

PREMATURE BABY

Background Information

The normal gestation period for babies is 38 to 40 weeks. It takes this long for all of the systems to develop to a mature, functional level, which can sustain the baby without the help of the mother's body. Until that time, she has provided a warm, cushioned environment and a placenta to filter waste products from his blood, replacing them with oxygen and nutrients. This environment was created especially for the baby.

For some reason, your baby was born before that 38 to 40 week timeline. Now it has become the job for the neonatologists, nurses, respiratory therapists and others to provide an environment similar to that found in the mother's womb. This requires very close monitoring of the baby's many systems, supporting each until it is developed enough to function on its own.

Skin Development and Infection

How early your baby arrived will determine the type of support he or she needs. Tiny babies have very thin skin and very little fat. This means that the skin is a poor barrier to water loss and heat loss as well as being a poor barrier for nasty invaders such as bacteria, fungi and viruses. Although the skin "toughens" quickly, there is a need to protect it, and thus the baby, until it does so. You will learn quickly that all people in our nursery are required to wash their hands (up to the elbow) for three minutes before touching a baby. This will include you and your family or friends who come to visit your baby. This reduces the number of germs your baby comes in contact with. The preterm immune system is not fully developed and it is vital that we do all we can to protect the baby from infections.

Heat Loss (Cold Stress)

Heat loss happens in many ways, most of which are greatly reduced by use of an incubator. The incubator is set to keep the baby at a constant temperature, the drafts are greatly reduced, and the humidity is controlled, while keeping the baby visible.

Breathing

The respiratory system is often not developed enough to provide good oxygenated blood and allow for the carbon dioxide to be removed. Lung tissue is still developing. The rib cage and muscles the baby uses to breathe may not be ready to do the job without a rest. For a period of time, some premature babies require a ventilator/respirator to help them breathe. Some can do well with medications to speed up the lung development. Others may only need extra oxygen. Usually, the baby will require less support as he or she nears the due date. Frequent lab work is necessary to determine how much assistance the baby needs with his breathing.

Nutrition Requirements

Upon delivery, your baby lost his food source. It now is the job of his physicians, nurses, and the NICU nutritionist to provide him with the food to grow. The food must come in a form that your baby can use. It may mean intravenous fluids with nutrients, until the digestive system can handle milk. As your baby's digestive system matures, milk is added very slowly. It is often breast milk the mother has been pumping and saving for this purpose. It may be donor breast milk that has been pasteurized. It can also be formula. The digestive system is able to digest milk before the baby figures out how to suck-swallow-breathe without choking on the milk. For that reason, a gavage tube will be used to put the food directly into the stomach. This is painless and allows the baby to use milk before he or she can manage to drink it safely. As the baby matures, the breast or bottles will be offered and your baby will learn to coordinate his suck-swallow-breathe pattern under close supervision.

Environment

Before your baby was born, he or she was cushioned and tucked into a little round ball. The light was dim and the noise was muffled. We try to provide an environment similar to that in several ways. You will notice that the unit is rather quiet. Monitors, although they can be heard, are turned fairly low, to keep the noise level down. Most times, voices are quiet. Lights are brightest during the day and minimal at night. They are used when needed and then turned down. In the isolette, you will find your baby nested on soft linens with arms and legs tucked close to his body. The baby is turned on a schedule that he or she can tolerate to provide for a position change and free the limbs for movement. This is important for muscle development and skin integrity. Tucking also helps the baby maintain body heat. The isolette will also be covered to reduce light and visual stimulation. The baby's nervous system is still developing and because some of these stimuli are overwhelming, we reduce them to a level the baby can handle.

When Do I Get Involved?

You are probably asking, "When can I do something? When can I touch and kiss my baby?" You will be invited to help take care of your baby earlier than you may think. You will be taught how to comfort, diaper, bathe and feed your baby. We realize it is important for him or her, as well as you. The baby already knows your voice and will find it soothing. Many babies settle and rest better listening to a tape made by Mom and Dad. You can make one at home and the nurse taking care of your baby will play it in the isolette. No one can hear it except your baby. If you listened to a certain type of music during your pregnancy, your baby also may find that settling.

If your baby will be breast fed, you will be shown how to pump your breasts and store the milk. It is full of antibodies, which can help the immature immune system until it is able to fight infection better. As soon as your baby is able, you will begin breastfeeding. Until that time, the nurse will use your milk for the baby's feedings.

As you can see, there are a number of issues to address for a premature baby. Some days will be better than others. You will be kept informed of progress and problems. We welcome your visit any time as described in the first section of this book. Your phone calls are always welcomed. You will talk directly with the baby's nurse or the neonatologist. You, as the parents, are a major part of the team caring for your baby. We want to hear from you, help you understand your baby's needs and progress, involve you in his or her care and eventually send your baby home with you. Please let us know what we can do to help you during this time. We realize that this is anxious time for you.

Share that with us so we can support you.

Developmental Guidelines

The following are guidelines to watch for as your baby develops.

<u>Gestational age in weeks</u>	<u>What to expect</u>	<u>What you can do</u>
23	Eyes remain closed	Your presence is important to your baby.
24	Has a little response to voice and touch. Has a lean body.	Touch and talk to your baby gently.
25	Arms and legs are limp and outstretched.	Talk softly through the portholes of the isolette.
26	Eyes begin to open.	Comfort your baby by softly holding his arms and legs.

27	Startles at loud noise.	Keep interactions subtle, avoid sudden movement.
28	Sudden jerky movements of arms/legs are common, hand grasp and sucking reflex appears, but is weak.	Shield your baby's eyes from bright light.
29	Sense of smell and hearing may help baby begin to recognize individuals .	Use a nipple during tube feedings for comfort, strengthen sucking muscles, and associate sucking with tummy getting full.
30	May see an occasional smile. Begins to wake more frequently.	Sleep with a cloth diaper to give it your "scent" and keep it close to your baby.
31	Sometimes keeps eyes wide open. Body begins to round.	Make a tape recording of your voice for the nurses to play softly to your baby.
32	May show dislike for feeding tube, enjoys pacifier during feeding.	Know that your baby can tolerate only small amounts of stimulation.
33	On the move in the isolette	Try to schedule your visits when your baby is awake
34	May be ready to start nipple feedings; enjoys sucking on pacifier; breathing is coordinated with swallowing.	If you plan to breastfeed, it may be the time to begin.
35	Baby displays hunger and thirst; may cry to be fed or changed. Eyes look at people or objects for brief periods.	During feedings, try not to distract your baby while he or she is concentrating.
36	Legs are tucked at rest	Position your baby in semi-upright positions, like that of an infant seat.

Suck-swallow reflex is more coordinated with breathing

Show your baby brightly colored toys, holding them 8 to 12 inches from his or her eyes.