

Implant gives hope to local family

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SPRING VALLEY -- The sound of a child's first words fill any household with joy.

A Brockville-area couple robbed of that delight when their home fell silent after their daughter, then 14 months old, went deaf in May now have a chance to relive it.

But the eight months and counting without the sound of their daughter Bianca's voice have been heartbreaking for Tanya Cindric and her husband David Myers.

"I can't wait until she starts talking again. She was at the point where she was using about 20 words, like mama and dad," says Myers.

"I just miss hearing her voice."

What's given the family hope is the double cochlear implant surgery Bianca had in September at Ottawa's Children's Hospital of Eastern Ontario (CHEO).

She's the first child to ever have implants in both ears at the hospital.

The huge grin that lights up Bianca's chubby red cheeks and the sparkle in her big blue eyes don't give a hint at what the blonde-haired little girl has been through this year.

She lost her hearing - and nearly her life - when she was infected with bacterial meningitis while visiting family in St. Thomas, Ontario in May.

Hospitalized for almost two weeks, she pulled through but the meningitis devastated Bianca's tiny body.

"She could not sit unsupported when she left the hospital," recalls Cindric, noting Bianca had to relearn how to walk.

She has regained most of her balance but still wobbles at times as she roams about the family's living room, alternatively bringing books and toys to mom and dad, while occasionally coming in for a closer look at the visitor.

The meningitis also stole her ability to hear.

As Myers explains, the infection killed the tiny hair cells inside her cochleae, small snail-shell shaped bones in the ear.

It's these hairs, when stimulated by sound, that transmit electrical signals to the auditory nerve, which takes them to the brain to interpret the sound.

Myers and Cindric were then faced with the choice between having Bianca grow up deaf, which would mean sending her off to a special school at age five, or trying the cochlear implant surgery.

"For us, it really wasn't much of a choice," says Myers.

Cindric recalls their decision was solidified when they met one young girl at CHEO who was born deaf, but was now hearing with an implant.

"She was just a chatty little normal four or five years old," Cindric says.

In addition to killing the hair cells in her cochleae, the meningitis also calcified the cochlear bones.

It was this extensive damage to Bianca's inner ear that resulted in doctors recommending her for CHEO's first bilateral (double) cochlear implant.

In the other approximately 15 implant surgeries done at the hospital every year, only one device is implanted.

Rosemary McCrae, certified auditory/verbal therapist at CHEO, says doctors want to save the other ear for future developments in hearing restoration technology that might happen during the child's lifetime.

"In Bianca's case, there was no point waiting for anything in the future because she has that calcification," explains McCrae.

In two eight-hour surgeries held two weeks apart in early September, Dr. David Schramm gave Bianca what are often referred to as bionic ears.

Bianca's new 'bionic ears' consist of a sound and speech processor about the size of a deck of cards that she wears externally and two loonie-sized plastic antennae that are affixed to either side of her head by magnets inside the implants.

The implants are tucked inside hollowed-out areas at the base of Bianca's skull behind each ear.

Tiny wires connect them to electrodes inserted into each cochlea.

It's these electrodes that take the sound - after it's converted into electric pulses by the external processor and sent to the implants - along the auditory nerve to the brain.

Each implant is worth about \$30,000 U.S., although the full cost of Bianca's surgery was covered by OHIP.

The couple, who met at Queen's University, moved to the area three years ago and both work in the information technology department at the Upper Canada District School Board.

They smile that the irony of a couple of techie parents now having a high-tech daughter hasn't been lost on their co-workers.

"She's not using anything in her ear at all," says Myers, adding, "Of the five senses, it's the only prosthetic available."

"It's not the same as hearing aids because hearing aids amplify sound and the cochlear implant relies on the electrical stimulation," McCrae explains.

As a result, when the devices were activated it's not business as usual for the child.

"We have to teach these children to listen and talk," she says.

That process involves weekly trips to CHEO for the family where they have one-hour therapy sessions with McCrae.

"She may be able to hear with the implants - she's recognizing there's something coming in sometimes - but she doesn't know what she's hearing. She has to learn what it is she's hearing and what it means.

"That's the whole part of learning to listen and we teach the family, not just her. No child would ever learn to listen in one hour of therapy once a week."

Myers and Cindric stress the implants won't allow Bianca to hear the same range of sounds of the normal ear.

But they're confident that with hard work and time she'll be able to sit beside her friends in a regular classroom without a problem.

"The exciting stuff is still coming when she starts making sounds," says Myers.

McCrae said it's still in the early stages and concedes the process "is a long haul and it requires special parents and a lot of courage."

She said Bianca definitely is blessed with parents who meet that standard, and says of working with her young patient, "She's just a delight, the sweetest little girl."

Indeed, Bianca's spirit has amazed her parents, who admit to being wrung out by the "emotional rollercoaster" they've been on since May.

"She's a trooper and has managed much more of a sense of humour than mom or dad have through the whole thing," says Cindric.

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