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APPLICATION OF THERAPEUTIC PHYSICAL EXERCISES AND MASSAGE IN TREATMENT AND REHABILITATION OF PATIENTS WITH MUSCULAR TORTICOLLIS

Zastosowanie ćwiczeń fizycznych i masażu w leczeniu i rehabilitacji chorych z mięśniowym kręcem szyi

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Key words: therapeutic physical exercises, massage, torticollis.

Summary

The paper presents recommendations for the use of physical exercises and massage in the treatment and rehabilitation of patients with muscular torticollis. Recommendations are intended for surgeons, doctors and exercise instructors with higher and secondary education, massage therapists and paediatricians hospitals and clinics.

Słowa kluczowe: ćwiczenia fizyczne, masaż, kręć szyi.

Streszczenie

W artykule przedstawione zalecenia dotyczące zastosowania ćwiczeń fizycznych i masażu w leczeniu i rehabilitacji chorych z mięśniowym kręcem szyi. Rekomendacje są przeznaczone do ortopedów, lekarzy i instruktorów ćwiczeń fizycznych z wykształceniem wyższym i średnim, masażyści i lekarzy pediatrów szpitali i przychodni.

Torticollis - forced position of the head, which lies in its inclination toward pathology, while turning in the opposite direction. Pathology, takes 3 place in the group of congenital orthopedic defects after congenital hip dislocation and congenital clubfoot with the horse's foot.

Etiology: congenital hypoplasia of the muscle tissue sternum-clavicular-mastoid (sternocleidomastoid) muscle, due to the numerous external and internal factors: toxicosis pregnant, nephropathy, infectious diseases of the mother (sore throat, influenza, measles, rheumatic fever), beriberi, radiation, vibration, hypothermia, malposition in the uterus, heredity (often combined with hip dysplasia, clubfoot and other congenital abnormalities), muscle tears during birth.

Pathogenesis: Histological studies showed the presence of connecting tissue degeneration of muscle fibers, narrowing of the arteries, reducing the amount of glycogen and glycosaminoglycans. Injury to immature and tight muscles during childbirth contributes to traumatic edema in the muscle. Changes in the muscle grow after birth, when the fibers are preserved dystrophy and scarring. Degenerated muscle begins to lag behind in development and over time becomes shorter than the muscles of the opposite side, resulting in an incorrect position of the head. On the basis of time to develop secondary compensatory changes in the whole body: deformity skull, spinal curvature varying degrees and forms. Due to shortening of the sternocleidomastoid muscle, changes in its anatomy, the chairman makes a rotation around three axes. Around a vertical axis returns to the healthy side, the sagittal axis - turn in the patient side, horizontal - dorsiflexion.

Diagnosis. Feature of early diagnosis of muscular torticollis, in contrast to other congenital deformities, is that in the first 1-2 weeks after birth symptoms of muscular torticollis may be absent, or subtly. This is due to the pathogenesis of this disease. It should be noted that when the heavy labor, malposition, especially in breech position, fractures of the clavicle, maternity brahioplexitis, according to according to the authors, these children may be muscular torticollis (37-80%) even in the absence of tilt in the early stages.

On the third week after birth at the level of the middle third of the sternocleidomastoid muscle occurs densely-elastic formation of various sizes (1x1 cm, 2x2 cm) without signs of inflammation of the soft tissues of the seal. Head position may be correct or more displaced as a result of shortening of the sternocleidomastoid muscle. This form of torticollis with the presence of a limited seal at the level of the middle third of the sternocleidomastoid muscle happens quite often. Sometimes congenital muscular torticollis is no local seal the sternocleidomastoid muscle. This seal may be undiagnosed or little expression not palpuvalos through the skin. In the presence of sealing the sternocleidomastoid

muscle, the maximum size and density, it reaches the 6-week postpartum. Then the seal is gradually reduced, completely dissolves and is reborn in weaveconnected cord.

A large group of symptoms are signs that are visible when viewed from:

1. Forced position of the head: the head is tilted in the frontal plane in the direction of torticollis, face turned toward the healthy half of the neck, head tilted back.
2. Asymmetric arrangement oversoulder and blades - disease side shoulder girdle and the shoulder blade is higher than in healthy, due to the shortening of the trapezoid and the anterior serratus muscle on the side of the injury.
3. Changing contours of the neck - on the side of torticollis neck contouring pointed, on the healthy side – flat.
4. Nape of the common side often skew.
5. Facial asymmetry - as secondary changes in the tilt. Due to the growth of the skull is reducing the size of the face. In this case, all conventionally carried out through a pair of point persons converge in space at the patient side (through the eyes, mouth corners) - scoliosis person hemihipoplazia person symptom Völker.
6. When moderate and severe head tilt can be observed behind the child in psychomotor development.
7. Curvature of the spine. Due to the forced head position observed compensatory curvature of the cervical, thoracic and lumbar spine. The strain depends on the duration of the disease. So, first curved cervical spine, the axis is curved in the opposite direction of head tilt. Then bend the compensatory thoracic and lumbar spine. It is often pointed flatness cervical lordosis, the formation of pathological kyphosis, retarded growth of the vertebral bodies due to injury germ band, the phenomenon of osteochondrosis. First, distortions are compensatory in nature, but over time develops scoliosis in the thoracic spine.
8. On palpation the sternocleidomastoid muscle on the side of torticollis dramatically shortened tense, with no signs of inflammation (swelling, local and general rise in temperature, pain, changes in the blood). Necessarily a comparative palpation of both sternocleidomastoid muscles (on the side of torticollis and the healthy side).

Functional test with active correction.

This is an attempt patient actively, consciously bring his head into the correct position. Shoulder girdle patient should be on the same level, because while lifting shoulder girdle on the side of torticollis can pseudocorrection head position. The following results of the active functional test:

1. active correction of the head is missing
2. active correction of the head part
3. active correction of the head total
4. active correction with hypercorrection head position.

Functional test with passive correction.

This is an attempt doctor passively withdraw the patient's head tilt in the right position for fixed shoulder girdle patient. The following sample results:

1. passive correction of the position of the head is missing
2. passive correction of head position is partial, incomplete
3. passive correction of the position of the head total.

Differential diagnosis is carried out with bits of other forms of congenital torticollis.

1. Klippel Feil syndrome. Congenital hereditary disease which is transmitted by autosomal dominant inheritance. On examination indicated a disproportionately short neck - people with no neck. " Limit the growth of hair on the neck and sometimes reaches the level of thoracic vertebra. Motion in the cervical spine sharply limited. The President in a forced position - tilted to one side. May occur accompanying congenital abnormality: high standing shoulder; curvature of the spine, asymmetry of face, trunk; skin folds on the neck. Among the neurological symptoms in common such features: atrophy of the shoulder girdle muscles, shoulder; cervical radiculitis; neurological disorders of the upper extremity; compression syndrome of the cervical spine at the level of thickening. On radiographs of the cervical spine is characterized by the following changes: fusion of several cervical vertebrae – concreescention; decrease in the number of cervical vertebrae; availability semi vertebra; sometimes fusion of the cervical spine with the breast.
2. Shershevsky-Turner syndrome (syndrome Albright's syndrome, Turner-Albright syndrome, Morgagni-Turner-Albright syndrome, Ulrich-Turner syndrome, ovarian pansomia). Due to chromosomal abnormalities and is characterized by: the presence of skin folds on the neck to the side; Low or dwarf proportional growth; later calcification of epiphyses of bones; various forms of chest wall deformity; deafness, cataracts; exophthalmos, pigmentary degeneration of the retina; narrowing of the aorta, ventricular septal defect; infantilism, amenorrhea; person "Sphinx" (corners of the mouth and eyelids droop due to paralysis of the facial nerve).
3. Sprengel's deformity (congenital high standing shoulder, Sprengel deformity, the unstable scapula). Sporadic disease occurs as a result of developmental delay and lower the blade into 3-4 week of embryonic development. Characterized by the following features: pronounced asymmetry of the contours of the neck (on the side of high standing shoulder contour neck flattened); restriction of movements of the cervical spine and shoulder joint on the affected side; high position blades (6-12 cm higher compared with the opposite shoulder blade); reducing the size of blades; shoulder rotation around the sagittal axis atrophy of the shoulder girdle muscles, the shoulder on the affected side decrease in shoulder mobility, especially when coossification the x-ray shoulder reads: high standing shoulder; rotation of scapula; decrease its size.
4. Aplasia of the sternocleidomastoid muscle - the wrong head position due to immaturity or lack of one of the sternocleidomastoid muscle. In this case, craving healthy sternocleidomastoid muscle contributes to abnormal head

position. Muscle pulls his head in the opposite direction from the affected sternocleidomastoid muscle side - "paradoxical torticollis. When bilateral hypoplasia of both sternocleidomastoid muscles incorrect position of the head is not observed.

5. Cervical rib - also able to simulate the presence of muscular torticollis. On radiographs of the cervical spine with muscular torticollis bone "pathological" changes are absent.

Acquired forms of torticollis

1. Grisel syndrome (torticollis Grisel's syndrome Grisel Bourget). Arises from spondylitis between I-II cervical vertebrae. Grisel believed that there is contracture of muscles, connecting Atlanta and the skull. There is a temporary subluxation of the atlas. Athrogenic cause contractures are inflammatory nasal, ear. Forced position of the head precedes the rise in body temperature, acute inflammatory diseases of the nasopharynx and ears. Sternocleidomastoid muscle on the side of torticollis are not busy, not shortened. On radiographs atlantooccipital occipital junction, made through an open mouth, shows subluxation of the atlas. Recovery of upper respiratory tract determines the restoration of the correct positioning of the head.

2. The acquired form of compensatory torticollis loss of vision. Deformation of the neck occur gradually, usually after 5 years of age. This type of torticollis is caused by strabismus, astigmatism and is compensatory. In contrast to the muscular torticollis, there are no organic changes in the sternocleidomastoid muscle, turning heads in all possible directions. A child can hold his head in the right position. The correction of the defect of the head is the correct position, torticollis disappeared.

3. Familiar torticollis. Deformation consists of the usual formulation of the head to tilt it toward one side of the tissue without changes in the sternocleidomastoid muscle. The reason for such changes may be inconvenient location of the table with respect to the light source, ie. Cause of acquired torticollis may be illness, injury muscle, bone, connective tissue neck tumor, parasitic diseases, neurological diseases, which are very different.

Table 1. Acquired forms of torticollis (in Protsaylo MD, 1999).

Acquired forms of torticollis Pathogenetic characterization of	The causes and nature of the disease
Myogenic (muscles)	1. changes in the subcutaneous muscle (platysma) 2. chronic myositis sternocleidomastoid muscle 3. acute myositis sternocleidomastoid muscle 4. ossificans myositissternocleidomastoid muscle 5. tumor (sarcoma), sternocleidomastoid muscle 6. Echinococcus sternocleidomastoid muscle 7. torticollis Grisel
Athrogenic osteogenic (bones)	1. fractures and dislocations of the cervical vertebrae 2. destruction of the cervical vertebrae (tuberculosis, cancer, osteomyelitis, actinomycosis, metastases) 3. rickets 4. spondylitis
Neuropathic (nerve system)	1. spastic paralysis of the neck muscles 2. flaccid paralysis of neck muscle 3. reflex torticollis with inflammation of the mastoid processus 4. reflex torticollis in diseases of the clavicle,tissue
Desma-dermatogenenic (skin, connective tissue)	1. scars after skin injuries 2. scars after the inflammation of skin and subcutaneous tissue
Compensable	1. diseases eye (astigmatism, strabismus) 2. diseases of the inner ear

Conservative treatment.

Conservative treatment begins with first days of life. Exercise objectives are: ACS permanent stretching shortened muscles; inclusion in the work of ACS and strengthen muscle to the healthy side; strengthen the muscles of the head flat on the side of torticollis; cucullaris stretching on the side of torticollis, especially its upper part; strengthen the muscles that straightening the spine on both sides; improve blood and lymph injuries and healthy muscles ACS; alignment of muscle tone by eliminating contracture of the affected muscles and strengthen the healthy side; normalization of range of motions in the cervical spine; prevention of secondary changes (asymmetry of the face, skull, neck, scoliosis); prevention and eliminate the backlog in psychomotor development; increase nonspecific pens body.

- To address these issues using physiotherapy, massage and treatment provisions, physiotherapy, hydrokinesiotherapy.

I. Up to 3 months in conservative treatment using massage, reflex gymnastic exercises denote tonic reflexes, treatment provision. When conservative treatment parents should observe the following rules:

1. You can not put baby to bed on his back with a big pillow under my head or the platen, which significantly rejects the head back; 2. Not carry the baby with the vertical location of head; 3. You can not passively sit child through reliance on the pillow.

1). Treatment provisions apply 2-3 times a day for 1.5 - 2 hours in day.

1. Bed child is placed in such a way that light, movement, sound, voice, etc. contributed to turning the head toward the child shortened muscle. 2. Feeding breast or bottle must be submitted from the party shortened muscle, contributing to the active correction of the muscle shortened by turning the head. 3. Baby bed to be celebrated as follows: a) the child is

placed to the side of the head of the shortened muscle, located on a firm cushion, width equal to the size of the shoulder to the neck of a healthy side. Head and neck must be placed on a pillow, and shoulder - on the mattress. This situation provides a constant distance fixation strength shortened muscle. b) the child is placed on the healthy side, the head sits on the mattress, under the trunk enclose a thicker layer (blanket, towel, etc.). Head is located at the edge of a thick layer. A child held in position by rollers. c) the child is placed on the back. Head is located between the platens, for keeping in a symmetrical position. Rollers fix the collar bone, avoiding lifting shoulders. When the tendency to lateral curvature of the spine in the chest-lumbar roller should be put on the bones of the pelvis to eliminate this pathological compensation.

2) Exercises that drew.

1. ACS stretching shortened muscle. Starting position (SP) on the back and the head slightly below the back. The person that helps stabilize the shoulder belt child hands clasping her hands to the chest from the clavicle while retaining the same level. The person performing the movement, covers baby's head on the sides of the arms, something clasping chin to the sternum while performing lateral inclination of the cervical spine in a healthy way and head rotation toward pathology. If you can not perform the movement in full, in the early course of the movement is performed only to middle position and only then if possible make hypercorrection. Manual stretching is performed for 20 minutes.

2. Trapezoidal stretching shortened muscle. SP to healthy side. The person performing the stretching, one arm to stabilize the shoulder by the side of shortening and the other hand away from your baby's head injuries (folds of cervical spine in lateral direction), until bumping heads in the plane, which is a child. Head to hold this position for 10 seconds, then release the shoulder that track, increasing the intensity further stretching. N.B. When performing exercises child does not cry, for weeping strains of sternocleidomastoid muscle.

3). Active exercises.

1. Teaching a child on his stomach before each meal. Arms bent at elbows, forearms rest on the plane, which is a child. Pelvis easily load arm to stabilize the lower part of the muscles that straightening your back and promote the active lifting of the head. If a child raises head asymmetrically, then the healthy side of limiting her field of view, put forth (diaper, screens, etc.).

2. SP inverted. Methodist hand stabilizes the shoulder healthy child. Second hand touches the child's cheeks near the mouth angles on the lesion side. At this point the baby turns his head toward the touch. Then slowly separate hands, with which the child turns his head farther. To influence the corner of the mouth can soother, soft toys, etc..

3. SP lying on the stomach. Repeat the previous exercise. This performance is added to the rotation straightening cervical spine. Exercise should start from the median head position and return to this position.

4. SP lying on the side. Holding the baby in this position, Methodist holds the second and third fingers on the back of the child paravertebral top-down (Galant reflex). This extension running back, head and pelvis. Do turn on the healthy and affected side. The best effect in the performance of healthy side. Ratio 1:2, 1:3 (more on the healthy side as the head leans to the healthy side and back toward the lesion, if the doctor is by the presence of a child).

Estimated range of classes.

Introductory part. Caress of limbs and trunk for 2-3 minutes. The main part lasts 10-12 minutes. Running neck massage for a healthy side - caress, spiral rubbing, kneading. Performing massage the neck muscles on the healthy side - stroking, like a spiral kneading. Holds first stroke, then a spiral like rubbing, stroking, kneading with your fingers easy both hands, and again caress. On the lesion side - light rubbing, caress and vibration. Running fingers caress pads from ear to collarbone, then use a light vibration in the form tapping with the fingertips in any direction, and once again perform stroking. With SP lying on back child capture zone of upper limb specialist, covering baby's head with palms of hands, vibration from performs smooth, slow turns head toward the affected muscle, while rubbing the side of the neck muscles, then duck in a healthy way and returns chin up. Repeat 5 times, gradually increasing the number to 20. The child is placed on the affected side, hold his head, quickly take his hand, which is supported from below, thus creating conditions for self-maintenance head, helping to strengthen neck muscles in healthy side. You begin to repeat 5 times, increasing to 20 repetitions. The child lies on his back, shoulder girdle fixed, the instructor makes the flexion and extension of the head in a strictly vertical direction. The number of repetitions increased gradually to 20 times. In the situation of the child on her back stroking perform large pectoral muscles and the subclavian. Galant reflex operates 3-4 times. In the situation of the child on the belly add reflex crawling. From the same position, standing at the feet of the child, Methodist captures the hands of the child performs a simulation swimming breaststroke. From the same position, Methodist gently lifts the baby's head, holding the shoulder girdle of the painful side. Repeats 2-3. Hand of a practitioner located under the belly of the child, the second keeps his feet in ankle joints, lifting the legs and lower torso. Child's hands are extended forward so that she could move on your hands. Exercise is repeated 3-4 times. From SP Massage is performed on the stomach muscles of the back and neck. In the baby on his back running caress stomach. Repeat caress, kneading and rubbing spiral neck muscles on the side of sound and light rubbing, caress and muscle vibration on the lesion side. Repeat passive corrective exercises. The final part takes about 3 minutes to include foot massage, reflex exercises for feet and hand massage.

II. The period from 3 to 6 months. Selection exercises expand by SP lying and sitting on the side.

1. SP lying on the affected side. Methodist stabilizes the shoulder with one hand on the side of shortening, with the other hand performs lateral cervical spine flexion (lifting the head must be such as to a child looking straight ahead).

2. SP patient lying on the side. Repeat the exercise number 1. After the lateral inclination provoke a child to perform the rotation in the direction of shortened muscle.

3. SP sitting with legs crossed. Methodist one hand stabilizes the shoulder of the child with muscle shortened second

hand raises the clock (a soft plush toy) to the child's ears healthy side and gradually separates their input on it. The child, wanting to listen to skedaddle clock cannot ear to shoulder.

4. SP same. Methodist stabilizes the shoulder belt of a child to prevent rotation of the torso. Cry baby (toy show) on the part of shortened muscle, causing it to active head rotation toward the shortened muscle.

5. SP sitting on the lap of his mother. Torso of the baby being pushed in the direction of the shortened muscle. To maintain balance the child actively rejects the head in a healthy way. Exercise can make it harder by increasing the frequency of push.

6. SP pushing the child forward, which causes straightening of the head and torso.

7. SP same. Researcher puts his hand to the nape of the child and tries to bend the spine in the cervical part of (her head). Baby reflex counteracts pressure hands and straightening the cervical spine.

III. Period of 6 months before the walk.

In 7-8 months, if necessary, can be used Shangqiu collar.

At this time large number of exercises for the healthy side in order to achieve active hypercorrection staged head.

1. SP inverted. Raising the head by sternocleidomastoid healthy muscle of the delay in the final position for 3-5 seconds.

2. SP inverted. Head positioned in turn at an angle of 200 in the healthy side. Instruktor exercise puts hands to cheeks of a child by shortening and furthermore offers the child push the head in a patient hand side.

3. SP lying on the stomach. The Chairman raised the edge of the table. A child holds his head within 5-30 seconds on the line longitudinal axis of the body.

Approximate a set of exercises.

1. Head tilt to the right and left.

2. Closed-head speed at a fixed shoulder girdle adult child.

3. Exercises with resistance, supine

4. Lifting their heads while lying on her side, on his stomach with his head hanging off the couch.

Massage.

SP child - lying on his back. Masseur standing at her bedside. Massage makes the muscles of the patient and the healthy side. To relax the sternocleidomastoid muscle head should be tilted in the direction of tilt. Performed a gentle stroking, kneading in combination with continuous vibration fingertips. The direction of motion from ear to collarbone, vibrating motion light, a soft and plastic, without causing the child pain. After the reception, leading to relaxation, the following stretching - massage techniques from the middle of the muscles to the opposite end. On the patient side of the place where the muscle is shortened, and where there are changes due to scar tissue tears or hemorrhages, should be gently stroked, rubbed, gently stretching and kneading. The treatment ends with stroking.

On the healthy side performs the same reception, adding kneading and intermittent vibration. Techniques performed intensively to improve the tone of the stretched muscles. Selective muscle massage neck massage is complemented by the facial muscles on the affected side in connection with their possible atrophy. At the same time use all the tricks to encourage, to strengthen the muscles on the affected side and the muscles of the neck, chest, back, nadplich on the healthy side. Massage can be alternated with the performance of physical exercise, but one can first perform massage, and then - go to exercise. Massage sessions held on 20-25 procedures, then take a break until 1.5 months.

Timely and persistent treatment provides a complete recovery in most children. Only a small number of patients subject to surgical treatment after 2 years of age. After graduating from the conservative course of treatment the child is subject to dispensary observation over the entire period of growth.

Hydro kinesiotherapy.

Classes are held in the pool at a temperature of 35-36 °C. Special exercises are as follows:

1. Hands under the back of the head instructor of the child, lying on his back, neck, the child is in the water. Pads of the thumbs performed stroking the sternocleidomastoid muscle.

2. Hands under the back of the head instructor of the child, lying on his back, neck, the child is in the water. Smooth movement of the baby's head to the right and left.

3. Hands under the back of the head instructor of the child, lying on his back, neck, the child is in the water. Smooth movement of the baby's head so that the affected side is inside the circle.

4. The child in the foamplast cap lying on his back, legs omitted. Instructor performs movements with his hands in side-down, performing a smooth correction of the torticollis, increasing traction of the lesion.

5. Child lying on his stomach, support under the chin, are the width of the pool. Second hand smooth movements, springing, elevated shoulder girdle kept in water.

Physiotherapy.

1. Paraffin-mineral wax application on the affected muscles, warming up the thickened muscle warm heaters, lamp "Solux;

2. Electrophoresis courses № 7-10 with KJ, lidaza etc., starting from 6-8 months of age.

Operative treatment.

Early surgical treatment is to quickly stop the development changes the face of the skull, as well as compensatory changes in the thoracic and lumbar spine. The main indications for surgery are: forced head position negative results of active and passive sampling compensatory changes in skull and spine drastic shortening and thickening of the sternocleidomastoid muscle. Surgical treatment consists in the fact that the child is placed on his back

with a pillow beneath the shoulder girdle. In this case, head bent backward in the direction opposite to torticollis. Provide general anesthesia. Intersect transversely at first thoracic leg muscles, and then the clavicular stem. Manipulation make it very cautiously, because the lateral clavicular stem from the sternocleidomastoid muscle is external jugular Vienna, and for the vagina sternocleidomastoid muscle are major blood vessels of the neck. If the head on the operating table, we can deduce the position hypercorrection, the operation is completed by imposing silk sutures on the skin (the seams on the muscles do not overlap). If the head is impossible to deduce the correct position, then additionally perform upper myotomes. Transversely cut through the muscle below the mastoid. Manipulation make it very cautiously, because the front is the facial nerve. After mending the wounds impose a cotton-gauze bandage in position hypercorrection head. After removal of sutures (7-8 days), there are thoracocranial plaster in the position of hyper Correction, ie head should be tilted in the direction opposite to the operated area, returned to the operational side of the wound. Fixing plaster cast lasts 5-6 weeks. When immobilization of gymnastics is held to prevent post operative complications and promote healing. Principal amount General developing exercises from a variety of initial positions, breathing, to relax, to develop good posture, a low-intensity games. Then the plaster cast removed and make the variable emalitinove collar type Schantz, who are 6 months. At this time the patient receives the polling neck massage, back, face, and special exercises.

The aim of exercise therapy are: content of a normal installation of the head, was achieved surgically, by strengthening the muscles on the healthy side; promote resorption of hematoma formed and prevent ill-scarring; increase range of motion of the cervical spine, especially lateral bending and rotation; correction of posture (often with torticollis, not treated, there comes a lateral curvature of the spine in the thoracic and lumbar spine). When performing exercises, ensuring the strength of scars and selective muscle strengthening should be fixed shoulder girdle. For this purpose, the source of lying and sitting with the contents of the shoulders hands of a practitioner when performing active exercises. Of special exercises using head tilt and rotate it to the healthy side, turning his head toward the operation and extension neck. Soreness removed by thermal treatments and massages.

In children older than 2 years with 4 weeks after surgery administered exercises while sitting in a chair in front of a mirror.

- a) a child with both hands holding the seat (to stabilize the upper body) and performs a side-slopes in the healthy side.
- b) sitting on a chair sideways to the mirror operated with both hands holding the seat and performs a turn towards the mirror without changing the position of the shoulder, with the lowered chin. Thus the fixed amount of rotation of the head and neck, was achieved. Later in the exercise sessions increases due to general strengthening exercises to counter, exercise, correcting for the prevention of spinal deformities. Rehabilitation lasts for 9-12 months after surgery. Prophylaxis.

I. Prophylaxis pathological pregnancy (toxaemia, nephropathy, anemia, pregnancy, beriberi, infectious diseases).

II. Injury prevention is a generic.

1. Particular observation of the children "at risk", large fruit, breech presentation, transverse position of fetus, heavy delivery, maternity fractured clavicle, Maternity brahiopleksitis.
2. Early diagnosis.
3. Stages of inspection children (hospital, clinic, kindergarten, school).
4. Gradual, staged treatment of a patient after diagnosis to completion of growth.
5. Finding children's dispensary to 14 years.

Table 2. Types of Torticollis (by Protsaylo MD)

	Muscular torticollis	Klippel Feil Syndrome	Shershevskogo-Turner syndrome	Sprengel's deformity
Head Position	Incorrect position of the head develops gradually	Incorrect position of the head immediately after birth	Develops gradually	Incorrect position of the head immediately after birth
The presence of the local seal at the level of the middle third of the sternocleidomastoid muscle	Occurs at 2-3 weeks after birth	NO	NO	NO
State of the sternocleidomastoid muscle	A short-cut, hard, thick	Not Changed	Not Changed	Not Changed
Active correction of head position	From full to part-time during the growing child	Absent immediately after birth	Part Time	Part Time

Passive correction of head position	From full to part-time during the growth of the child	Absent immediately after birth	Full Time	Part Time
Radiographic data	Secondary compensatory changes in skull and spine in the remote period after childbirth	Gross primary congenital changes of the cervical spine	Dwarfism, late calcination epiphyses of bones	Atypical, high shoulder position, its underdevelopment
Neurological disorders	NO	There	There	There
Reason of incorrect position of the head	Sternocleidomastoid muscle	Cervical spine - the bones	Skin folds	Scapula

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