

Evidence-based Roles in the Management of Congenital Muscular Torticollis (CMT)

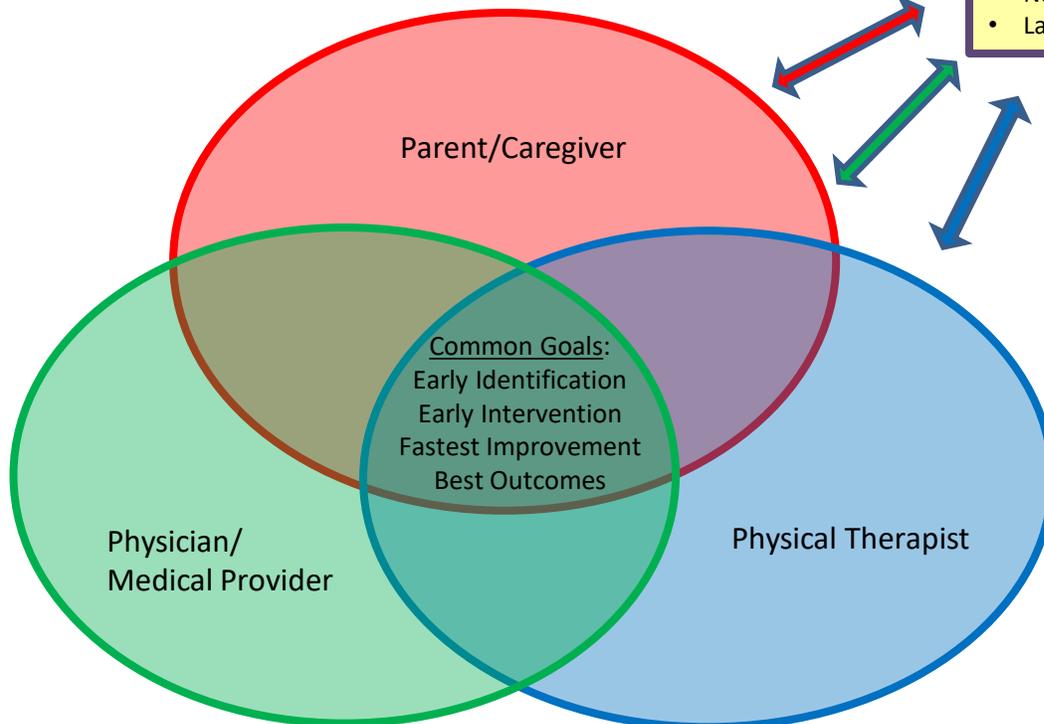
Based on: Kaplan SL, Coulter C, Sargent B. Physical therapy management of congenital muscular torticollis: a 2018 evidence-based clinical practice guideline from the APTA academy of pediatric physical therapy. *Pediatr Phys Ther.* 2018;30:240–290.

The roles of the Parent/Caregiver are to:

- Share concerns with physician and physical therapist
- Collaborate with medical team and report success and difficulties with carrying out recommendations
- Partner with physical therapist to create and modify home program
- Carry out daily home program
- Provide “tummy time” and limit use of carrier devices
- Assist therapist with measurement-taking and monitoring progress
- Monitor head shape and motor development along with therapist
- Participate actively in physical therapy sessions

Other possible consultants for an infant diagnosed with CMT:

- Radiologist
- Orthotist
- Ophthalmologist
- Optometrist
- Orthopedist
- Neurologist
- Lactation specialist



The roles of the Physician/ Health Care Provider are to:

- Educate expectant parents about optimal positioning
- Educate parents of newborns about optimal positioning
- Screen newborns for cervical asymmetries
- Screen infants for CMT at well-checks
- Refer children with asymmetries to physical therapy
- Refer children for additional consultations or diagnostic testing when indicated
- Consult with physical therapist and other specialists

The roles of the Physical Therapist are to:

- Document infant history
- Screen infants for non-muscular causes of CMT
- Screen infants for conditions other than CMT
- Examine body structures
- Classify level of severity
- Examine activity and developmental status
- Examine participation status
- Determine prognosis
- Initiate first choice intervention
- Provide supplemental interventions if appropriate
- Monitor and document progress
- Consult with physician and other specialists
- Discontinue direct intervention when criteria is met
- Reassess infant after 3-12 months or when walking

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Knowledge Broker Network

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Users of this document are strongly encouraged to read the full text 2018 CMT CPG available at:

https://journals.lww.com/pedpt/Fulltext/2018/10000/Physical_Therapy_Management_of_Congenital_Muscular.2.aspx.

This document along with other 2018 CMT CPG implementation resources are available at: <https://pediatricapta.org/clinical-practice-guidelines/>

Referral to Physical Therapy for the Management of Congenital Muscular Torticollis: A Quick Reference Summary

Source: Kaplan SL, Coulter C, Sargent B. Physical therapy management of congenital muscular torticollis: a 2018 evidence-based clinical practice guideline from the APTA academy of pediatric physical therapy. *Pediatr Phys Ther.* 2018;30:240-290.

Literature shows that earlier intervention produces quicker results.

98% of the infant with CMT achieve normal range of motion within 1.5 months of physical therapy intervention if it is started before one month of age.

Why PT?

Physical therapy is essential for:

- Early correction
- Early identification of other asymmetry throughout the body
- Early identification of developmental delay
- Prevention of future complications



Infants with definitive signs of Congenital Muscular Torticollis (CMT)

POSTURAL CMT: Infant holds his/her head tilted and/or turned. Muscle length and flexibility of neck movement is not limited.

MUSCULAR CMT: Infant holds his/her head tilted and/or turned AND has tightness of the SCM neck muscle. There is reduced flexibility of the neck.

STERNOCLEIDOMASTOID (SCM) MASS: The infant prefers to hold his/her head tilted and/or turned AND the SCM muscle has a mass (or small bump) that may be seen or felt. There is reduced flexibility of the neck.

Who to refer?

Newborns AT RISK for Congenital Muscular Torticollis



At Risk characteristics include: birth trauma, first born, body length >51.3 cm, presence of facial or head asymmetry; presence of SCM mass (palpable) and/or cervical ROM limitation

SCREENING:

Postural Preferences: Tilt or rotation of neck or body

Decreased Passive Cervical Range of Motion:

Rotation and lateral flexion compared between left and right sides

Difficulty Nursing or Feeding on One Side

Hand Preference: Reaching with or placing one hand to mouth more frequently

Craniofacial asymmetry/Plagiocephaly or Brachycephaly

Sternocleidomastoid Mass or tight muscle fibers in SCM and upper trapezius



What concerns warrant referral?

Refer to physical therapy as soon as an infant shows any signs/symptoms of CMT.

An infant can be referred at birth or shortly after.



Infants who show no signs of congenital muscular torticollis at birth should be screened as suggested above at each well visit.

Physical Therapists with expertise in managing CMT may practice in hospital-based clinics, community-based clinics, home health agencies and early intervention programs.

Where to refer?

 **FIND A PEDIATRIC PT**



Or Contact:

KEY SUMMARY STATEMENT:

EARLY REFERRAL to Physical Therapy results in better outcomes and shorter episodes of care.

98% of infants with Congenital Muscular Torticollis (CMT) achieve normal range of movement within 1.5 months if intervention is started before 1 month of age. Evidence supports that waiting until after 1 month of age to refer prolongs intervention to about 6 months. Best practice in CMT management requires early screening, ongoing screening, prompt identification of asymmetries, and strong collaboration among physical therapists, parents/caregivers, and other health care providers. Recommendations, benefits and evidence are summarized below.

EARLY IDENTIFICATION OF INFANTS WITH ASYMMETRIES/CMT

Action Statement 2 **Recommendation strength: Strong
Evidence Quality: Level I for early identification**

Newborn at risk characteristics: Birth history includes: birth trauma, first born, body length > 51.3 cm; presence of facial or head asymmetry; presence of sternocleidomastoid (SCM) mass (palpable) or cervical range of motion (ROM) limitation.

SCREENING: Screen for risk factors and presence of neck or craniofacial asymmetry from newborn to 8 months of age.

- Newborn ROM screening (during first 2 days of life) while stabilized in supine: Neck rotation (chin turns past shoulder to 100°) and Lateral flexion (ear approximates shoulder).
- To 8 months: Observe for asymmetry at each well child visit and interview parent regarding positional preference.

Benefits:

- Early ID of CMT or other conditions with asymmetry
- Early onset of intervention for infants with CMT if referred
- Reduced episode of care to resolve CMT with reduced cost
- Reduced risk for needing more aggressive intervention (Botox or surgery) in the future

EARLY REFERRAL FOR INFANTS: With asymmetries/CMT to medical provider and PT

Action Statement 3 **Recommendation strength: Moderate
Evidence Quality: Level II**

REFERRAL: Infants with CMT or positional preference should be referred to the pediatrician and to a physical therapist (PT) as soon as any asymmetry is noted: **positional preference, facial asymmetry, plagiocephaly or brachycephaly, SCM mass or tight muscle bands, reduced cervical ROM (difference in active or passive rotation or lateral flexion)**

First choice intervention: Neck passive ROM, neck and trunk active ROM, development of movement symmetry, environmental adaptations, parent/caregiver education

Benefits:

- Early differential diagnosis to confirm CMT
- Early onset of intervention to resolve reduced ROM and asymmetry
- Early parent education to facilitate symmetrical development
- Greater infant cooperation with intervention

REFER INFANTS FROM PT TO MEDICAL PROVIDER: If concerns inconsistent with CMT are identified

Action Statement 6 **Recommendation strength: Moderate
Evidence Quality: Level II**

Concerns necessitating referral to medical provider: Poor visual tracking, abnormal muscle tone, extra-muscular masses, asymmetry not consistent with CMT, associated conditions, >12 months with facial asymmetry &/or > 10 degree difference in ROM, >7 months with SCM mass; side of torticollis changes.

Benefits:

- Infants can be co-managed with the infant's physician and other specialists
- Early coordination of care may resolve CMT more quickly and with less cost, as well as initiate appropriate intervention for conditions other than CMT
- Parental support starts earlier for effective home programming, education, and the balance of intervention with parental needs to enjoy and bond with infant

TIMING OF PHYSICAL THERAPY DISCONTINUATION OF DIRECT INTERVENTION, REASSESSMENT, AND DISCHARGE:

Action Statement 16/17 **Recommendation strength: Moderate
Evidence Quality: Level II-III**

Discontinuation of direct intervention criteria: Cervical rotation and lateral flexion passive ROM within 5° of unaffected side, symmetrical active ROM, age appropriate development, no visible head tilt, parents understand what to monitor as child grows.

Benefits: Use of criteria reasonably ensures:

- CMT asymmetry has resolved within accepted ranges of measurement error
- No lingering compensations or delays
- Parents know how to assess for regression
- Discontinuation documentation reflects expected outcomes

Reassessment: 3-12 months after discontinuation of direct intervention or when child starts walking. Discharge from physical therapy after reassessment if appropriate.

Benefits:

- Detection of relapse and developmental delays
- Potential resumption of home programs
- Potential identification of other causes of asymmetry