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Ear device corrects newborn ear deformities without surgery

January 24, 2011 - By Erin Digitale

Plastic surgeons at [Lucile Packard Children's Hospital](#) have started offering a new method for correcting ear deformities in young infants.

Prominent or misfolded ears, which affect between one-fifth and one-third of infants, can cause misery in childhood if they attract teasing from peers. Until recently, the only treatment available was corrective surgery.

But now a new alternative, the EarWell infant ear correction system, can reshape newborns' ears with a non-invasive, custom-fit plastic molding device.

In early life, circulating estrogen left over from pregnancy gives infants' cartilage high flexibility. Applying the device for six to eight weeks re-positions infants' malleable ears and permanently corrects their shape.

"This is a simple and elegant solution," said Packard Children's plastic surgeon [Rohit Khosla](#), MD. "It's painless and non-surgical. And it allows the patient to avoid potentially many years of social stigma associated with ear deformities."

The EarWell device, which was developed at the University of Texas Southwestern Medical Center, was approved by the U.S. Food and Drug Administration in 2010.

The plastic surgery team at Packard Children's is currently the only group in the Bay Area offering EarWell treatment.

Early intervention is key for a successful outcome, said Khosla, who is also assistant professor of [surgery](#). The device has greater than 90 percent success when treatment is initiated before one month of age. It is less effective in older babies.

"We can take advantage of the patient's biology in this specific window of infancy to correct a deformity that will otherwise be uncorrectable until the child is older," Khosla said, noting that corrective surgery cannot be done until 5 or 6 years of age. "And with this technique, the cost of surgery, the pain and the recovery can all be avoided."

Most insurance plans are covering the cost of the treatment, Khosla added.

The range of deformities that can be addressed is broad, including prominent ears; Lop Ears, which fold over at the top; Stahl's Ear, in which the rim of the ear is flattened; and Helical Rim Deformity, which affects the outer rim of the ear.

"Some of these defects are obvious, but some are really subtle," Khosla said.

Some newborns' ears have simply been squished during delivery and will unfold on their own, Khosla noted, adding that it's usually apparent within the first few days which of these deformities will self-correct. Those that have not begun to resolve by one week of age are unlikely to get better with time.

The EarWell device consists of a "cradle" that adheres around the ear, customized retractors that hold the ear in the desired shape, and a shell that fits over the ear and holds all the components in place. After the system is in place, patients receive follow-up visits every two weeks to check their progress and make adjustments. Most infants require six to eight weeks of treatment.

Courtesy of Rohit Khosla



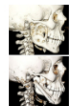
After an infant was born with unusually shaped ears (left), doctors at Packard Children's used a new molding device (center), which after six or so weeks reshaped the ears.

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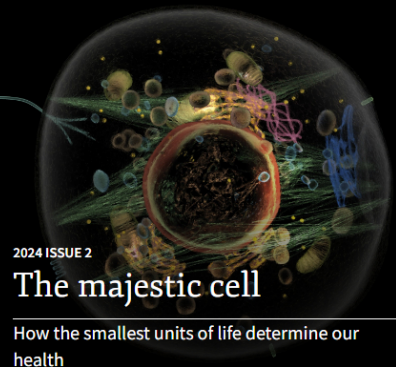
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most infants require six to eight weeks of treatment.

"We see an immediate result, even within the first two weeks," Khosla said. "It's very remarkable."



Erin Digitale

Erin Digitale is the pediatrics science writer for the medical school's Office of Communication & Public Affairs.

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