

TESTS AND PROCEDURES

Magnetic Resonance Imaging (MRI):

This is a tool designed to look at the structure of your brain in detail. An MRI has much better resolution than a CT Scan. MRI is the tool of choice to look for any possible structural masses (like a brain tumor), or structural damage (as in head trauma or a stroke), or any developmental malformations of the brain (that may often cause seizures). MRIs of the brain often take anywhere from 30 to 50 minutes to complete. The patient has to be completely still in order to get an accurate study. Hence, children often need to be sedated by an anesthesiologist. If possible, all MRIs will be done at the University of California Los Angeles (UCLA) Medical Center with the best care possible.

Positron Emission Tomography (PET):

This is a nuclear medicine scan that looks at the function of the brain. It produces a three-dimensional picture that allows one to see which parts of the brain are functioning differently from the rest of the brain. This technique requires a tracer which is a derivative from glucose, that will be injected, in order to look at the function or metabolism of the brain. This procedure is very helpful in making decisions about epilepsy surgery.

Routine Electroencephalogram (EEG):

This examination involves placing multiple electrodes on the patient's head to study brain wave activity (very similar to an EKG of the heart). The brain communicates through electrical discharges and the EEG is able to monitor or pick up these discharges to look for any aberrant or abnormal areas of the brain. These abnormal discharges often are responsible for causing seizures in a child. This study usually takes about 20 minutes and is done in an outpatient setting. Most of these studies will be done at UCLA where there is renowned pediatric epileptologists to evaluate the results. If the child is unable to cooperate with the study, then conscious sedation may need to be used.

Telemetry (video EEG):

This is the most accurate form of evaluating a child for any abnormal brain functioning!

This examination is a prolonged EEG that is usually 24hrs or longer and is accompanied by a video recording of the child. The child's wakefulness and all stages of sleep will be recorded and evaluated for any possible obvious seizures or more subtle seizures that may occur in sleep. Hence, the child will be monitored in an inpatient setting at the UCLA Medical Center where the results will also be interpreted. One or both parents or guardians are required to stay with the child to help with the recording of any possible seizure activity.

Ambulatory EEG (Digitrace):

This examination is also a prolonged EEG that can be done from home. The child will come in and have a portable EEG machine placed on him with which he can go home for one to three days to monitor for any seizure like activities. This is often the best choice for many children with autism who are not able to handle staying overnight in a hospital setting. However, often the results are not as accurate as the ones monitored in the hospital setting due to excess body movements of the patient.

Blood work:

The purpose of blood work is to determine if there are any underlying metabolic issues contributing to your child's deficits and struggles. This is often important if medication management is used. Blood work will also often include some Genetic testing which may then need a referral to Genetics for further and more specific evaluations.