

How Children Learn and Develop Skills

Children's Physiotherapy Service (Cambridgeshire)



What babies and young children experience in their early lives helps provide them with the skills they require for the future. It is important to have an understanding of brain development and how different experiences can influence child development and skill achievement.

How the brain develops

The most rapid brain development occurs during the first three years of life. At birth a baby's brain contains billions of nerve cells (neurons), which are initially unconnected. A child's brain defines who they are and how they function, cognitively (learn), emotionally, socially and physically.



These nerve cells communicate with each other by passing chemical messages over tiny connections called synapses. As the messages are repeated over and over, more links are made and the pathways become established. Think of these pathways as the brain's "wiring." In the first years of life, these connections develop at an extremely fast pace. Connections only develop in response to experiences. How well the connections are formed is affected by the child's interaction with the world variety of experiences. This can affect the ability to learn, solve problems, get along with others, and control emotions.

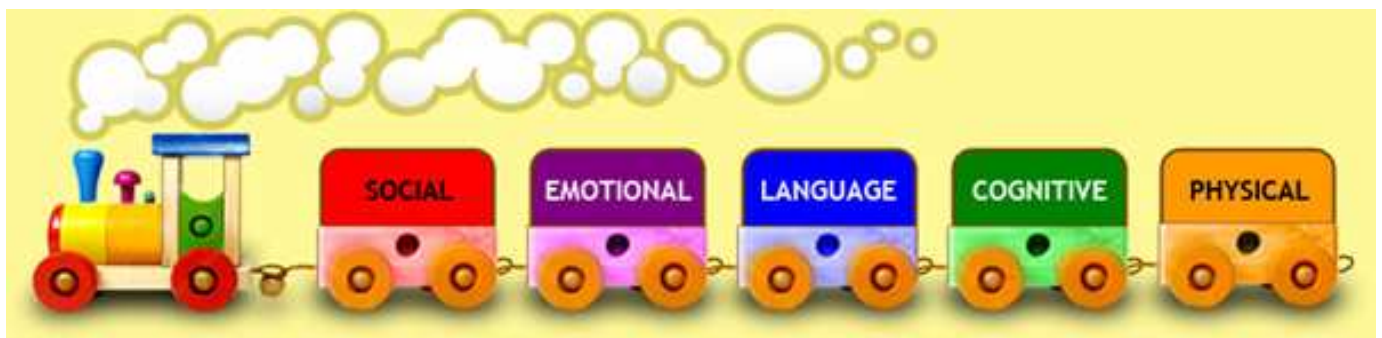
By the time a child is six years old, there will be more connections, or synapses, in their brain than at any other time in their life. They have unlimited potential. But a brain that is so full of connections makes it difficult to respond quickly and efficiently. You may have noticed, sometimes, that your young child has to pause before answering or struggles to negotiate obstacles. Like a road system with too many turn-offs and roundabouts, a densely connected brain can be confusing and slow to get around.

So, in order to be more efficient, the brain starts pruning (cutting) the connections that are not being used. The saying, “**Use it or lose it!**” is literally true for our child’s brain.

Child development depends on the interaction between nature (what you inherit) and nurture (what you experience). Both factors have been found to be critical for healthy brain development.

Fundamentals of child development

Babies’ and children need to learn their fundamental skills at the right time and in the right order. To develop their full potential, children need to learn the fundamentals according to their stage of physical, learning (cognitive) and emotional development. Babies’ and children’s skills, whether cognitive, social, emotional or physical are not linked to their age but the stage of development, and all these components are linked together.



Child development consists of three main areas:

Physical



Cognitive



Social & Emotional



1. Physical development

Changes in muscle strength, bone development, vision, hearing, proprioception (knowing where your body is in space without vision) are all included. Physical skills develop in a relatively stable, predictable sequence, but are all dependent on cognition, social and emotional development.

Physical development of skills falls into the following main categories, which also often occur in a predictable sequence:

- **Oral motor development** involves the small muscles of the mouth, lips and tongue. To develop sucking, swallowing, smiling and produce meaningful sounds which is the basis for speech.
- **Gross-motor development** involves the larger movements your child makes with their arms, legs, feet, or entire body. Such activities as running, skipping, and bike riding fall into this category.
- **Fine-motor development** involves the small muscles of the hands and fingers. In activities such as grasping, holding, cutting, and drawing.

2. Cognitive development

This refers to processes people use to gain knowledge. Language, thought, reasoning, and imagination are all included. As children mature and gain experience with their world, these skills develop. If a child's development is delayed their physical, language and social emotional skills will often be in line with their learning. Play in a variety of ways environments is essential.

See the birth to 5 hand book.

3. Social-emotional development

These two areas are grouped together because they are so interrelated. Learning to relate to others is social development. Emotional development, involves feelings and expression of feelings. Feel loved and secure, trust, fear, confidence, pride, friendship, self-esteem and humour are all part of social-emotional development. Learning to express emotions in appropriate ways begins early, as children have success with all skills, confidence builds.

The natural pace of learning

Although children mature and learn at different rates, almost all children learn their skills in the same sequence. The important thing is to provide children with plenty of opportunities to explore all possible movements during their every day life – which means that the child's environment needs to be both safe and challenging.

The brain continues to prune (lose) connections to ensure the skill is performed in the most efficient way in lots of different environments. However, adults must still remember that each child's learning will continue at their own natural pace and to their natural potential. The brain will need time to ensure the connections are secure (consolidation). This is why it is essential to practice, practice, practice in lots of different ways to make the skills permanent.

**PRACTICE MAKES PERFECT
PERMANENT**

Sign posting

Please see the birth to five www.publichealth.hscni.net/publications/birth-five

The red book.

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