

KINETOTHERAPY IN TORTICOLLIS TO CHILD

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Abstract:

Torticollis is a disorder that concerns the muscles of the neck, especially the trapezius and sternocleidomastoid muscles. This more or less painful contracture of the neck muscles limits the rotation movements of the head.

The condition occurs at birth or shortly after birth and it is caused by the occurrence of a difference between the sternocleidomastoid muscles. The shorter muscle pulls the head and the neck to one side, causing an abnormal position. Sometimes congenital torticollis may occur due to birth complications, other times the condition occurs before and it leads to natal complications. Congenital malformations of the cervical spine can cause congenital torticollis. The causes that can lead to the development of torticollis in the intrauterine life are related to the position of the fetal head during pregnancy or to the pressure exerted by the umbilical cord on the neck.

Keywords: torticollis, massage, kinetotherapy, prosthesis, posture

1. Introduction

Diagnosis: Right-sided congenital torticollis

Symptoms:

- The child has the head tilted to the right
- The chin is directed to the left shoulder, which means that the right muscle is affected;
- The child has reduced head mobility;
- The child cannot maintain alignment on the median line of the head due to retraction and cervical muscle imbalance;
- The child has reduced neck homolateral rotation, reduced flexion and heterolateral extension;
- The child presents asymmetry of the skull-facial skeletal structure, asymmetry of the eyes (lower homolateral), deviation of the chin and nose, deformation of the base of the skull.

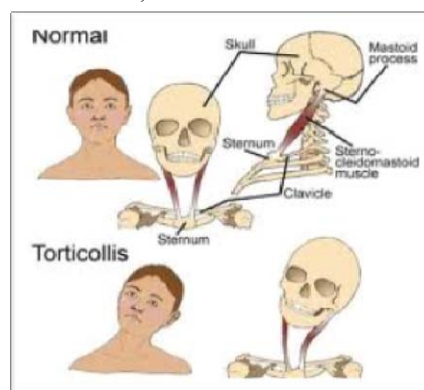


Figure 1. Normal posture of the head and in the torticollis

General Causes of Torticollis

- Congenital malformations, when sternocleidomastoid muscle is shorter
- Traumas caused during childbirth

- A sudden and wrong movement of the neck
- Exposure to cold, moisture, air currents
- Vicious position in the chair and in front of the computer
- An uncomfortable position during sleep
- (orthopedic or neurological) infections

Objectives of recovery

- Attracting the patient's attention;
- Shortage of excessive elongated muscle fibers and elongation of shortened ones;
- Correction of the deformations that are on the scapular belt and the spine;
- Preventing the child's asymmetric growth;
- Abolishing the wrong posture reflex and setting up a new and correct one;
- Maximum possible return to the child's normal state.

Treatment

- Drugs;
- Physiotherapy
- Corrective treatment by manual therapy (traction, mobilization, manipulation)
- Surgical treatment (in very serious cases).

Physical therapy is the basis of torticollis in children.

Surgery is recommended only in very serious cases, with large hematomas, which do not resorb, or when elongation of short tendons is required. It is recommended that the operation be performed during the first 18 months of the baby's life.

Torticollis is treated by specific means, the main ones being exercise, which can also be included during play by placing toys or other objects in certain places that require the child to straighten his head towards them, thus stretching the neck muscles.

The mild forms of the disease benefit from recuperatory treatment through mild manipulations and postures.

Strong and rigid forms also require the association of gypsum or orthotics.

The main methods consist of kinesitherapy, specific differential massage, passive exercises, postures and elongations. All moves are passive movements performed by the physical therapist.

Postures with Torticollis in the child:

They are applied 2-3 times a day for 1.5-2 hours.

This is effective and easy to apply to newborns and babies because most of these times they are in a decubitus position.

1. Dorsal decubitus without pillow, the baby's neck is placed in a ring made of cotton and gauze, and the head is fixed in the correct position, the scapular belt being kept in the correct physiological position with the help of a sandbag above the shoulder which does not allow to be lifted upwards.
2. The child is placed laterally on the diseased side with a pillow under the head and shoulder under the pillow (for shortened muscle extension).
3. Lying on the healthy side without a pillow.

Orthoses:

It is recommended to use a cervical soft orthosis for reverse positioning with that produced by torticollis. It is indicated for infants from 3-4 months of age, with a constant head inclination of at least 5 °, maintained for about 80% of the waking period.

The orthosis will not be used as a permanent passive support, as it can cause depression of the shoulder area on the healthy side and a cervical spine arc.

The aim of the therapy is to elongate the sternocleidomastoid muscle, to restore its elasticity and to strengthen the antagonist muscles;

The 3-times per week stretching performed by the physical therapist consists of 3 repetitions of 15 SCM elongations of 1 sec. with 10 sec. pause.

The orthosis will not be worn in the wagon or during sleep. The vital signs will be permanently followed, as well as the integrity of the skin.

Massage: is made from the dorsal decubitus position.

The masseur is positioned at the head of the child and both the affected muscle and the healthy one are massaged. During the massage of the affected area, the baby's head is slightly bent towards the diseased part.

During the exercises, vital signs will be checked:

- changing face color,
- the frequency of breathing
- possible movements of the nose wings, which will lead to stopping the therapy.

Passive movements are slow and stretching will not work against active child resistance.

The child expresses discomfort through tense postures of the body, arches, grimaces, screaming.

The stress of the child is controlled by local hot compresses, efflorescence, stretching after bathing.

The tractions will be accomplished with two hands and they are used to prepare the patient for other means of manual therapy.

Manipulations are used for functional disorders of the neck segment at any level. This must not be a painful maneuver and must use the direction of mobilization in the opposite blocked and painful direction (the opposite movement).

Thus, the following manipulations are executed:

- Using the initial traction and the accompanying procedure of the patient in the dorsal decubitus position;
- With the application of the lateral flexion and the accompanying procedure in the position of the dorsal decubitus patient;
- By applying the rotation and the accompanying procedure in the dorsal decubitus position;
- By applying the rotation and the resistance procedure in the the patient's dorsal decubitus position.

Special exercises in water

1. P.I.-Dorsal decubitus, the physical therapist's hand is under the baby's head

Smoothly touching the sternocleidomastoid muscle with thumbs on the affected side.

Methodological Indications: The child is in the water.

2. P.I.- Dorsal decubitus

The moving the child smoothly to the left and right, supporting him only by the head.

Methodological instructions: the therapist does winding movements with the hand.

3. P.I.- Dorsal decubitus

Rotating the child's trunk by supporting its head

Methodological instructions: The affected part of the body / neck should make the larger circle (makes an extension).

4. P.I.- Ventral decubitus

Abduction of the child's hands on the side and down.

Methodological instructions: The exercise is performed on a raft, the feet being placed in the water. Traction is intensified in the affected part in order to correct torticollis.

5. P.I. - Ventral decubitus. The child is carried along the entire length of the pool

Methodological indications: The baby's head is supported by the chin with one hand, and the other hand slightly supports the scapular belt of the affected part.

Stage and duration	Operational Objectives	Educational Content	Frequency	Methodological Instructions
Introductory 5-7 min.	The person will be able: To develop coordination and making movements on the sick side	I.P.decubitus, the baby is placed on the work table, the head is placed in the hand of the physical therapist, with the other hand he fixes the scapular belt. 1.Slow return and with little vibration of the head to the affected part;	4-6 times	The return is done with little vibration
		2. I.P. 3.Same to the affected part 4. I.P. I.P.Dorsal decubitus 1.Tilt the head to the affected part 2.I.P. 3.Tilt towards the healthy side 4.I.P.	4-6 times	Movements are performed up to maximum amplitude

Basic 23-25 min	To properly execute misalignment movements from deviated axes	I.P.Dorsal decubitus 1.Head flexion 2.I.P.Head Extension 3.I.P. A reflex exercise is performed. The physical therapist passes his fingers bottom up the paravertebral areas about 1 cm from the spine.	4-6 times	Maintaining the head for a few seconds in the extension position
		I.P.Ventral decubitus The physical therapist is placed at the feet of the baby, grabs his hands and performs "bras" swimming movements	4-5 times	The baby's back is extended, and his head is bent
		I.P.Ventral decubitus One of the physical therapist's hands is under the baby's abdomen and the other keeps the ankle joint Easy lifting of legs and lower torso area	6-8 times	Movements are performed with maximum amplitude
			8-10 times	The child's hands are stretched forward, which causes him to walk using his hands

2. Conclusions

The treatment should begin early in the first few days of the baby's birth. It is repeated three times a week and it lasts until the torticollis reflex is completely removed. If treatment starts early, if all the treatment criteria, the recovery protocol and medication treatment are met, the healing will be very fast.

References:

1. http://www.sfatulmedicului.ro/Malformatii-congenitale/torticolisul-congenital_241
2. <http://www.sanatateatv.ro/articole-medicale/ortopedie/torticolisul--cauze-diagnostic-tratament/>
3. <http://snpcar.ro/revista.php?level=articole&an=2013&id=514>
4. Adrian Ionescu - *Gimnastica medicală*, Ed. ALL, București, 1994;
5. Vasile Marcu, M.Dan- *Kinetoterapie*, Oradea 2006;
6. Aurica Zavalisca - *Mijloacele gimnasticii medicale folosite in profilaxia si recuperarea sanatatii*, Chisinau 2013;
7. Tudor Sbenghe — *Bazele teoretice și practice ale Kinetoterapiei*, Ed. Medicală, București, 1999.