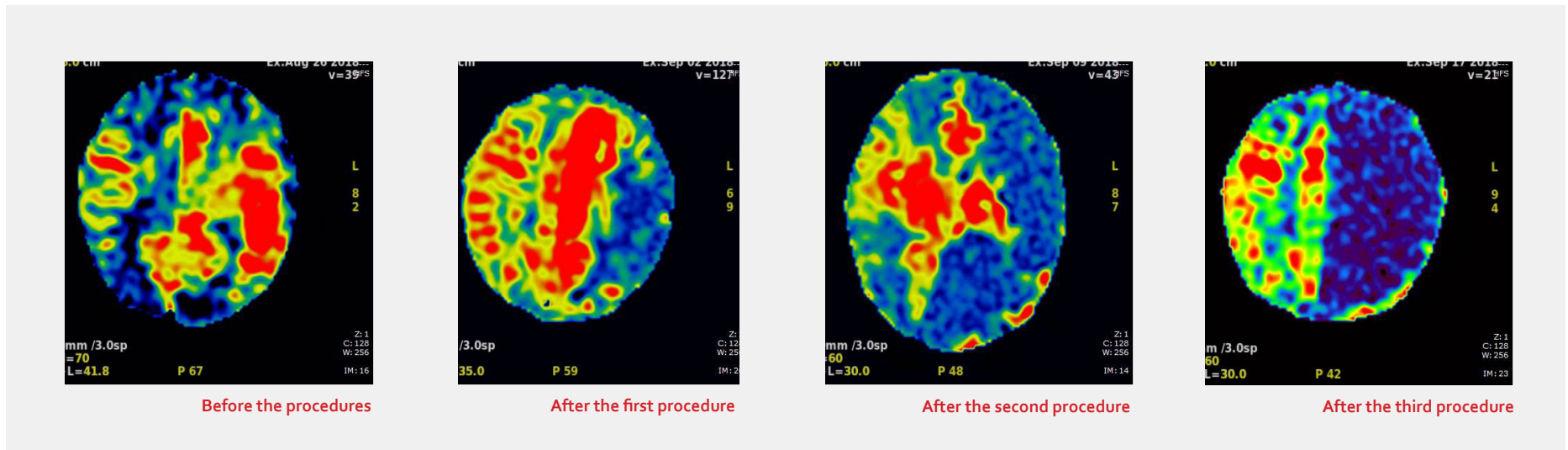


Clinical Innovations at a Glance

Born with hemimegalencephaly, Bella now has a bright future



What's new: Controlled strokes to selectively stop blood flow in the brain

Bella was born with a rare condition (hemimegalencephaly) in which one half of the brain developed abnormally, causing seizures. The textbook approach is to let babies grow big enough for dramatic surgery. But Bella's left hemisphere was triggering so many seizures each minute that waiting would mean her life would be defined by disability. Children's National Hospital is believed to be the only center in the world that calms these seizures through controlled strokes.

Procedure one occurred five days after Bella came to Children's National Hospital from Iowa, when she was 13 days old. The team first optimized control of her seizures and obtained special magnetic resonance images to plan their approach. They glued up the branches of the left posterior cerebral artery and branches of the left middle cerebral artery. Bella had a tiny bleed that was controlled immediately in the angio suite and afterwards in the Children's National neonatal intensive care unit.

Procedure two occurred 10 days later when Bella was 23 days old. The team waited until brain swelling had subsided and brain tissue loss had occurred from the first procedure. This time, they glued up the remaining branches of the left posterior cerebral artery and some branches of the left anterior cerebral artery. **The third and final procedure** was done nine days later when Bella was 29 days old. This time the team glued and coiled, placing little coils of wires where it was unsafe to use glue, covering all the small and numerous branches that remained of the left anterior cerebral artery.