

Stroke Patients Benefit from New iRapid Technology

56 year old Dale Churovich didn't think much of the numbness in his left arm or his general "unwell" feeling when he woke up to let his dogs out in August of 2018. The Gifford man went back to bed. However, when his daughter woke him later than morning, she saw her father's condition and sounded the alarm.

"She said, 'why do you look like that, and why are you talking like that?' I'm like, 'I have no idea.' and she finally said, 'Dad, we need to go to the hospital,'" recalled Churovich. (:10)

Churovich had suffered a stroke in his sleep. Patients who go to sleep normal and awaken with stroke symptoms have what is called "wake-up stroke," which can be devastating. It is difficult to pinpoint when exactly the stroke happened, leaving providers without key time-based data to make treatment decisions.

While stroke specialists stress that it is important to seek care as quickly as possible, new research does show some patients can be treated up to 24 hours after stroke symptoms begin, rather than the previously accepted 6-hour window. These patients may still benefit from mechanical thrombectomy (physical removal of a blood clot inside an artery). This includes patients like Churovich, who may not know when symptoms began. Now new diagnostic software called iRapid is being utilized to help get scan results faster than ever to benefit these stroke patients.

Churovich was airlifted from OSF HealthCare Heart of Mary Medical Center in Urbana to OSF HealthCare St. Joseph Medical Center in Bloomington, where iRapid software was put to work for him.

"iRapid helps us determine who is going to benefit best," said Ajeet Gordhan, MD, Interventional Radiologist with OSF HealthCare St. Joseph Medical Center in Bloomington. "The idea behind this is to give them a functional outcome and that's the key. We are trying to rescue salvageable brain in patients who, in the past, may not have had that opportunity and although they might still have a deficit, the deficit may be not as profound and they may be able to attain some level of functional capability."

The iRapid software uses noninvasive CT imaging of the head that takes less than a minute to complete. It looks at cerebral blood flow and volume to determine salvageable brain tissue. iRapid then provides the necessary data via secure smart device to radiologists and neurologists for instant viewing to enable them to make a more timely decision.

Previously, data obtained through CT scans had to be manually calculated and entered. The iRapid software increases the accuracy and timeliness of the data, enabling physicians to more quickly determine who will – or won't – benefit from having a thrombectomy.

"You need to still come in early, calling 9-1-1, not driving yourself. Those are the cornerstone aspects of initial stroke management when it comes to the initial paradigm," explains Dr. Gordhan. "This is where iRapid and physiologic imaging comes through – is in patients who have a wake up stroke or patients who come in beyond the six hour window, or if it's a disparate clinical scenario versus what we see on imaging."

When it comes to stroke, time matters because proper and timely treatment saves brain tissue. 1.9 million brain cells are lost each minute a stroke is left untreated. Churovich credits his complete recovery to the quick action of his care team, but says his daughter's recognition of his stroke symptoms saved his life.

"She absolutely had no question in her mind what was going on," he said. Looking at it now, having gone through this, I know what those symptoms are and I know what's happening and I would recognize it quickly. When you hear the stuff about slurred speech and weakness on one side, weakness, numbness, those are indicators. They're right there. It's right up front and you just have to say, 'This isn't right,' and recognize it's not right and take action to deal with it."

The iRapid software is setting the standard for improving stroke care, with more than 350 stroke centers using it worldwide. iRapid is in use at the Comprehensive Stroke Centers at OSF HealthCare Saint Francis Medical Center in Peoria and OSF HealthCare Saint Anthony Medical Center in Rockford, in addition to the stroke team using it at OSF St. Joseph in Bloomington.

Learn more about the symptoms and treatment of stroke [here](#).