

Expert Team Fights Childhood Strokes



Expert Advice From:

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Interventional Neuroradiology Offers Expert Stroke Identification and Treatments

Few parents know that stroke is among the top 10 causes of childhood death, claiming an estimated 3,000 children a year in the U.S., according to the Stroke Recovery Foundation.

"Stroke can occur at any time in children or adults," warns Dr. Gary Duckwiler, interventional neuroradiologist, MemorialCare Miller Children's & Women's Hospital Long Beach.

"Stroke can be a devastating disease. In children, their developing brain can give them a greater chance of recovery, but we must be rapid in our treatment. The first step in that is recognition," Dr. Duckwiler explains.

"There are many causes of stroke in children, including heart problems, sickle cell disease, infection, injury, dehydration and clotting problems, among others. Since we don't think of stroke in children, we have to be that much more aware of the potential signs and symptoms. In babies, seizures, unresponsiveness or extreme sleepiness, and only using one side may be clues to a stroke. In older children, we can use the same signs we see in adults."

Although stroke is unusual in children, they present symptoms similarly to those in adults, he says. The acronym **BE FAST** can help easily identify symptoms of stroke: **B is for balance lost**, leading to a dizzy sensation, **E is for eyes blur**, or loss in vision, **F is for facial drooping**, which can make the face feel weak; **A is for arm weakness**, indicating lack of strength or sensation; **S is for speech difficulty**, or the inability to speak; and **T is for time to call 911**, as it's essential to call 911 to get immediate medical assistance.

"Obviously in much younger kids or babies who don't have the ability to speak, stroke may be more difficult to identify," Dr. Duckwiler acknowledges. "That's part of the problem in recognizing strokes in children. It could present as a lack of responsiveness."

Dr. Duckwiler's practice and research has centered on neurointervention – which offers minimally invasive treatments for disorders of the blood vessels in the head, neck and spine – since 1989. Not only does he work at Miller Children's & Women's, but he also is a professor of radiology and director of the UCLA School of Medicine's interventional neuroradiology fellowship program.


As an investigator on three stroke device trials, he is a member of the steering committee for the Multi MERCI stroke trial

- and has been involved in presentations to the FDA and Medicare for approvals and payment for acute interventional stroke treatment.
- In children, interventional neuroradiology is used to treat vascular diseases of the brain and spinal cord which can cause stroke, vascular malformation, and sometimes vascular tumors, Dr. Duckwiler says, and congenital abnormalities of the blood vessels and aneurisms.
- In addition, some cardiac procedures on babies with congenital heart problems can predispose kids to strokes.
- Children with strokes can benefit from the team of highly trained interventional neuroradiology specialists, the latest facilities, and state-of-the-art technologies employed at Miller Children's & Women's, and its sister hospital, Long Beach Medical Center, which it shares a campus.
- **"We can employ interventional neuroradiology procedures to open up children's blood vessels," he notes, "so we are able to more effectively and immediately recognize and treat strokes in babies and older kids."**
- It's estimated that strokes can destroy up to 1.9 million brain cells every minute, he says, so every second counts. "Not only is stroke sometimes not recognized by parents, it's sometimes difficult for medical providers unfamiliar with pediatric strokes or those not specifically trained in stroke treatment."
- That's why coming to a children's hospital associated with a comprehensive stroke center, such as Long Beach Medical Center, is important. "We are specialized in protocols for imaging in young children, and our interventional teams have significant training in pediatric interventional neuroradiology."

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