Supplemental Digital Content 3: Summary and Status of Action Statements for the 2024 Congenital Muscular Torticollis Clinical Practice Guideline

I. EDUCATION, IDENTIFICATION AND REFERRAL OF INFANTS WITH ASYMMETRIES / CONGENITAL MUSCULAR TORTICOLLIS (CMT)
P **Action Statement 1: EDUCATE EXPECTANT OR NEW PARENTS/CAREGIVERS OF NEWBORN INFANTS TO PREVENT ASYMMETRIES/CMT.** Health care providers (eg, prenatal educators, physicians, midwives, obstetrical or other nurses, lactation specialists, or physical therapists) should educate and document instruction to all expectant or new parents/caregivers of infants before or within the first 2 to 3 days of life on the importance of supervised prone/tummy play 2 or 3 times daily when the infant is awake, full active movement throughout the body, prevention of postural preferences, and the role of pediatric physical therapists in the comprehensive management of postural preference and optimizing motor development if concerns are noted. (Revised and Updated, Evidence Quality: **V**, Recommendation Strength: **Best Practice**)
A **Action Statement 2: ASSESS NEWBORN INFANTS FOR ASYMMETRIES/CMT.** Health care providers (eg, prenatal educators, physicians, midwives, obstetrical or other nurses, lactation specialists, or physical therapists) and parents/ caregivers must assess and document the presence of neck and/or facial or cranial asymmetry within the first 2 to 3 days of life, using passive cervical range of motion and/or visual observation as their respective training or experience supports. (Revised and Updated, Evidence Quality: **I**, Recommendation Strength: **Strong**)
A **Action Statement 3: REFER INFANTS WITH ASYMMETRIES/CMT TO THEIR PRIMARY CARE PROVIDER AND A PHYSICAL THERAPIST.** Health care providers (eg, physicians, midwives, obstetrical or other nurses, lactation specialists, or physical therapists) and parents/caregivers should refer infants identified as having postural preference, reduced cervical range of motion, a sternocleidomastoid (SCM) mass, and/or craniofacial asymmetry to their primary care providers and a physical therapist with expertise in infants as soon as the asymmetry is noted. (Upgraded, Revised and Updated, Evidence Quality: **I**, Recommendation Strength: **Strong**)
II. PHYSICAL THERAPY EXAMINATION AND EVALUATION OF INFANTS WITH ASYMMETRIES / CMT
B **Action Statement 4: DOCUMENT INFANT HISTORY.** Prior to initial screening, physical therapists should obtain and document a general medical and developmental history of the infant, including 6 specific health history factors: chronological and corrected age, age of onset of symptoms, pregnancy and birth history, head posture/preference, other known or suspected medical conditions, and developmental milestones. (Revised, Evidence Quality: **II-IV**, Recommendation Strength: **Moderate**)
B **Action Statement 5: SCREEN INFANTS FOR NONMUSCULAR CAUSES OF ASYMMETRY AND CONDITIONS ASSOCIATED WITH CMT.** When infants present with or without a primary care provider referral, and a professional or parent/caregiver indicates concern about head or neck posture and/or developmental progression, physical therapists should perform and document a review of the neurological, musculoskeletal, integumentary, and cardiopulmonary systems, including screens of vision, gastrointestinal history, postural preference and the structural and movement symmetry of the neck, face and head, trunk, hips, and upper and lower extremities, consistent with state practice acts. (Revised and Updated, Evidence Quality: **II-IV**, Recommendation Strength: **Moderate**)
B **Action Statement 6: REFER INFANTS FROM PHYSICAL THERAPIST TO THEIR PRIMARY CARE PROVIDER IF INDICATED BY SYSTEMS REVIEW.** Physical therapists should document consultation with or referral of infants to their primary care providers for additional diagnostic testing when a systems review identifies: nonmuscular causes of asymmetry (eg, poor visual tracking, spinal conditions, abnormal muscle tone, extra-muscular masses, and gastroesophageal reflux disorder); associated conditions (eg, craniofacial asymmetry); asymmetries inconsistent with CMT (eg, head lateral flexion and rotation to the same side or the side of torticollis changes); changes in the infant's color during screening of neck passive range of motion (PROM); history of acute torticollis; history of late-onset torticollis at 6 months or older; an SCM mass at 6 months or older, or an SCM mass that changes shape and location or increases in size at any age; the infant is older than 12 months and either facial asymmetry and/or 10°-15° of difference exists in passive or active cervical rotation or lateral flexion ROM. (Revised and Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**)
B **Action Statement 7: REQUEST IMAGES AND REPORTS**. Physical therapists should request, review, and include in the medical record all images and interpretive reports completed for the diagnostic workup of an infant with suspected or diagnosed CMT to inform prognosis. (Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**)
B **Action Statement 8: EXAMINE BODY STRUCTURES**. Physical therapists should perform and document the initial examination and evaluation of infants with suspected or diagnosed CMT for the following 7 body structures: • Infant posture and tolerance to positioning in supine, prone, sitting, and standing for body symmetry, with or without support, as appropriate for age. (Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Bilateral PROM into cervical rotation and lateral flexion using an arthrodial protractor or goniometry. (Revised and Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Bilateral active range of motion (AROM) into cervical rotation using an arthrodial protractor or goniometry and cervical lateral flexion functional strength using the Muscle Function Scale. (Revised and Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • PROM and AROM of the trunk and upper and lower extremities, inclusive of screening for possible developmental dysplasia of the hip. (Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Pain or discomfort at rest, and during passive and active movement using a standard scale, such as the Face, Legs, Activity, Crying, and Consolability Scale. (Revised and Updated, Evidence Quality: **III**, Recommendation Strength: **Weak**) • Skin integrity, symmetry of neck and hip skin folds, presence and location of an SCM mass, and size, shape, and elasticity of the SCM muscle and other cervical muscles. (Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Craniofacial asymmetries and head/skull shape using a quantitative measurement method or standard classification, such as the Argenta Classification Scales. (Revised and Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**)

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II. PHYSICAL THERAPY EXAMINATION AND EVALUATION OF INFANTS WITH ASYMMETRIES / CMT (cont)
B **Action Statement 9: CLASSIFY CMT USING THE CMT SEVERITY GRADING SCALE.** Physical therapists should classify and document CMT severity using the CMT Severity Grading Scale, choosing 1 of 8 grades (Figure 2, SDC 2) based on infant's age at examination, the presence of an SCM mass, and the difference in cervical rotation PROM between the left and right sides. (Revised and Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**)
B **Action Statement 10: EXAMINE ACTIVITY AND DEVELOPMENTAL STATUS**. During the initial and subsequent examinations of infants with suspected or diagnosed CMT, physical therapists should examine and document the types of and tolerance to position changes, and motor development for movement symmetry and milestones, using an age-appropriate, norm-referenced standardized test, such as the Test of Infant Motor Performance, Alberta Infant Motor Scale, or gross motor subtests of the Peabody Developmental Motor Scales, third edition. (Revised and Updated, Evidence Quality: **II,** Recommendation Strength: **Moderate**)
B **Action Statement 11: EXAMINE PARTICIPATION STATUS**. The physical therapist should obtain and document the parent/caregiver responses regarding: • Positioning when awake and asleep. (Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Infant time spent in prone while awake, consistent with Safe Sleep Recommendations. (Revised and Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Whether the parent/caregiver alternates sides when holding the infant for breast or bottle. (Revised and Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Infant time spent in equipment/positioning devices, such as strollers, car seats, or swings. (Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**)
B **Action Statement 12: DETERMINE PROGNOSIS.** Physical therapists should determine and document the prognosis for resolution of CMT and the episode of care after completion of the evaluation and communicate it to the parents/caregivers. Prognoses for the extent of symptom resolution, the episode of care, and/or the need to refer for more invasive interventions are related to: the age of initiation of treatment, CMT Severity Grade (Figure 2, SDC 2), intensity of intervention, presence of comorbidities, rate of change, and adherence with home programming. (Revised and Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**)
III. PHYSICAL THERAPY INTERVENTION FOR INFANTS WITH CMT
B **Action Statement 13: PROVIDE FIVE COMPONENTS AS THE FIRST-CHOICE INTERVENTION.** Physical therapists should provide and document these 5 components as the first-choice intervention for infants with CMT: • Neck PROM when PROM is limited. (Upgraded, Revised and Updated, Evidence Quality: **I**, Recommendation Strength: **Strong**) • Neck and trunk AROM. (Reaffirmed, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Development of symmetrical movement. (Reaffirmed, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Environmental adaptations. (Reaffirmed, Evidence Quality: **II**, Recommendation Strength: **Moderate**) • Parent/caregiver education. (Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**)
C **Action Statement 14: EVALUATE EVIDENCE-INFORMED SUPPLEMENTAL INTERVENTION(S) FOR APPROPRIATENESS TO AUGMENT THE FIRST-CHOICE INTERVENTION.** Physical therapists may provide and document evidence-informed supplemental interventions, after evaluating their appropriateness for managing CMT or postural asymmetries, as adjuncts to the first-choice intervention when the first-choice intervention has not adequately improved range or postural alignment, and/or when access to services is limited, and/or when the infant is unable to tolerate the intensity of the first-choice intervention, and if the physical therapist has the appropriate training to administer the intervention. (Revised and Updated, Evidence Quality: **I-V**, Recommendation Strength: **Weak**)
B **Action Statement 15: INITIATE CONSULTATION WHEN THE INFANT IS NOT PROGRESSING AS ANTICIPATED.** Physical therapists who are managing infants with CMT or postural asymmetries should initiate consultation with the infant's primary care provider and/or specialists about other interventions when the infant is not progressing as anticipated. These conditions might include when asymmetries of the head, neck, and trunk are not starting to resolve after 4-6 weeks of comprehensive intervention or after 6 months of intervention with a plateau in resolution. (Revised and Updated, Evidence Quality: **II**, Recommendation Strength: **Moderate**)
IV. PHYSICAL THERAPY DISCONTINUATION, REASSESSMENT, AND DISCHARGE OF INFANTS WITH CMT
B **Action Statement 16: DISCONTINUE DIRECT SERVICES WHEN THESE 5 CRITERIA ARE ACHIEVED.** Physical therapists should discontinue direct physical therapy services and document outcomes when these 5 criteria are met: cervical PROM within 5° of the non-affected side, symmetrical active movement patterns, age-appropriate motor development, no visible head tilt, and the parents/caregivers understand what to monitor as the child grows. (Reaffirmed, Evidence Quality: **II-III**, Recommendation Strength: **Moderate**)
B **Action Statement 17: REASSESS INFANTS 3-12 MONTHS AFTER DISCONTINUATION OF DIRECT SERVICES, THEN DISCHARGE IF APPROPRIATE.** Physical therapists should complete a full evaluation to assess for reoccurrence of CMT and evidence of atypical development if the parent/caregiver or primary care provider observes asymmetrical posture OR 3-12 months following discontinuation from direct physical therapy intervention OR when the child initiates walking. (Revised and Updated, Evidence Quality: **II-III**, Recommendation Strength: **Moderate**)

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