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Karen Espitia pictured with her two children at Discovery Green Park.

A NEW REASON TO SMILE

When the removal of a brain tumor left half her face paralyzed, Karen Espitia turned to The Methodist Hospital for help.

By Linda Gilchriest

Karen Espitia became accustomed to the unfiltered comments of her elementary school students. "Hey, Ms. E., what happened to your smile?" one concerned youngster asked. "Baby, Ms. E's smile is broken," she replied.

A complex brain surgery had left Espitia with extensive facial paralysis. The story could have ended here had it not been for Dr. Michael Klebuc, director of the Center for Facial Paralysis Surgery and Functional Restoration at The Methodist Hospital and Methodist's multidisciplinary facial reanimation team.

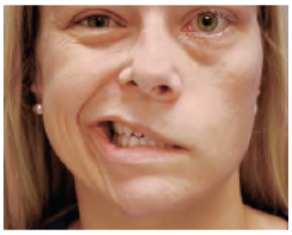
The 35-year-old single mother of two recalls the constant ringing in her ears that ultimately was evaluated by an MRI. The results showed a brain tumor that needed to be removed immediately.

"It was a very large tumor, but benign. They told me I was going to lose hearing on my left side, and I did," Espitia says. "But the tumor was completely wrapped around my facial nerve. So when they took the tumor out, they had to sever my facial nerve to prevent recurrence.

"It left me with the entire left side of my face paralyzed. My eye wouldn't close and my face was hanging. Everything was gone on that side."

The neurosurgeon highly recommended Klebuc because of his work in state-of-the-art facial paralysis surgery.

"We can help people restore their facial symmetry and their motion after facial paralysis," Klebuc says.



Before

After

The causes of the paralysis vary. "Sometimes it is Bell's palsy that doesn't recover fully, other times it is trauma or tumors that cause the problem. There are also congenital causes of facial paralysis where individuals are born without the ability to move their face."

With advances in medical technology, Klebuc explains that none of these facial damages need be permanent. "We have techniques that can be used for almost anybody, regardless of age or the cause of their facial weakness."

For instance, when the proximal portion of the nerve is not available because it was damaged near the brain stem, as in the case of Espitia, Klebuc and his team perform a surgical technique that was developed at Methodist.

The procedure calls for taking a branch of one of the chewing nerves, called the masseter nerve, and connecting it to selected branches of the facial nerve. "What happens over time is the masseter nerve fibers will grow into the facial nerve and repopulate the facial muscles," Klebuc explains. "Initially, you will need to clench your teeth together to create a smile. However, with diligent practice, over time, the smile can become reflexive and effortless."

Nerve selection is crucial. "You want a nerve that, when you divide it, its function is going to be as close to smiling as possible, and that when you cut it, you don't create a major issue some other place," Klebuc adds.

That is where Dr. David Rosenfield, director of both the EMG and Motor Control Laboratory and the Speech and Language Center at the Methodist Neurological Institute and professor of neurology at Weill Cornell Medical College, and his team of neurological specialists come in.

"He [Rosenfield] can provide very important information to me about the health of the facial nerve, the continuity of the nerve. He can also tell me if the nerve is spontaneously trying to regenerate on its own," Klebuc points out. "So he can provide an immense amount of important information to me. It's definitely a team approach."

"We do very sophisticated electrical studies," Rosenfield explains. "What the testing tells you is (A) whether the nerves that go to the face are conducting electrical stimulation, and (B) if they are not doing it appropriately, where the problem is in the nerve and what kind of problem it is.

"What Dr. Klebuc often wants to know is whether this nerve is healthy, whether this muscle is healthy and what he can move around and what to do. We can give him that information so he can then make an intelligent, clinical decision," Rosenfield says.

Rosenfield's testing showed Espitia to be a good candidate for surgery. Klebuc says he chose a hybrid surgical approach.

"We transferred the masseter nerve to the facial nerve, but I also used a series of nerve grafts to bridge the facial nerves from one side of the face to the other," Klebuc says.

This operative diagram illustrates the masseter-to-facial nerve transfer with combined cross-face nerve grafts that Dr. Michael Klebuc performed on Karen Espitia.

"If you use those grafts alone, the motion is always weaker than the normal side. But if you combine the masseter transfer and the cross-face nerve grafts, then there is a marriage of power and spontaneity that can produce a very natural-appearing smile."

Klebuc also implanted a weight in her upper eyelid to help the eye close. According to Espitia, the weight was removed after one year as the nerve grafts eventually allowed the eye to close in its own.

"It wasn't a surgery I had to have," the teacher asserts. "The surgery was lengthy and complex, but I tell everyone I would have that surgery again in a heartbeat."

Klebuc contends that this surgical technique, while state-of-the-art, is not for everyone. But he notes there is a treatment available to almost everyone who suffers with some type of facial paralysis.

"In long-standing cases of facial paralysis, we often transfer local muscles to restore an active smile or will transplant a segment of inner thigh muscle using microsurgical techniques," Klebuc says.

"If someone is very elderly, and they would not have physical stamina to go through a lengthy surgery, there are still other treatment options.

Dr. Michael Klebuc

"So even simple procedures have the potential to take somebody who is very self-conscious and reclusive and give them the confidence to get back out into the community, doing grocery shopping, meeting with their friends and having a good quality of life. For many patients with facial paralysis, surgical treatment can be a real life-changer," Klebuc says. ■

For more information about facial paralysis restoration procedures, visit Methodist Center for Facial Paralysis Surgery and Functional Restoration at methodisthealth.com/facialparalysis-smilerestoration.