



Your Baby's Nutrition and Growth

Nutrition and growth go hand in hand for all babies. In this chapter, we will first review some basic information about nutrition and growth in preterm infants, and then discuss unique problems and possible solutions for infants with BPD.

The amount of nutrition infants receive helps them grow. **When we discuss growth, we are really talking about an infant building new tissue – new muscle, more fat, longer and stronger bones.** Patterns of growth generally highlight if a baby is thriving or not, especially when still sick. When talking about growth, most commonly people think of weight gain. In the NICU, your baby's growth is evaluated by measuring several things -- changes in weight, along with changes in body length and head circumference.

Most commonly, a baby's weight is measured every day, generally in the evening. But, there may be times when weight is measured less frequently depending on how a baby is feeling and their recent growth pattern. It is important to note that it takes more than one day's measurement to fully understand the quality of a baby's weight gain, especially since weight can change with fluid shifts.

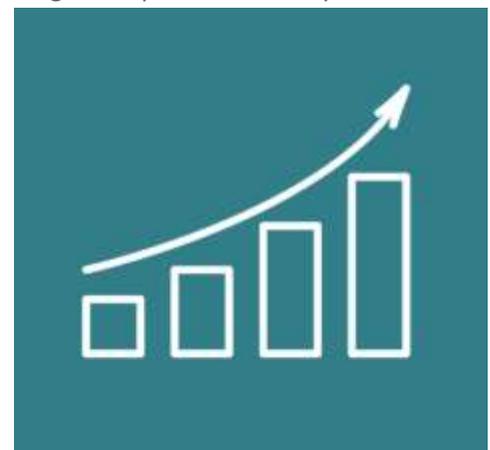
- It is not uncommon to see weight going up and down over a few days in a row, but **the upward trend is what is important.**
- Head circumference and body length are most often measured once per week and can be a better sign of a baby's nutrition status than weight.
- Recording all of these measurements on growth charts helps you and the medical team monitor growth over time.

Understanding growth helps with decisions about medical care, including the amounts and types of nutrition. Doctors and nurse practitioners look at this information frequently, but the team's dietitians and pharmacists are critical in determining your infant's nutritional needs.

When we mention "nutrition," we are talking about many different factors -- This includes the following:

- Amount of calories
- Types of calories (for instance the amounts of fat versus protein)
- Amounts of vitamins, minerals and electrolytes

A baby needs certain amounts of calories and specific types of nutrients for their growth to be as close to ideal as possible.



Nutrition

- As much as possible, an infant's nutrition is provided as breast milk or formula.
- In some situations, it may be necessary to provide nutrition through a vein -- this is called *parenteral nutrition (PN)*, or sometimes referred to as *total parenteral nutrition (TPN)*.



PATIENT AND FAMILY EDUCATION

For any infant, increasing the amounts of nutrition they get can generally be accomplished in a few ways:

- By increasing the total amount of milk or formula we provide.
- Through fortification -- by concentrating the nutrition, keeping the amounts the same but adding more nutrients to that specific amount.

The team will consider how a baby is doing overall to decide which option is best for your baby.

In infants with BPD, we know that certain problems will need to be monitored as we focus on growth and nutrition.

- It is common for infants with BPD to accumulate fluid in the body, which we call edema. This can cause fast and larger than expected weight gains in a short amount of time.
 - In these situations, the team will be using all of the information to sort through how much of an infant's weight gain is from fluid build-up versus building new tissue.
 - The team can then determine whether to adjust the amount of calories and other nutrients.
- In contrast to that, some of the medications we give may cause a baby to lose weight temporarily, and lose weight for more than a day.
 - The team will account for these situations as they evaluate and adjust feeding plans.



As is routine for any preterm infant, the team will monitor your infant's bone health.

- We monitor for something called **osteopenia of prematurity** or softening of the bones, and we screen for this using blood tests.
- In some situations, infants with severe BPD can develop bone fractures. This can be treated with vitamin and mineral supplements.

Most importantly, we make every effort to prevent these situations by monitoring your baby, and checking their lab tests at regular intervals. While some of the issues mentioned here may cause parents to worry, it is important to know that difficulties with growth and nutrition can get better over time.

In many situations, infants with BPD grow and thrive, and our team will work with you and your baby to provide the best options.

As babies get closer to their date discharge from the hospital, we will work with you to establish plans that are practical, and that can be safely followed at home.