



Safety and Comfort

MEG is a silent and completely non-invasive technique

MEG, unlike other ways of looking at the brain (e.g. MRI, CT or PET), does not expose the body to magnetic fields or ionizing radiation.

We collaborated with Child Life Specialists of BCH to design the BabyMEG/EEG Facility to be a child-friendly and soothing environment. While getting ready for the recordings, infants are provided with age appropriate toys, can listen to music, or watch DVDs.



Lab Members

All of our lab members are experienced researchers of the MEG and EEG technologies who will provide a safe and comfortable experience for your child during your visit.

Ellen Grant, MD (Director, FNNDSC)
Yoshio Okada, PhD (MEG Program Director)
Banu Ahtam, DPhil (MEG Program Manager)
Limin Sun, PhD (Staff Scientist)
Ashley Curran (Clinical Research Coordinator)
Kathryn Gill (Research Study Assistant)

Current Projects

We would like to learn more about brain functions during the early stages of development in healthy infants and also in patients with neurological disorders, such as epilepsy, autism spectrum disorders, cerebral palsy, tuberous sclerosis complex, etc.



Contact Information

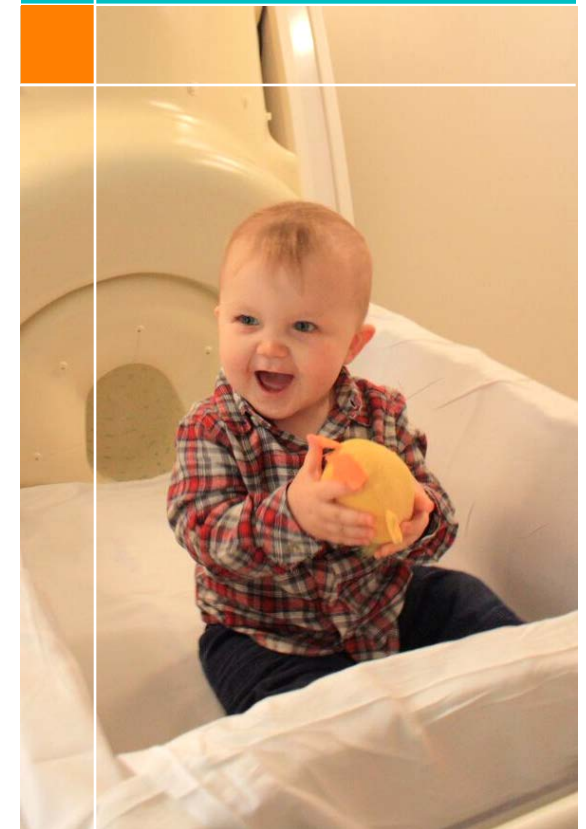
BabyMEG/EEG Facility

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BabyMEG/EEG Facility



Boston Children's Hospital
Until every child is well™



BabyMEG/EEG Facility

The BabyMEG/EEG facility is located on the 7th floor in the James Mandell Building at Boston Children's Hospital, Longwood.

The whole-head BabyMEG system is built with support from the National Science Foundation. This system was developed by the same inventor as that of the first BabySQUID (MEG) system.

Nearly 4 million dollars was invested in this project to design and build this one-of-a-kind MEG system that is used specifically for infants and young children.



Installed in the Longwood campus of Boston Children's Hospital, this state-of-the-art pediatric whole head MEG system (photo above) contains an array of 375 MEG sensors capable of measuring neuronal activity in the brain of a child with high sensitivity and resolution. This instrument is completely safe, and is specifically designed for newborns and infants up to age 4 years.

Innovative Technology

Even though MEG has been used for human brain studies for nearly 40 years, the current commercial devices are only available for adults and older children.

In the BabyMEG/EEG Facility, we use a unique whole-head pediatric MEG system that has been specifically designed for infants up to age 4 years. It allows for a better understanding of how an infant's brain functions.

Our facility is also equipped with a 128 channel electroencephalography (EEG) system, which can record brain activity simultaneously with the BabyMEG. We also perform EEG only studies where the age range spans from newborns to adults. The combined information of the two techniques offers an excellent assessment of children's brain activity.

What is MEG?

MEG (Magnetoencephalography) records the tiny magnetic fields generated by human brain activity. This technology allows researchers to see which regions of the brain are active while your child performs a particular task or while he/she is resting or sleeping.

Clinical research applications of MEG include neurological and psychiatric disorders such as epilepsy, cerebral palsy, autism spectrum disorders, and down syndrome. Furthermore, MEG is widely used for measuring cognitive functions, such as memory and language.

Our BabyMEG/EEG facility has numerous collaborations with other research institutes, hospitals, and universities including the Martinos Center (MGH), MIT, and Brown University, to name a few.

