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CentraState Healthcare System[®]

Freehold, NJ

Healthy Directions

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Pediatric Epilepsy: Aaron's Story

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Tom, Marie, and Aaron Lucia have peace of mind now that Aaron is receiving treatment for his epilepsy at CentraState.

A FEVERISH DISCOVERY:

The Association of Language Delay and Pediatric Epilepsy

It was just another day in the Lucia household in Toms River during the summer of 2012. Aaron, 2 ½ at the time, had been engaged in speech therapy because his language development was lagging far behind that of his two older siblings, yet he appeared to be making little progress. Aaron still only uttered “Ma.” Frustration was building for both Aaron and his parents.

That day, Aaron had a slight fever, suggesting a possible ear infection. Returning from the doctor’s office where the ear infection had been confirmed, Marie Lucia glanced in the rearview mirror to see Aaron convulsing in his car seat. Terrified, Marie rushed him to the closest hospital.

A spike in Aaron’s temperature had set off a seizure, called a febrile seizure, a frightening but somewhat common occurrence in children. In isolation, a febrile seizure may not raise an alarm or require treatment. However, when coupled with a language or other developmental delay, further exploration is essential,

states Megdad Zaatreh, MD, board-certified neurologist specializing in epilepsy and on staff at CentraState Medical Center.

Dr. Zaatreh set Aaron up for a three-day electroencephalography (a.k.a., prolonged EEG), which showed that Aaron was having six to seven, visibly undetectable seizures per hour, a stunning finding for the Lucias. Seizures act like electric shocks to the brain, disrupting learning and memory storage and retrieval. Although Aaron’s seizures were lasting only four to five seconds per seizure, their frequency was disrupting his language development.

The Lucias were proactive and chose to administer, over time, increasing doses of medication to Aaron, while Dr. Zaatreh monitored two parameters: Aaron’s speech and his seizure activity through repeat EEGs. To her relief, Marie found that “every time Dr. Zaatreh upped Aaron’s medication, his speech got better. He’s talking in sentences now. If we hadn’t found Dr.

Zaatreh, we could still be thinking that Aaron just had a speech delay.”

SEIZURES AND CHILDHOOD DEVELOPMENT

Public perception is that seizures involve convulsions and a loss of consciousness, as in grand mal seizures. A much more common type is the complex partial seizure, where a child or adult loses awareness for one or two minutes. The child may stare into space, have glassy eyes, and stop talking. Moments later, he or she is fine. Complex partial seizures are often undetected until something more dramatic occurs, as in Aaron’s febrile seizure.

Meanwhile, precious developmental time is lost. The seizures will most likely disappear as the child ages; however, the child’s speech, behavior and school performance can all be affected if no treatment is provided. The repercussions of these learning deficits could last a lifetime. “Aaron was very, very shy before he was speaking. I think that had a lot to do with not being able to communicate with people,” Marie observes.

The prolonged EEG picks up abnormalities occurring during different activity levels as well as times of day. Sometimes, the brain abnormalities occur only at night, a time when the brain stores information learned during the day. With nighttime seizures, the storage doesn’t happen.

Dr. Zaatreh identifies two populations that would benefit from prolonged EEGs: children with speech delays for no apparent reason and children with autism. One child in three with autism experiences complex partial seizures, which can worsen the child’s speech, behavior or academic performance. “The unique thing about these two populations is that their seizures are usually treatable,” Dr. Zaatreh says.

“If someone has speech problems because of recurrent seizures, treating the seizures should give the brain the chance to start learning. Sometimes, the response is dramatic with medication.” On the other hand, warns Dr. Zaatreh, “sometimes we catch these children later, when the critical period of learning has passed. The trick is finding these patients and finding them early, not treating them. There are 25 seizure medications to pick from. Treatment is not the issue.”

Tom Lucia urges parents “to be more proactive than reactive, if there is a speech or developmental issue.” He adds, “Thankfully, Aaron had the febrile seizure or we would never have known about his seizure disorder.”

Dr. Zaatreh is confident that Aaron’s abnormal brain activity will significantly improve or go away entirely, and medication will no longer be necessary. “Aaron will eventually catch up, speech-wise,” Dr. Zaatreh says. “My prognosis is that he will do very, very well.”

For more information about The Comprehensive Epilepsy Center at CentraState, call 866-CENTRA7 (866-236-8727) or visit www.centrastate.com/epilepsy.

The Value of Prolonged EEGs



Megdad Zaatreh, MD,
board-certified neurologist

Routine electroencephalographies (EEGs) last 20-30 minutes. If the patient doesn’t experience a seizure within that time frame, the result can be negative or inconclusive, as the brain appears normal in between seizures. Prolonged EEGs, on the other hand, are minimally 48 hours long and detect abnormalities that may occur while the patient is sleeping, waking, active, sedentary, or responding to stimuli. Neurologists undergo special training to administer and interpret prolonged EEGs.

For this reason, hospital intensive care units have found the prolonged EEG to be of tremendous value with unconscious or brain-injured patients. Seizure activity is one of the causes for an unconscious state; yet, the seizures are often visibly undetectable. As long as a patient is seizing, he or she will not wake up. Evaluation and subsequent treatment of the seizure disorder provides the brain a chance to emerge from the unconscious state, providing a faster recovery for the patient.

“It’s amazing what we are finding with the prolonged EEG, such as patients who have seizures they’re not aware of, or abnormalities that were never detected before,” Dr. Zaatreh says. “For most, seizure activity is a treatable condition.”

The Neuroscience Center of Central Jersey at CentraState offers comprehensive care for brain, spine and nervous system conditions. Our neuroscience experts understand that the most powerful, effective treatments address all of your needs—body, mind and spirit. From epilepsy treatment, to brain tumor surgery, to spine rehabilitation and pain management, to customized wellness programs—at CentraState you’ll always find the support and inspiration you need to reach new milestones and live life well. For a complete list of programs and services, call 866-CENTRA7 or visit www.centrastate.com/neuroscience.

FURTHER EVALUATION IS RECOMMENDED:

- If a child is less than 8 months old and has a febrile seizure, especially if the seizure lasts more than a few minutes
- If a child has more than one febrile seizure
- If a child has a febrile seizure on one side only
- If a child has a speech delay for no apparent reason
- If a child has been diagnosed with autism, especially if accompanied by staring events; behavior arrest (stopping for a few seconds, then resuming activities); muscle twitching; visual phenomena (older children); or language regression (had talked and now doesn’t)