

Fixing the crooked smile

THE BEGINNING OF Jude Frank's ordeal unfolded at the age of 2, when a pediatrician noted that the boy's smile was a bit crooked. As a precaution, the physician requested an MRI, which showed a skull-base brain tumor, or schwannoma, that was paralyzing the facial nerve. To repair the nerve and remove the tumor, a surgeon would need to open up the skull.

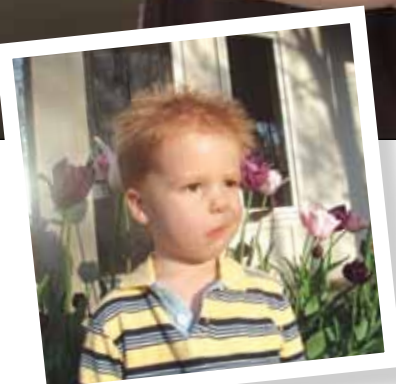
Because of the difficulty and risk involved, Jude's parents sought the advice of head and neck surgeon **John Niparko**, who in turn consulted with surgeons across the country. Eventually, though, he found the best opinion in his Johns Hopkins colleague **Kofi Boahene**, who agreed to operate. But fixing Jude's problem was much harder than finding a willing surgeon.

The facial nerve begins at the brain stem and makes numerous turns throughout the head and skull region, eventually ending in facial muscles in front of the ear. To remove the tumor and restore the boy's facial function would require cutting the facial nerve from its normal position and reconnecting it to a muscle that moves the tongue. The tongue, then, would be responsible for animating the rest of his face, a range of motion that typically requires considerable rehabilitation and training.

The operation was challenging, Boahene says, because children have a short facial nerve, making it even more difficult to connect it to the nerve in the neck. In a surprising—and fortunate—twist, what physicians had believed to be a tumor turned out to be a benign neuroma.

Within a day of the four-hour procedure, Jude, then 4, was back to himself. More surprising, however, was his quick adaptation to his re-engineered facial nerve. "Usually when we do these surgeries," Boahene says, "you have to teach patients how to use their tongue to move the rest of their face."

But, as the youngest patient at Hopkins to undergo this procedure, Jude was not the typical patient. "With no instruction," says Boahene, "he learned to move his face, smile symmetrically, wink and do all the things a normal kid can do. It shows how powerful a child's brain is and how great their capacity for learning and adaptation." ■



Kofi Boahene and John Niparko led a surgical team that removed a tumor pressing on patient Jude Frank's facial nerve, restoring facial motion.