

## Congenital Muscular Torticollis

Warren Hammer, MS, DC, DABCO

Congenital muscular torticollis (CMT) refers to a shortening of the sternocleidomastoid (SCM) muscle in an infant. It is a condition that responds very well to a stretching program and spinal adjustments. The most common causes are considered to be due to intrauterine malposition and/or birth trauma since CMT is more frequent after breech presentations<sup>1</sup> and congenital hip dysplasias.<sup>2</sup> In rare instances bony anomalies of the cervical spine such as Klippel-Feil syndrome<sup>3</sup> or ocular imbalance might be causative. Other possibilities are spontaneous subluxation of a cervical vertebra, cervical adenitis secondary to upper respiratory tract infection, unilateral soft tissue infection, neck tumors, myositis or disease of the basal ganglia.<sup>3</sup>

Turek<sup>3</sup> feels that every case of torticollis deserves roentgenographic study before treatment is instituted. Often a fibrous mass may be palpated in the SCM. The mass, which may be the result of venous occlusion during the birth trauma, usually appears within three weeks after delivery and attains maximum size by one month.<sup>4</sup> The infant will show the typical head position of head tilt toward the side of shortening and contralateral neck rotation. The face and even the skull may appear asymmetrical. While spontaneous recovery may occur, if left untreated, the cervical fascia and scaleni muscle may contract and a cervical and thoracic scoliosis may develop.<sup>3,5</sup> Infants treated before one year of age had better results.<sup>6</sup>

Emery outlines a treatment method in an excellent article.<sup>7</sup> She educates the parents to perform the stretching procedures. Two people take part in the procedure. If the infant's neck is laterally bent right and rotated left, with the infant in the prone position, one person holds the infant's shoulders while the other person performs the stretch standing at the head of the patient. The stretch is performed by cupping the left side of the infant's face with the left hand and supporting the skull under the occiput with the right hand. Use slight traction to gain relaxation and rotate the head to the right to achievable range of motion (ROM). Next, lateral bending stretch is done 10 degrees of right rotation. Now move the head laterally to the left and attempt to have the left ear reach the left shoulder. Hold both of the above stretches for 10 seconds and repeat five times each, twice a day. This treatment should be continued until full ROM is achieved. Adjustment of the spine for fixations wherever they exist is of course pertinent.

The parents are also educated<sup>7</sup> about positions the infant may assume. For example, the child should play in a prone position with neck extended to encourage bilateral SCM muscle elongation. The infant can be placed in a crib in a position of being forced to look and lift the head toward the direction of correction.<sup>3</sup>

If at four months the head was still tilted, Emery<sup>7</sup> used a method called lateral head righting to strengthen the opposite SCM. For example with the child sitting and tilted to the right the child is moved in a manner so its head will now tilt to the left. This "righting" motion could be used in rolling and side-lying maneuvers. If at four and one-half months the head tilt was six degrees or

greater she used a tubular collar in which there were lateral uprights on one side to keep the head in a neutral position.<sup>8</sup>

### *References*

1. Coventry MB and Harris LE. Congenital muscular torticollis in infancy: some observations regarding treatment. *J Bone Joint Surg (Am)*. 41:815-822, 1959.
2. Hummer CD and MacEwen GD. The coexistence of torticollis and congenital dysplasia of the hip. *J Bone Joint (Am)*. 1972; 54:1255-1256.
3. Turek SL. *Orthopaedics: Principles & Their Application*, fourth edition, Philadelphia: J.B. Lippincott Co. 1984:869.
4. Bredekamp JK, Hoover IA, Berke GS and Shaw A. Congenital muscular torticollis: a spectrum of disease. *Arch Otolaryngol Head Neck Surg*. 116:212-216, 1990.
5. Tachdjian MO. Congenital muscular torticollis. *J Pediatr Orthop*. 1:65-73, 1972.
6. Canale ST, Griffin DW and Hubbard CN. Congenital muscular torticollis: a long-term follow-up. *J Bone Joint Surg (Am)*. 64:810-816, 1982.
7. Emery C. The determinations of treatment duration for congenital muscular torticollis. *Phys Ther* 74:921-929, 1994.
8. Emery, Carolyn: Personal communication, 10/94.

*Warren Hammer, MS, DC, DABCO*  
*Norwalk, Connecticut*

Editor's Note: Dr. Hammer will be conducting his next Soft Tissue (ST) seminar January 28-29, 1995 in Portland, Oregon. You may call 1-800-359-2289 to register.

DECEMBER 1994