Children's Wisconsin

Co-Management Guidelines

To support collaborative care, we have developed guidelines for our community providers to utilize when referring to, and managing patients with, the pediatric specialists at Children's Wisconsin. These guidelines provide protocols for jointly managing patient cases between community providers and our pediatric specialists.

Idiopathic Toe Walking

Idiopathic toe walking is a term used to define a gait in which a person walks with a toe-toe gait pattern without any known correlated etiology

Diagnosis/symptom	Referring provider's initial evaluation and management:	When to initiate referral to Orthopedic Clinic:	What can referring provider send to Orthopedic Clinic?	Specialist's workup will likely include:

Signs and symptoms
• Walk with toe-toe gait pattern intermittently or constantly
• May be able to walk heel-toe when prompted
• May struggle to stand with feet plantigrade
• With prolonged toe walking may develop tight heel cords
• May be associated with neurodevelopmental conditions – such as sensory processing disorders & autism
• They do not typically present with pain
	History:
	• Birth history
	• Developmental milestone achievement
	• Bowel / bladder patterns
	• History of toe walking:
	  • Age of onset
	  • Bilateral or unilateral
	  • Improving or worsening
	  • Constant or intermittent
	• Family history of progressive neuromuscular conditions
	
	Exam:
	• Muskuloseletal exam:
	  • Gait
		Referral to Orthopedics
		• Parent or Provider concern
		• Failed improvement with PT
		• Equinus contracture
		
		• Well Child Lower Extremity Clinic
		  • Healthy children under 10 years old
		  • Not intended if concern for developmental dela, neurologic or genetic disorder
		• General Orthopedic Clinic
		  • Patients with pain
		  • Equinus contracture
			Internal Provider using Epic:
			Place Ambulatory Referral to Orthopedics
			
			External Provider using EPIC:
			Please complete the external referral order to CW ORTHOPEDIC CLINICS
			- or -
			Fax to Central Scheduling at (414) 607-5280.
			
			Please send
			• Pertinent images (x-rays rarely needed for toe walking) – either push to CHW PACS or send with family on disc
				History
				• Comprehensive birth history
				• Family history
				• HPI
				
				Exam
				• Neuro exam including tone, sensation, DTR
				• Gait exam
				• Rotational profile
				• Strength throughout BUE & BLE
				• Foot & Ankle exam:
				  • Foot position (eg plantigrade, cavus, valgus)
				  • Passive dorsiflexion / plantarflexion
				
				Treatment Options:

For questions concerning this work,
Contact mdconnect@childrenswi.org

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Causes

- There is no well-known etiology. Possible etiologies include:
  - Normal variant in childhood development
  - Hereditary
  - Learned behavior

Differential Diagnoses

- Equinus contracture
- Increased muscle tone
- Cerebral Palsy
- Leg Length Inequality
- Spina Bifida
- Neuropathy (eg Charcot-Marie-Tooth)
- Muscular dystrophy

- Foot position
- Ankle motion (passive dorsiflexion)
- LE strength, especially plantarflexion & dorsiflexion
- Standing evaluation of pelvic crest height (lest straight, is pelvis even?)

- Neurol exam:
  - Sensation
  - DTR
  - Muscle wasting
  - Muscle tone
  - Clonus
  - Gower's sign
  - Evidence of spinal dysraphism (sacral dimple, hairy tuft on spine)

Diagnostic Tests

- Abnormal neuro exam and/or bowel/bladder issues = MRI of brain & full spine
- Positive Gowers sign = labs for CK level

Management

- Patients with underlying disorders or developmental delays
- Second opinion, previously seen by outside Orthopedic Surgeon

Other Possible Referrals:

MRI with concerns related to static encephalopathy: Neurology and/or Physical Medicine & Rehab

MRI with concern of syrinx or tethered cord: Neurosurgery

- Radiologist reports if imaging obtained – send with family or fax to (414) 604-7509
- Clinic notes with detailed history & lower extremity exam

Contact Information

- Call Physician referral Line at (414) 266-2460 if you would like to speak directly to Pediatric orthopedic surgeon prior to referral

- Contact Orthopedic Nurseline at (414) 266-2411 for general concerns

If dorsiflexion >15 degrees

- <5 years old:
  - Watchful waiting
  - Possible PT if parent interested
- 5-10 years old
  - Possible PT for 6-8 weeks
  - Serial casting if:
    - No improvement with PT
    - First step in treatment if parent / child interested

If dorsiflexion from 0-10 degrees

- Possible physical therapy
- Possible stretching splints
- Serial casting

If equinus contracture

- Possible stretching casts
- Surgical tendon lengthening with casting

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	• Normal exam, dorsiflexion >10 degrees, no redflags on HPI= educate family:
	  • spontaneous resolution by 10 years of age approximately 80% of time
	  • Frequent prompting to walk with heels down is ineffective
	• Referral to PT			

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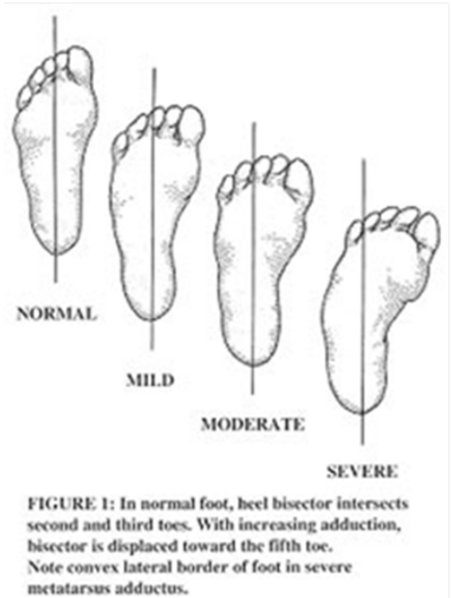

FIGURE 1: In normal foot, heel bisector intersects second and third toes. With increasing adduction, bisector is displaced toward the fifth toe. Note convex lateral border of foot in severe metatarsus adductus.

*Approved by Specialty Medical Leader, CSG Clinical Integration, CMG CORE Team

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Medical Disclaimer

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