

Child development and their respective motor phases

Desenvolvimento infantil e suas respectivas fases motoras

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Child development is paramount to continuous progress in an individual's developmental process. Before the birth of the child is formed or the mold of a brain construction that will be defined through genetic influence and its relationship to the environment in which the child is inserted in the early years of life. Central Nervous System (CNS) maturation enables the process of motor development progression over the years.¹⁻²

Motor development is understood as a composite of changes in an individual's behavior and movements, including modifications that undergo behavioral changes. For these reasons, it can be said that the motor system depends on maturation and learning elements. Several studies show that early instigation is critical for CNS maturation as well as for enhancing its functions.³

In addition, there are phases that are fundamental to basic motor skills and occur until age seven. These skills are subdivided into three: early stage, which is the fundamental motor skill, where the child uses an expression of body exaggeration; elementary stage that is performed by the fundamental movements executed in an orderly manner and that there is a command over them, but these movements are still restricted and exorbitant; mature stage where the child performs skillful, harmonized and thoughtful movements.⁴

Therefore, it is noteworthy that not everyone has the ability to reach the mature stage in all fundamental motor skills, because the skills developed are not linked to the age of the child, but to the environment and social group in which they live and the ability of the child. even stimulate them.⁴

The stages of motor development

Motor Reflex Phase

Reflexes are the first movements made by humans. They are involuntary movements and are subcortically controlled and are the basis for reflex motions. The baby gets a response from the immediate environment. Therefore, these involuntary movements and the growing cortical distinction in the first months of postnatal life exert an important influence on helping the child learn about his body and the external environment. Primitive reflexes can be considered as a set of information, according to which the same part assisting and stimulating cortical activity and thus development. Sucking and searching reflexes through smell are considered primitive reflex techniques, because without these reflexes the baby would not be able to feed. Postural reflexes constitute the second form of involuntary movement and have similarities with the resulting involuntary behaviors, but are completely involuntary. These reflexes appear to serve as neuromotor testing equipment for stabilizing, locomotor, and manipulative mechanisms.

Rudimentary movement phase

Rudimentary movements are considered voluntary and necessary for survival, these movements are characterized by stabilizing movements, such as being able to maintain control of the head, neck and muscles and trunk. Reaching, holding and releasing functions, including locomotor movements such as crawling, crawling and walking, are movements observed from birth to two years, are determined by maturation and are defined by a sequence of highly emergent onset. This sequence is resistant to normal changes. The rate at which these skills appear varies with each child and depends on biological, environmental factors and the tasks to be performed.⁴

The phase of rudimentary movements can be subdivided into two stages, the stage where inhibition of reflexes that begin at birth occurs and then gradually, the baby's movements will be associated with the developing cortex. Due to this development and certain limitations of the environment, the reflexes are inhibited or disappeared, and then the primitive and postural reflexes are replaced by voluntary movements.⁴

The pre-control stage is characterized when the child is about one year old and begins to gain precision and control over his movements. The rapid development of higher cognitive processes and motor processes stimulate agile skills in rudimentary motor skills. At this stage children learn to get and maintain their balance, learn to handle objects, and move around with a high degree of efficiency and control, considering the short time they had to develop these skills.⁴

Fundamental Movements Phase

Fundamental movement skills are effects of the rudimentary phase of movement in the neonatal period. This phase is characterized by children's

recognition of the motor development of their body, where they are fully involved in its exploration and experimentation. It is the period when the child puts his stabilizing, locomotor and manipulative movements into practice, individually and then jointly. Children in this phase are learning to cope with various motor skills and balance and are gradually and controlled adapting to perform stripped, series and constant movements, as evidenced by their ability to accept changes in task demands.⁴

There are misconceptions about the concept of the fundamental phase, that is, a notion that skills are characterized only by maturity and little influenced by task and environmental factors. Knowing that maturation is intertwined with the basic role in the development of fundamental movement types cannot be considered as the sole influence. However, there are also environmental conditions, opportunities to practice, encouragement, instruction and ecology (scenario) of the environment itself, these conditions are significant and reach the maximum level of development in the fundamental movement patterns achieved.⁴

Some skills are developed a little later and require tracking and interception of moving objects such as pick, drop, bounce and others, these skills are developed later due to the sophisticated visual and motor conditions of these tasks. When comparing the movements of children and adults it is observed that many of them did not progress in relation to their fundamental activities to the mature level. Although some individuals reach these stages because of their maturity and influence in the environment in which they live, most of them need not only opportunities for practice but also encouragement and teaching in a learning environment. Without these opportunities it is potentially impossible for the individual to reach the mature stage with appropriate skill at this stage, which will inhibit execution and development at a later stage.⁴

Phase of specialized movements

The consequence of the specialized movement phase results from the fundamental movement phase. At this stage movement becomes a medium that is used in many complicated motor activities existing in daily life, recreation and sporting goals. This is a stage in which basic stabilizing, locomotor, manipulative skills are learned and are gradually improved, adjusted, and developed to be used in increasingly demanding situations. Some activities can already be performed during this period, such as: jumping on one foot, jumping rope, participation in folk dances and also the triple jump in athletics.⁴

The emergence and expansion of skill development in the specialized movement phase is influenced by several factors of individual and environmental tasks. The specialized movement phase has three stages, transient stage, application stage and permanent use stage. Children who are 7 or 8 years old usually enter the transitional phase, where the individual begins to combine his or her fundamental motor skills with outdoor activities, as well as recreational and sports activities. Walking on a rope bridge, jumping rope and playing ball are examples of common transient activities.⁴

We concluded that motor development is a constant and lasting process, this is justified by the fact that the most striking changes happen in the first

phase of life, so the propensity is that studies about motor development are performed in children. This is necessary because the organism takes about twenty years to mature, so the first years of life, from birth to six years, are fundamental for the individual because the experiences of the child in this early phase will become crucial and determinant in your future formation.⁴

Moreover, it is very important for children to perform movements, this will facilitate their interaction with the environment in which they live, and it is about childhood motor development where most studies are redirected. It can be seen that studies of the last century that deal with motor development in infants have been conducted on evidence and observations and are considered to date.⁴⁻⁶

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