

# Premature Newborn Care: Brain Basics

Understanding how the nervous system continues to develop after birth will help you care for your baby in ways that are good for her brain. In the third trimester, when many babies enter the NICU, grooves called Sulci and ridges called Gyri are forming in the cortex of the brain.

These grooves and ridges increase the surface areas of the brain which are devoted to memory, language, visual perception, reasoning, information processing and voluntary movement. At the same time while the expansion of the brain's surface area is in full swing individual neurons begin to mature and organize themselves.

Dendrites and Axons start to link together and as they do, billions of connections form. And from them grow whole systems that control sight, language, thought and movement. As the pathways between neurons develop, they are surrounded by a white fatty substance called Myelin.

The insulation that myelin provides helps neurons to transmit signals and information to each other with greater speed.

It is when Myelin is beginning to form that many of the most vulnerable babies arrive in the special care nursery which means that the brain must continue its development in a place where sometimes painful procedures help make survival possible.

Science is clear: the effects of early birth on the brain are reduced by caring for babies in ways that foster healthy brain development.

Your love and support during a NICU stay not only make a difference in your baby's well-being now, but for her future.