

# PEDIATRIC NEUROSURGERY

## A Journey Back



Children's  
Specialized Hospital

*It has been a long journey for Jimmy Cox on his recovery from a serious brain bleed caused by a burst tangle of blood vessels, known as an arteriovenous malformation (AVM), which almost took his life 10 years ago.*





*Sudipta "Sid" Roychowdhury, MD, Clinical Assistant Professor of Radiology at Rutgers Robert Wood Johnson Medical School and Director of Interventional Neuroradiology at RWJ.*

Despite his challenges, the South Plainfield resident remains determined to help others on their own journey to recover from devastating brain injuries.

"The whole experience opened my eyes to the different things I could do to help others," Jimmy explains.

Doctors diagnosed Jimmy with a brain aneurysm and AVM at age 9, but it was too much of a risk to remove them surgically due to their location within the brain. Instead, Jimmy had stereotactic radio surgery treatments at another hospital. The goal was to "shrink" the AVM and aneurysm, then perform a full embolization to remove the threat. They never had the chance.

Almost five years after his initial diagnosis, a sudden, severe headache overcame Jimmy while he was visiting a friend. He was able to ride his bicycle home, but his mother, Joanne, knew immediately that something was seriously wrong.

"He said he had a bad headache—he never really had headaches," she explains.

Ever since Jimmy's initial diagnosis, Joanne had attended a brain injury/aneurysm support group at a local hospital. The knowledge she gained from others who experienced traumatic brain injuries, like aneurysms and AVMs, helped her take quick action and save Jimmy's life.

The group members described sudden, severe headaches as one of their symptoms before seizures occurred," Joanne explains. "When the paramedics arrived, I told them

what I thought was happening based on Jimmy's medical history."

Joanne's intuition was correct: Jimmy had suffered a massive brain bleed. He was rushed to The Bristol-Myers Squibb Children's Hospital (BMSCH) at Robert Wood Johnson University Hospital (RWJ) where a seasoned team of interventional neuroradiologists and neurosurgeons experienced in treating brain aneurysms and AVMs was ready to respond.

RWJ's Brain Aneurysm and AVM program has grown steadily adding the latest and most innovative technologies, such as Gamma Knife Perfexion, to treat these serious conditions. And because BMSCH is the focal point of a nationally distinguished pediatric academic health campus, AVM and brain aneurysm patients benefit from the multidisciplinary expertise of pediatric neurosurgeons, pediatric neurointerventional radiologists, pediatric critical care specialists and nurses and pediatric anesthesiologists. In addition, patients have access to a seamless transition to both short and long-term rehabilitation care at RWJ Health System member Children's Specialized Hospital (CSH).

After arriving at RWJ, Jimmy was assessed by Sudipta "Sid" Roychowdhury, MD, Clinical Assistant Professor of Radiology at Rutgers Robert Wood Johnson Medical School and Director of Interventional Neuroradiology at RWJ. Dr. Roychowdhury and his colleagues, neurosurgeons Rachana Tyagi, MD, and Gaurav Gupta, MD, are among the most experienced specialists in the region who treat these conditions. Drs. Tyagi and Gupta

also both serve as Assistant Professor of Surgery at Robert Wood Johnson Medical School.

To treat Jimmy's ruptured AVM Dr. Roychowdhury threaded a catheter through his groin area to the ruptured brain blood vessels supplying the AVM. He then performed an embolization of the AVM by injecting glue into the AVM to block it off and stop the bleed.

"Children's blood vessels are smaller and difficult to get into, that's why it is important to be treated by a team with experience addressing these conditions," Dr. Roychowdhury explains.

Following the procedure, Jimmy remained in a medically induced coma for several weeks. After he woke and his condition stabilized, Jimmy was transferred to CSH, where he underwent several months of intensive inpatient physical, occupational, cognitive and speech therapy. He continued with outpatient therapy for another year.

Jimmy lost some strength in the right side of his body, but thanks to the expert care he received at BMSCH and CSH, he recovered well enough to volunteer with brain injury patients at CSH, play sled hockey and now, work as a teacher's aide.

"There were so many people helping me with my recovery, now I want to help others," Jimmy says.

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