



October is AVM Awareness Month

St. James Elementary School will recognize AVM awareness through a

CRAZY HAIR DAY!

On Thursday, October 22nd, students are encouraged to wear their hair crazy to raise awareness of AVMs, a silent but treatable condition.

- Students, wear your hair crazy on Thursday, October 22nd
- Parents, for more information and to schedule a free AVM screening with Dr. Bekelis during the month of October, log onto the website www.thepaigekeelyfoundation.com.

Sponsored by The Stroke and Brain Aneurysm Center of Long Island

In Loving memory of Paige Elizabeth Keely

January 8th 2018, started out as a normal Monday morning. But as I watched my three children board the bus, I was completely unaware that my daughter Paige would ever be coming home. A first phone call from the school nurse- "Paige is here, she's crying, her head hurts, and she vomited" -was followed up moments later with a second more urgent phone call- "Paige is unresponsive...we have an ambulance coming." Paige was rushed to the hospital where, despite desperate efforts to save her life, she died suddenly at just 6 years of age. Unknown to anyone, Paige had a brain arteriovenous malformation (AVM). The doctors told us she was born with this condition and only if we had known, it could have been treated and Paige would likely still be here today.

The Paige Elizabeth Keely Foundation was created in her honor to raise awareness of AVMs, education communities about this treatable condition and establishing early detection screening.

Pediatric AVM Doctor

Dr. Bekelis is a neurosurgeon with subspecialty training in minimally invasive endovascular neurosurgery. He additionally specializes in Gamma Knife Radiosurgery, and complex brain, and spine operations. He is the Chairman of Neuro-interventional Services for Catholic Health Services of Long Island, and the Director of the Stroke and Brain Aneurysm Center of Long Island, the first and only Joint Commission Certified Comprehensive Stroke Center in the South Shore of Long Island. He is also the co-director of the Neuro Intensive Care Unit at Good Samaritan



**STROKE & BRAIN
ANEURYSM CENTER**
OF LONG ISLAND

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AVM

Pediatric Arteriovenous Malformations



Read about Paige's story

The Paige Elizabeth Keely
Foundation

www.thepaigekeelyfoundation.com



What are pediatric AVMs?

Arteriovenous Malformations (AVMs) are abnormal tangles of arteries and veins. They can occur anywhere in the body, but our team specifically manages and treats those that are present in the brain and spinal cord. These abnormalities are typically congenital and are present at birth. They usually are not detected unless they cause seizures, weakness or have ruptured and bled in the brain. Neurologic or life threatening sequelae are associated with each hemorrhage. There is a 4% per year risk of hemorrhage once an AVM has become symptomatic. Treatment is required to reduce that risk and subsequent problems associated with additional hemorrhage. Treatment for AVMs can be quite complex and it is critical that patients with this disorder be managed and surgically treated in a center with extensive AVM experience.

Signs and Symptoms

- Seizures
- Nausea and vomiting
- Persistent headaches
- Weakness on one side of the body or stroke-like symptoms
- Speech changes
- Numbness or tingling of the arms or legs
- Sudden loss of consciousness (with rupture)

Diagnosis

If your doctor suspects your child has an AVM, the doctor will do a complete exam and one or more of the following tests:

- **CT Angiogram**-uses x-rays to produce multiple images of the inside of the body. This test uses X-rays to produce multiple images. These three-dimensional pictures of the brain can be used to further evaluate conditions that affect blood vessels within the brain.
- **MRI with Magnetic Resonance Angiography (MRA)** — This procedure uses radiofrequency to create accurate two- and three-dimensional images of the arteries in the neck and brain.
- **Cerebral Angiogram** – is a minimally invasive procedure which uses a special contrast, or dye, to observe blood flow in the brain. During the procedure, a small catheter is placed in a blood vessel in the groin, then it is used to reach the blood vessels that supply the brain. With the help of the special contrast or dye, an X-ray machine moves in different angles and takes pictures of the blood vessels. A team will care for your child throughout the procedure.

Treatment of Pediatric AVMs

Treatment varies based on the size, location, symptoms, and severity of the malformation. Our team offers a comprehensive approach with a multitude of possible treatment interventions or combination of treatments that include, but are not limited to medical management, endovascular techniques, such as embolization, open microsurgical resection, or radiosurgery.

Embolization-During this procedure, a specialized endovascular neurosurgeon inserts a thin plastic catheter into an artery in your child's groin. The catheter is guided into the AVM and a special material is injected that shuts off the artery and reduces the flow of blood to the vascular abnormality.

Neurosurgery or Open Microsurgery – Surgical intervention which requires a craniotomy, removal of a piece of the skull followed by its replacement and following which our neurosurgeon utilizes a microscope to better visualize the small blood vessels that supply the brain to remove the malformation.

Radiosurgery – is a unique form of radiation delivered to the brain in a very focused location allowing the treatment of a specific abnormality while avoiding injury to normal brain tissue. These procedures are considered minimally invasive and are performed in the outpatient setting.

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