

Childhood Development Patterns

How does a child learn to walk? This is a skill we don't need to teach; it will happen naturally and occurs in very distinct stages. Parents eagerly await those first few steps and often try to rush the process. However, it will take place once the neurological and musculoskeletal systems are mature and cohesive.

A child will begin to stand and cruise along furniture just before one year of age. Walking independently can happen anywhere between 10-18 months. At this point they have a very wide stance and take many quick steps to maintain their balance. They also walk with their arms held up to protect during falls.

Within 6 months of beginning to walk the child will have developed a more natural walking pattern with their arms down and swinging. They also strike the ground with their heel first as oppose to the entire foot flat at once. However, their feet remain wider apart to help with balance.

As their neurological and musculoskeletal systems continue to develop and make connections they acquire skills such as running, walking on tippy toes, using stairs and standing on one leg. By 8 years old children have developed the gait and posture nearly identical to an adult.

Watching our children develop new skills is one of the joys of being a parent. These skills are inherent and will come with time but cannot be rushed. It is important to make sure your child is hitting the correct milestones.

Normal Milestones:

Normal motor milestones	
Sit without support	6-8 months
Creep on hands and knees	9-11 months
Cruise or bottom shuffle	11-12 months
Walk independently	12-14 months
Climb up stairs on hands and knees	15 months
Run stiffly	16 months
Walk down steps (nonreciprocal)	20-24 months
Walk up steps, alternate feet	3 years
Hop on one foot, broad jump	4 years
Skipping	5 years
Balance on one foot, 20 seconds	6-7 years

When to worry:

- Waddling gait over the age of 3 years
- Not walking over 18 months old
- Difficulty getting up from the floor
- Clumsiness or prone to falling over 18 months old
- Regression in milestones they had previously achieved (ie: doing up buttons, using the stairs, coordinated movements)

Abnormal Gait Patterns:

- Circumduction Gait- excessive hip abduction as the leg swings forward
- Ataxic Gait- unstable gait with wide then narrow base of support
- Trendelenburg Gait- while weight bearing on one leg the opposite pelvis drops
- Toe Walking Gait- heel contact is absent and persists past the normal age
- Stepping Gait- entire leg lifts at the hip to allow the foot to clear the ground
- Clumsy Gait- difficulty with coordination and frequent falls

Treatment:

- Rule out differential diagnoses: fractures, Juvenile idiopathic arthritis, cerebral palsy, spina bifida, Legg- Calve-Perthes disease, etc.
- Physiotherapy, UCBL/AFO/gait plate style orthotics, orthopaedic footwear

References
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