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Help at home

Real-time MRI a boon for area tumor patients

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FORT WORTH – The possibility that a new technology available in California could save his daughter's life was all Dan Roberts needed to pack his family's bags and head west four years ago.

But now, children with brain tumors like his daughter's won't have to leave Tarrant County to get that same shot at a future.

“We want people to take their child home, just like we took ours,” said Roberts, whose daughter Austin is now 13 and lives with her family in Aledo. “That's what inspired this.”

“This” is a \$9.7 million IMRIS Intraoperative MRI suite at Cook Children's Medical Center in Fort Worth. The Roberts family launched a campaign in 2005 that raised more than \$4.5 million to help bring the technology to Cook Children's.

The iMRI facility, the only one of its kind in the world, allows doctors to create amazingly accurate images of the brain not only as a diagnostic tool, but also during surgery. The MRI's powerful magnet is suspended from tracks on the ceiling that allow it to glide in and out of the operating room.

But it's the ability to get an extremely accurate view of the brain in real time that makes the difference for patients with brain tumors and other neurological disorders.

With this equipment, a surgeon can stop surgery, scan the area and then continue with the operation until all the tumor has been removed. In the past, doctors had to wait for an MRI after surgery to determine whether the entire tumor was gone.

Surgeons need to be able to see the brain in real time, said Dr. David Donahue, director of neurosurgery at Cook Children's.

“The brain is a beautiful thing,” he said. “But it is like operating on roast beef; it moves and shifts.”

That movement makes preoperative scans useless, Donahue said.

Making strides

This kind of technology is an example of the dramatic progress being made in the treatment of brain tumors, said Robert Tufel, executive director of the National Brain Tumor Foundation.

“In the 1930s, doctors diagnosed by the symptoms and assumed the tumor was in that part of the brain, which was an incredibly crude way of diagnosis,” he said. “Now they can see the borders of the tumor,

can see healthy tissue from the tumor and can take out the tumor with minimal damage to the brain.”

Similar systems are being used to treat patients around the country. What makes the technology at Cook's unique is its mobility, Donahue said. When the MRI is not being used in the operating room, it can be moved to the diagnostic imaging room next door.

Help close by

For families such as the Cahills of Mansfield, the iMRI means they won't have to travel far for surgery. Anthony Cahill, 12, is expected to become one of the first patients to benefit from the technology at Cook Children's.

In 1999, at age 5, Anthony was found to have a brain tumor. He had surgery at local hospitals in 1999 and 2000. He was doing well until last year, when a residual brain tumor was discovered.

“It's crushing whenever you have a child go through this the second time around,” said his father, Richard Cahill. “It's numbing.”

Treatment for the residual tumor would have required traveling across the country. But with the new facility at Cook Children's, Anthony's parents are relieved that they'll have the support of their relatives and friends close by.

“This takes a lot of pressure off of us,” Cahill said.

That is exactly what the Roberts family hoped would happen when they decided to raise money to bring the iMRI to Cook Children's.

Austin's brain tumor was discovered in 2000. Doctors removed it, but when a tumor reappeared in 2002, they told the family about an operating-room MRI at UCLA Medical Center. After Austin was treated there, her family wanted Tarrant County families to benefit from the same technology. The Austin Roberts Refuse to Lose campaign was launched in 2005.

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