

## Helping the Smallest Babies Thrive

OSF HealthCare Newsroom

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About 450,000 babies in the United States each year are born prematurely – before 37 weeks gestation. 23-24 weeks is considered the age of viability for a baby to survive, and these micro-preemies, as they're known, only have a 50% chance of survival if born at 25 weeks gestation.

In Neonatal Intensive Care Units (NICU) around the country where these smallest of the smallest babies fight to live, the care provided can be a deciding factor on how well they do. Two years ago, the NICU at OSF HealthCare Children's Hospital of Illinois in Peoria launched a small baby unit (SBU) for babies born between 22-30 weeks, often weighing around a pound, sometimes less.

The goal was to provide even more specialized care for these babies, focusing on their neurological development.

"Our babies that are born at 23 weeks aren't meant to be here yet. So what we do for them is we create a dark, quiet, environment for them, we whisper, we keep a dark cover over their bed, put eye shields over their eyes. All the things they shouldn't be exposed to because they should be in utero, we try and minimize all of those stressors," said Megan Willmert, Neonatal Intensive Care Unit nurse at OSF Children's Hospital of Illinois.

"When nursing have to go in and just grab the standard lab procedure for the day rather than coming in first thing in the morning and sticking the baby and awakening them from their slumber this now is allowing the baby to start to rustle and say 'hey I'm ready to have interaction with the world,' and then having that team that goes in there to have that interaction, and go in and take two people to rotate the baby, to do the procedure and give a safe, positive experience for that procedure. And, hopefully, those positive experiences are reinforced in feedings, in our procedural care, in our examinations, so that that infant can have better neuro development," added Dr. M. Jawed Javed, neonatologist.

In addition to fewer disruptions and more quiet time, the NICU team on the SBU tries to create a womb-like environment for the babies, swaddling them to limit their movements and securing their head in a turtle hat, which prevents their heads from moving side-to-side.

"It's really nice to have these hats because it's really enabled us to be able to get the babies out of bed sooner and start doing skin-to-skin with their parents within those first three days when before we were so worried about them not being in neutral head that we would make them stay in their bed for three days. But now if the baby is stable enough day 1 the get to come out and snuggle with their mom and dad," said Willmert.

A multi-disciplinary team that is dedicated to the SBU cares for the babies. In addition to the nurses and neonatologists, a physical therapist, a speech-language pathologist who focuses on feedings, supportive care staff, patient care techs, and even housekeeping are a vital part of the care network that gets parents involved in helping care for their baby right from the start, even if they're afraid to at first because of their size.

The positive outcomes speak to the level of specialized care received, including a drop in brain bleeds, especially severe ones.

"Our chronic lung disease rate, which was an untouchable rate for 30 years, has dropped almost in half. About 40% of our kids were having chronic lung disease at the time of discharge, that number is closer to 25-26%, that's remarkable. Our retinopathy of prematurity rate, because there's less exposure to higher concentration of oxygen, the kids retinal development has also significantly increased and severe retinopathy of prematurity which requires or necessitates intervention - laser therapies - it's down to almost non-existent now, explained Dr. Javed.

"The average length of stay has gone way down. Feeding is going better for parents, we are really introducing breastmilk - oral breastmilk therapy - some tastings to them way earlier than we used to. And you can tell because they're doing so much better orally by taking their pacifier and taking their bottle and even breast-feeding," Willmert added.

The SBU team is launching new campaigns targeting nutrition and cutting the use of antibiotics so the babies have less exposure, which could affect them over the course of their life. They are also starting a research project looking at genomics, one of only a handful of centers in the world doing so.

Everyone who works in the 60-bed NICU received training on the new processes and procedures in the SBU when it began, although a core group is assigned to the 8-bed unit for greater consistency of care. Parents have noticed the difference.

"You can just tell you're making such an impact on all patients and their families. They come back and visit us and you can tell but it's just really impacted their lives as well as ours! I mean we become an extended family to these patients and their parents and it's really just really wonderful to see them succeed," said Willmert.

"We have had 22 weeker's, whereas many years ago when I started here - nine years ago - those weren't even a discussion and we've had numerous 22 weeker's that have survived and have done really well. Those are the great stories. We are very blessed to be in a position we get to watch miracles each day," added Dr. Javed.

Every year, former NICU families gather to celebrate, reconnect and remember those who have received care in the neonatal unit. Organized by patient families, the event raises funds for family programming, educational classes, activities and medical equipment. For more information about the Small Wonders Miracle Walk or to register go to [www.smallwonderswalk.com](http://www.smallwonderswalk.com).