

New musical pacifier helps premature babies get healthy

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Many premature babies enter the world with a mountain of challenges in front of them. Even after they overcome any life-threatening issues, they face ongoing, and typically unpleasant, medical procedures, long hospital stays and increased chances of chronic health issues throughout their lives.

To help address one of their biggest problems — learning how to suck and feed — Florida State University has announced the availability of the Pacifier Activated Lullaby (PAL) device to hospitals around the world.

The innovative PAL device, which uses musical lullabies to help infants quickly learn the muscle movements needed to suck, and ultimately feed, is being sold through a partnership with Powers Device Technologies Inc. Research studies have shown that PAL can reduce the length of a premature infant's hospital stay by an average of five days.

"Unlike full-term infants, very premature babies come into the world lacking the neurologic ability to coordinate a suck/swallow/breathe response for oral feeding," said Jayne Standley, Florida State's Robert O. Lawton Distinguished Professor of Music Therapy and inventor of the PAL. "The longer it takes them to learn this essential skill, the further behind in the growth process they fall. PAL uses musical lullaby reinforcement to speed this process up, helping them feed sooner and leave the hospital sooner."

PAL uses a specially wired pacifier and speaker to provide musical reinforcement every time a baby sucks on it correctly. The musical lullabies are gentle and pleasant to the baby, making them want to continue the sucking motion so they can hear more of the lullaby.

Clinical studies conducted by Standley at Tallahassee Memorial Hospital (TMH), University of Georgia Hospital in Athens, University of North Carolina Medical Center in Chapel Hill and Women's and Children's Hospital in Baton Rouge, La., have shown that infants will increase their sucking rates up to 2.5 times more than infants not exposed to the musical reinforcement.

"It's amazing to watch how much quicker our babies are able to learn the sucking motion after they have used PAL," said Terry Stevens, a neonatal intensive-care unit (NICU) nurse at TMH. "They are ready to eat sooner, they go home from the hospital earlier, they tolerate their feedings better; it's just a phenomenal improvement overall."

In addition to helping [premature babies](#) learn to feed quicker, PAL also provides parents with a welcome chance to connect with their babies during this crucial stage of the development process.

"PAL provides a chance for parents who have lost a lot of control in the birth process to come in and work directly with their baby as they receive the music therapy," said Deborah Merritt, an NICU nurse at TMH. "They can begin to have that control back again, and really be an active part of the recovery, healing and development of their little one."

Originally envisioned by Standley more than a decade ago, PAL has undergone extensive testing, received a U.S. patent and been approved by the Food and Drug Administration. Recognizing the significant health and economic benefits of PAL, Powers Device Technologies obtained the distribution and marketing rights and has launched a worldwide sales

initiative.

"After years of research and clinical studies to prove how effective this technology is at solving developmental issues in preterm infants, we are thrilled to be working with Florida State University to bring PAL to market," said P. Kathleen Lovell, president and CEO of Powers Device Technologies. "PAL truly merges science and art to improve the lives of premature infants. It will make a huge difference in the standard of medical care preemies receive in the NICU."

As premature birth rates continue to rise (up 36 percent since the 1980s), PAL demonstrates how the power of music is being harnessed to help premature infants overcome their developmental challenges.

"Many of these babies undergo daily [medical procedures](#) that, while necessary, result in added stress, pain and anxiety for the infant," Standley said. "Using a device that actually gives them comfort while they learn an essential life skill is a valuable complement to NICU care."

More information: To watch a short video of PAL in use or learn more about Standley's music therapy research, visit www.research.fsu.edu/PAL . To learn more about the device, visit www.powersdt.com .

Provided by Florida State University

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