Gait in Children--Differentiating the Normal from the Pathologic
Matthew J Bueche, MD

Toddler Gait
Wide-Based
Externally Rotated at Hips
Often Internal In Tibias
Increased Hip and Knee Flexion
Foot-flat or Toe-toe Gait

Older Children
Develop Heel-Toe Gait
Push-Off at Terminal Stance
Smother, More Efficient than Toddler

Pathologic Gait
Anteverted Gait
Knees and Toes In
+- Increased Lordosis

Antalgic Gait
Pain Limits Time Spent on Affected Limb (“short stepping”)
Uneven Cadence
May Sway to Injured Side
Foot Contact Pattern May Indicate Painful Area

Trendelenburg Gait
Indicative of Hip Problem or Proximal Weakness
Trunk Sways Over Affected Side
Pelvis Drops on Opposite Side

Diplegic Gait
Equinus (Tip-Toe)
Knee Flexion (“Crouch”)
Hip Flexion
Hip Adduction (“Scissoring”)
Internal Rotation
Knee Stiffness
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Hemiplegic Gait
- Unilateral Equinus
- Knee Flexion
- Hip Flexion
- Knee Stiffness
- Flexion Posturing of Upper Extremity

Proximal Weakness Gait
- Trendelenburg
- Equinus
- Gower Sign

Short-Limb Gait (seen at >4% shortening)
- Oblique Pelvis
- Knee and Hip Flexion (of Long Leg)
- Equinus (Short Leg)

Differential Diagnosis of Limping in Various Age Groups

<table>
<thead>
<tr>
<th>Toddler (1-3 yr)</th>
<th>Child (4-10 yr)</th>
<th>Adolescent (11-15 yr)</th>
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</thead>
<tbody>
<tr>
<td>Transient synovitis</td>
<td>Transient synovitis</td>
<td>Slipped capital femoral epiphysis</td>
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<tr>
<td>Septic arthritis</td>
<td>Septic arthritis</td>
<td>Hip dysplasia</td>
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<tr>
<td>Diskitis</td>
<td>Perthes disease</td>
<td>Chondrolysis</td>
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<tr>
<td>Toddler's fracture</td>
<td>Discoid meniscus</td>
<td>Overuse syndromes</td>
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<tr>
<td>Cerebral palsy</td>
<td>Limb length discrepancy</td>
<td>Osteochondritis dissecans</td>
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<td>Muscular dystrophy</td>
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<td>Developmental dysplasia of the hip</td>
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<td>Coxa vara</td>
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<td>Pauciarticular juvenile arthritis</td>
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<tr>
<td><strong>Rarities</strong></td>
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<tr>
<td>Leukemia</td>
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<td>Osteoid osteoma</td>
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Bibliography

