

Motor Development Stages

Motor Development Stages – Study Notes

1. Overview

Motor development refers to the progressive acquisition of control over body movements, from simple reflexes in infancy to complex, coordinated actions in adulthood. The process is shaped by genetic programming, neural maturation, physical growth, and environmental interaction.

2. Major Developmental Periods

Period	Age Range	Key Characteristics	Typical Milestones
Prenatal	Conception – birth	Neural circuitry forms; muscle tissue develops	Fetal movements (quickening) ~ 7-8 wks gestation; purposeful kicking by 20 wks
Infancy	Birth – 12 mo	Reflexes give way to voluntary control; rapid myelination	• Lifts head (2 mo) • Rolls over (4-6 mo) • Sits unsupported (6-8 mo) • Crawls (7-10 mo) • Stands & walks (9-15 mo)
Toddlerhood	1-3 yr	Integration of large-muscle (gross) and small-muscle (fine) skills; balance improves	• Runs, jumps, climbs • Throws & kicks a ball • Stacks 3-4 blocks • Uses spoon with some spilling • Hops on one foot (4-5 yr)
Preschool	3-5 yr	Increased coordination, speed, and bilateral symmetry	• Pedals a tricycle • Draws basic shapes • Cuts with scissors • Skips, gallops, and performs “long jumps”
Middle Childhood	6-11 yr	Refinement of skill patterns; sport-specific techniques emerge	• Writes legibly, ties shoes • Demonstrates hand-eye coordination in games

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Period	Age Range	Key Characteristics	Typical Milestones
Adolescence	12-18yr	Rapid growth spurt, increased strength, and fine-tuning of complex movements	• Mastery of sport tactics • Improved reaction time, agility • Development of body image & coordination awareness • Skill maintenance through practice
Adulthood	19yr+	Maintenance or decline depending on activity level; neuroplasticity still possible	• Age-related changes (e.g., slower speed, reduced balance) can be mitigated by regular exercise

3. Theoretical Frameworks

Theory	Core Idea	Relevance to Motor Development
Maturation Theory (Gesell)	Development follows a genetically predetermined timetable.	Predicts when specific motor milestones should appear; emphasizes the role of nervous system maturation.
Dynamic Systems Theory (Thelen, Smith)	Motor behavior emerges from the interaction of multiple subsystems (neural, biomechanical, environmental, task).	Explains variability in skill acquisition and why “critical periods” can be flexible.
Ecological/Perceptual-Motor Theory (Gibson)	Perception and action are tightly coupled; affordances in the environment guide movement.	Highlights the importance of rich, age-appropriate environments for skill development.
Motor Learning Theory (Fitts & Posner)	Skill acquisition proceeds through three stages: Cognitive ? Associative ? Autonomous.	Provides a roadmap for teaching complex movements (e.g., sports techniques).

4. Gross vs. Fine Motor Skills