

Helping Your Baby Grow and Develop *In the NICU*

Babies who are born early do not have the womb to protect and nurture them during their final trimester of development. In the NICU, we do our best to help your baby feel like they are still inside the womb. This is very important for a preterm baby's growth and development.

Temperature and Support

When babies are inside the womb, their mom's body is doing most of the work. Unborn babies do not yet have to keep themselves warm, breathe, or do many other tasks. This lets babies use all of their energy to develop muscles and bones, and to grow and gain weight.

A preterm baby has to learn to breathe, stay warm, and take care of other body systems earlier than expected. This takes a lot of energy. While your baby is in the NICU, we help their body do the things they are not ready to do on their own. We provide a constant temperature and a stable environment. This lets your baby use their energy to grow and gain weight.

Positioning

When babies are inside the womb, the small space keeps their spine curved, their head bowed forward, and their arms and legs drawn in toward their chest. This is called the *fetal position*.

Being in the fetal position is very calming for a baby. As they move in and out of this position, their body and muscles start learning how to move.

In the NICU, we will do our best to keep your baby in the fetal position or as close to that position as we can.



A baby in the fetal position.

Pressure and Containment

Babies inside the womb are surrounded by warm water (*amniotic fluid*) and their bodies feel pressure from the uterine walls. This is like getting a constant hug.

This pressure and warmth help a baby feel calm, safe, and secure. They also help babies be aware of their body. This helps them learn about their arms and legs, especially when they move.

In our NICU, we do our best to give your baby the same feeling they had in the womb. We do this by swaddling, using positioning supports, and using other “hands-on” techniques during nursing care and procedures. We will teach you how to give your baby the same “hands-on” support.

Vision and Hearing

Babies inside the womb are in a dark place where sounds are dulled, like being under water. When your baby is in the NICU, they are exposed to loud noises and bright lights instead of quiet and dark. This can make it challenging for a baby’s hearing and vision to develop. You might notice your baby is overstimulated or overwhelmed by sounds or lights.

Over time, your baby will slowly learn to hear and process sounds. They will start to open their eyes, but their eyes will not see fully right away. By the time a baby reaches full term, their vision and hearing are developed, and they are ready to interact with the world around them.

In our NICU, we do the best we can to control the intensity of the sounds and light your baby is exposed to. We try to limit how much input we give your baby until they show us they are ready.

Mom’s Movement

Babies inside the womb feel movement every time their mom changes positions. The baby’s body is moved in many directions, which helps develop their hearing and balance (*vestibular*) system. This system helps your baby know where their body is in space, and even helps with muscle development.

A premature baby is not ready to move very much right after birth. At first, we will change your baby’s position only when we need to do treatments or other care. Later, we will start helping your baby move more, which will help their *vestibular* (balance) system develop.

Baby’s Movements

Babies inside the womb are suspended in the amniotic fluid. They can move their arms and legs easily because they do not feel the weight of gravity. They move often and feel pressure from the amniotic fluid and

uterine walls. This is how babies learn about their bodies and build strong bones and muscles.

At first, it is very hard for preterm babies to move their arms and legs, or even hold their body in a comfortable position. Their muscles and bones are not strong enough to resist gravity. In our NICU, we help babies hold their position with supports such as pads, blankets, or a swaddle.

Your baby might not move at all right after birth. But, over time, your baby will be able to move more and more on their own.

Baby's Workout

The uterine wall is elastic, like a rubber band. When a baby inside the womb pushes against the uterine wall, the wall stretches a little, but then pushes back toward the baby.

This resistance acts like strength training for a baby. It helps make the baby's bones stronger and also builds the muscles in their core (trunk).

Without the uterine wall to push against, babies in the NICU do not get this same strength training. This means it will take longer for your baby to strengthen their core and bones. Our positioning supports help with this development. We will also teach you other things you can do to help your baby develop muscle and bone strength.

Swallowing and Digestion

Babies in the womb swallow some of the amniotic fluid. With every swallow, unborn babies practice keeping their airway closed while the fluid passes down their throat. Because the baby doesn't need to breathe air yet, this is a safe place to practice.

Most times, full-term babies have already practiced protecting their airway during a swallow, so they are ready to eat right away.

But, learning to swallow is more challenging for preterm babies. They haven't had as much time in the womb to practice swallowing and breathing. Now that their young lungs are filled with air, they must learn to swallow and protect their airway at the same time. This takes careful coordination, and can be hard for a preterm baby to learn. We will work with you to help your baby to learn to eat slowly, so that they can learn to breathe and swallow safely.

Bonding with Mom

Babies in the womb hear their mom's heartbeat and her voice. They are completely surrounded by their mom's smell and taste. All of these sensory inputs help the baby to bond to mom, and feel calm and safe.

A baby in the NICU doesn't have this same level of sensory input from their mom's body. But, your baby does recognize your voice, smell, and taste.

We will do whatever we can to support a baby's bonding time with mom. This may include:

- Placing something that smells like mom in bed with your baby
- Helping you with kangaroo (skin-to-skin) care
- Teaching parents how to provide positive touch experiences that are enjoyable to your baby.

We will also teach you how to know how your voice is affecting your baby. When a preterm baby is first born, even the familiar sound of their mom's or dad's voice can be too stimulating.

For a while, it may be best not to talk out loud around your baby. As your baby gets older, they will be able to enjoy your voice more and more.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have question or concerns. UWMC clinic staff are also available to help.

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