

Mother's voice on special pacifier helps preemies learn to eat

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Baby with special pacifier.
Photo: Vanderbilt U. Medical Center

When properly sucking, baby is rewarded with a song from Mom, researchers say.

(HealthDay)—Premature babies often struggle to learn to eat. Now, a special pacifier that plays prerecorded songs seems to help speed the process along, researchers say.

When [babies](#) suck on this [pacifier](#) properly, they are rewarded with a song sung by their mother.

"Premature babies have to figure out how to coordinate sucking, swallowing their own saliva and breathing. It's an incredibly difficult task for babies, and it's tiring," said the study's senior author, Dr. Nathalie Maitre, director of the neonatal intensive-care unit follow-up clinics at Vanderbilt University Children's Hospital.

"Non-nutritive sucking [with a pacifier] has been used in neonatal intensive-care units for the past 10 years, and it helps babies' sucking improve," Maitre said.

But Maitre and her colleagues wanted to see if they could get babies to learn to eat faster, because in many cases the inability to eat well is the only thing keeping a [premature baby](#) in the hospital.

Results of the study were released online Feb. 17 in the journal *Pediatrics*.

Maitre found a commercially available, FDA-approved pacifier that contained a sensor to detect when the baby was sucking properly and with enough strength to activate a prerecorded song or story.

The researchers added the moms' voices because previous research has shown that "babies are very responsive to mother's voice," Maitre said.

A music therapist had the mothers sing two songs in a specific, repetitive way, using only one octave. "The music has to be carefully calibrated so the brains of the [preterm babies](#) are receptive to it," Maitre said.

The researchers included nearly 100 babies in the study. All were between 34 and 35 weeks of gestational age, and were taking less than half of their feedings orally. The rest were through a feeding tube. Some of the babies had brain injuries.

About half of the babies were randomly assigned to the musical-pacifier group, while the other half were in a "control" group and did not receive the pacifier. Infants were offered pacifiers for non-nutritive sucking before feeding times whenever they were in a quiet but alert state, according to the study.

"Mom's voice is an excellent stimulant," Maitre said. "It only took the babies a day or two to learn that if they sucked with the right strength and the right pattern, they would be able to hear their mother's voice singing."

That reward helped the babies learn to coordinate all the different tasks for successful eating, she said.

Babies given the musical pacifier ate twice as fast as the babies in the [control group](#). They also ate twice as much as the babies in the control group. And they were able to graduate to oral feedings exclusively a full week earlier than babies in the control group.

Weight gain, however, was similar for both groups, and although the babies given the musical pacifier had 20 percent shorter hospital stays, this finding didn't reach statistical significance.

Dr. Deborah Campbell, director of neonatology at the Children's Hospital at Montefiore Medical Center, in New York City, said feeding problems among premature babies are common, "especially in the late preterm group who people tend to think of as not having as many issues. But hospital stays may go beyond normal for some infants because of difficulty with feeding."

"This study intervention was helpful, and reinforces the value of the maternal voice," Campbell said. "Having the mother's voice while baby was doing nonnutritive sucking did help babies achieve full nipple feeds faster."

"It didn't make a statistically significant difference in hospitalizations, but the babies did take more feedings in by mouth and they achieved full nipple feeding more quickly," she said.

Campbell said parents can also help by engaging more with babies during feedings, and particularly by paying attention to feeding cues and responding to those cues during feedings.

Would this device help soothe fussy full-term babies? Maitre said it's not meant for the average baby.

Maitre has no connection to the company that produces the responsive pacifiers, and she received no funding from the company for the study.

More information: See more about the musical-pacifier experiment [here](#).

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