

Orthotic Management of Congenital Muscular Torticollis

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What is Torticollis?

Torticollis is a condition where the head is bent to one side and rotated in the opposite direction due to a congenital shortening of the sternocleidomastoid muscle. This condition becomes apparent shortly after birth and is also known as "wry neck" syndrome. The causes of torticollis may be genetic, acquired, or idiopathic (occurring without a known cause) and may also develop later in childhood or adulthood. Acquired torticollis, much more difficult to treat, results from damage to the muscular or nervous system due to trauma or disease. In most cases surgical release of the tight sternocleidomastoid muscle is indicated followed by aggressive physical therapy to stretch the contracture. Often the surgeon is interested in orthotically managing the deformity by gradually moving the head into the correct position. The Fillauer Torticollis Orthosis has the advantage of being able to maintain the head in any position desired with respect to cervical flexion, abduction, and transverse rotation.

Diagnosis - Data

- Muscular torticollis is a common congenital musculoskeletal anomaly after dislocated hip and clubfoot.
- Incidents varying from 0.4% to 1.9%
- No predilection for either sex
- 6% to 19% (congenital Muscular Diagnosis 3-12 months) have incidence of hip dysplasia in direct relation to the severity of the torticollis.

Types of Treatment

- Physical Therapy - Muscle Stretching, P. T. and Parents
- Surgery Followed with Physical Therapy and Orthosis.

Orthotic Indications and Goals

- Easy to Fabricate
- Comfortable for patient
- Physiological Positioning
- Ease of Donning/Doffing
- Positional Adjustments
- Stability

Recommended Success Factors

- Accurate Measurement and Cast
- Ease in Donning/Doffing and a Comfortable Fit
- Multiplane Positional Adjustments

Orthotic Design

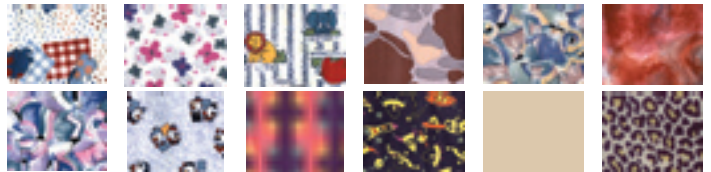
- Height Adjustment
- M-L Angulation Adjustment
- Rotational Adjustment
- A-P Placement
- Right or Left

Components

- Torticollis Joint (A Multiplane Adjustable Connector)
- Helmet/Shoulder Sections
- Elastic Velcro Straps

Materials

- Pe-Lite Interface 3mm
- Velcro Straps
- Copolymer Thermoplastic 1/8 inch - Transfer Paper to Personalize



Measurements



Temporal Head A-P



Temporal Head M-L



Base of Neck to Mandible A-P



Temporal Head Circumference

Patient Positioning



Stretch and exercise patient to obtain proper holding position during plaster impression.

Preparation for Plaster Impression



Apply 1st stockinette from base of neck to include shoulders

Apply 2nd stockinette overlapping a minimum of 1 inch

Apply tape to secure stockinette

Plaster Splint of Head & Neck Impression



Plaster impression of left Torticollis

Preoperative - Fitting and Delivery



Make needed multiplane adjustments

Confirm fit for contact at base of neck

Utilize elastic velcro for comfort and security

Postoperative Management

- Physician can easily adjust alignment and head position.
- Time of wear: three months full time, three months night wear.

- Stretching exercise performed by parents and therapist.
- Patient should be followed by Orthotist in addition to Physician during initial three months.



Verify head position

Confirm proper fit (lateral view)

Evaluate and adjust elastic strapping as needed

References

- Binder, H., Eng, G.D. Gaiser, J.F., Koch, B. Congenital Muscular torticollis. Arch Phys Med Rehabil 68:222-225, 1987
- Wolfort, F.G., Kanter, M.A., Miller, L.B. Torticollis. Plast. Reconstr. Surg Sept. 2, pp, 682-692, 1988.