

RAPIDAI

Serving a Veteran on Veterans Day

How doctors at Stony Brook Medicine saved a Veteran's life by using Rapid CTP to uncover what others may have overlooked



Credit: Stony Brook Medicine

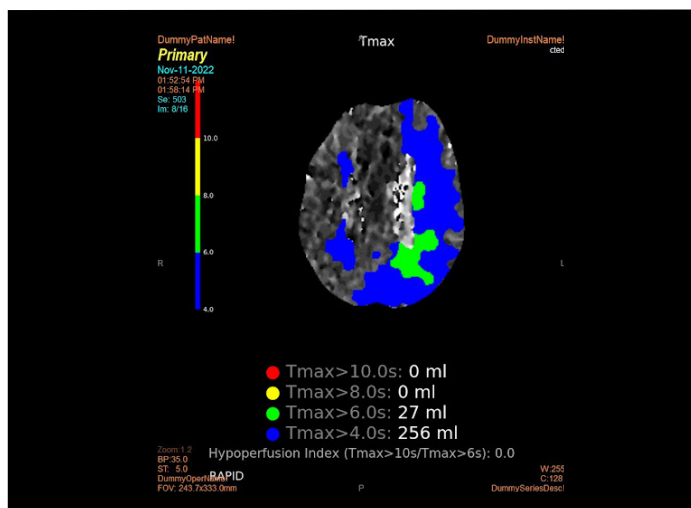
Joseph Annunziata, an 80-year-old Army veteran from Long Island, New York, says he isn't exactly proud of his story, but hopes that by sharing it he can help others. For years his doctors had warned him about a narrowing left carotid and encouraged him to undergo an endarterectomy—a procedure to remove buildup in his artery and hopefully prevent a serious stroke. Unfortunately, on the morning of Veterans Day 2022, his decision to put off the procedure finally caught up to him.

"I was going to the store which is five minutes away and my right hand went limp. Then all of a sudden my speech went slurry and I knew I was in trouble. So what I did was turn the car around and I drove down to the Northport VA... although I know I shouldn't have done that," said Joseph.

Upon arriving at the VA, Joseph was immediately sent by ambulance to their partners at the Stony Brook Cerebrovascular and Comprehensive Stroke Center where he was evaluated by neurointerventionalist Dr. David Fiorella, stroke neurologist Dr. Jason Matthew, and their team.

Joseph underwent a series of scans which indicated a small completed stroke and an occluded left carotid. With a National Institute of Health Stroke Scale (NIHSS) score of 6 and only mild stroke symptoms, many care teams may have chosen to observe him for 24 hours.

However, using Rapid CTP to quickly analyze Joseph's CT perfusion scan, Drs. Fiorella and Matthew were able to quickly and clearly see the severity of the reduction in blood flow including the volume of tissue affected. They could see the blockage was putting almost half of Joseph's brain at risk. With the clinical context provided by Rapid CTP, they felt even more confident that if they did not intervene the infarction would be significant and Joseph's condition would likely deteriorate fast.



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Q: What may have happened to the patient if Rapid CTP did not convince your team it was necessary to intervene?

A: Typically once a carotid is occluded for a day or two, you can't reopen it – and so that vessel is lost forever. In that case, you're left to consider a bypass or just leaving it occluded, and often for those patients, even if they do well for 24 hours, they will eventually suffer a death from a thousand tiny cuts – experiencing small stroke after small stroke in that hemisphere and gradually losing function over a couple of weeks. That's why typically we'll try to reopen the carotid if there's really hard evidence that the collaterals are going to fail.

Dr. David Fiorella

Director, Stony Brook Cerebrovascular Center
Co-Director, Stony Brook Cerebrovascular and Comprehensive Stroke Center

Rapid Hero Story

But, given the complicated nature of the intervention, the decision whether or not to move forward was not so simple.

"There was a carotid filled with clot and occluded from atherosclerotic plaque, so it was a situation where the stakes were incredibly high. It was one of those cases where you certainly could make things a whole lot worse by intervening," said Dr. Fiorella. "The decision we ultimately made was based largely on data from the RapidAI perfusion imaging. To have perfusion data say that this patient has a 200CC area of potential at risk, it helps give you that confidence that it's important to intervene."

Fortunately, Stony Brook University Hospital is one of few hospitals in the country to pioneer a special sequential balloon inflation technique used to safely and successfully revascularize complete carotid occlusions. Just 90 minutes after Joseph arrived at the hospital, he underwent treatment and only hours later emerged from anesthesia with major improvements in his condition. Four days later, he walked out of the hospital and returned to his home.

"It was through the grace of God that I even made it down to the VA, and then to the hospital where they were waiting for me. Now here I am home again. Between the team [at Stony Brook], your organization [RapidAI], and the good Lord... I don't know how things work, but I know I am very very fortunate." said Joseph.



Credit: Stony Brook Medicine

About RapidAI

RapidAI is the global leader in using AI to combat life-threatening vascular and neurovascular conditions. Leading the next evolution of clinical decision-making and patient workflow, RapidAI is empowering physicians to make faster decisions for better patient outcomes. Based on intelligence gained from nearly 10 million scans in more than 2,000 hospitals in over 70 countries, the Rapid® platform transforms care coordination, offering care teams a level of patient visibility never before possible. RapidAI – where AI meets patient care.

RAPIDAI

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Credit: Stony Brook Medicine

Stony Brook University Hospital is one of a select few hospitals in the country equipped with the resources to handle these kinds of complex cases. "We used a special occlusion balloon technique that we pioneered at Stony Brook," said Dr. David Fiorella.

"We use the Walrus Q'Apel balloon for proximal control, and then we use the angioplasty balloon during the carotid stenting to create a situation where we can either have the angioplasty balloon or the balloon guide catheter inflated during the whole case so that you always have flow rest during the entire carotid reconstruction. Then you can go up and aspirate everything out with a balloon inflated. It's particularly good for patients like Joseph who are minimally symptomatic, but that you could make really symptomatic if you jettison clot into the head. It was the perfusion data from RapidAI in combination with our significant experience with this particular technique in revascularizing complete carotid occlusions in this setting, that told us that this was a good case to treat this way."