulsive disorder, epilepsy, autism, and mental retardation.

What is MRI?

MRI, or magnetic resonance imaging, is a safe and painless way to take pictures of the brain by using a large magnet, radio waves and a computer. The tunnel-like magnet around the individual sets up a strong magnetic field. Radio waves, like those detected by a radio, are transmitted and interact with water molecules in the body that are in “resonance.” These water molecules send out signals that the computer turns into images. Very detailed pictures of the brain are created from the images. MRI does not use x-rays and the magnetic fields have no known harmful effects.



MR image from the scan of a 13-year-old.

Who should participate?

Normal, healthy infants, children and adolescents may participate in this study. Children generally enjoy the attention and testing and may be offered a picture of their brain obtained from the MRI scan to take home with them.

Before the MRI, children and parents will be asked to fill out a form asking if there are any metal or battery-operated devices in their body. Some metal objects are not allowed for safety reasons. Some examples are metal plates, clips, staples, and implanted devices like pacemakers. While it is safe to be scanned with other metal objects such as dental fillings and braces, they may cause distortion in the images.

What will happen during the study?

During the study, children will complete tests that measure memory, attention, language and motor skills. They may be asked to answer questions, solve problems, and do tasks that are similar to video computer games. They will have a neurological examination and parents will be interviewed about their child's development, behavior and feelings. Children will undergo MRI scans.

Infants and toddlers will have their behavior and development assessed by experts using playful, colorful objects. Little ones may be scanned during sleep and will be closely attended.

Families will be compensated for their time. All of the information obtained in this study will be kept private and confidential.

