

Review Article

Prophylaxis of Illnesses and Deformations of Hips, Knees, Feet and Spine – An Important Aim of Physiotherapists, Pediatricians and General Doctors

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Abstract

In everyday praxis of a physiotherapist, pediatricians and general doctors, not only proper diagnosis and proper treatment are important, but also informing about the methods of prophylaxis.

The program to create, the healthy generation" should be the first aim of the orthopedics in every country. In the article, the authors present general and orthopedic rules of a program of prevention of many deformities in children and youth, as well as pain syndromes in adults, concerning the hip, the knee, the shanks, the pelvis and the spine.

Keywords: Prophylaxis; Hips; Knees; Shanks; Spine; Children; Adults

Introduction

The necessity of prophylaxis and it's rules are sometimes not easy to explain and to realize by the small or adults patients, but it is the best method to maintain good health all the life. In the article, the authors present the material and observations gathered over many years. They suggest the simple and tested methods of prophylaxis (Literature 1 – 12).

Pediatric General Recommendations for Small Children**How important the breastfeeding is?**

It should be constant and regular during the one or two years of the child's life. Breastfeeding is not only important as a satisfaction of „the need for nutrition”, but is also very important as an „anti-stress method for small children”. It is especially important to children after a complicated pregnancy and a complicated delivery - as some children have the symptoms of Minimal Brain Dysfunction (MBD). Close contact with mother gives a better blood circulation what decreases the clinical symptoms of MBD.

Problems of hat tying (Figure 1a, 1b)

Tying the hat obstructs the free flow of blood from the brain to the heart through the external jugular vein (vena jugularis superficialis). According to our observations – such situation repeated many times in the first month can cause abnormalities in the development of the circular system of the brain. Such hat “tying” is typical for many families in Slavic Countries, but not usually in USA (experience of Katarzyna Karska and Honorata Menet).

Importance of carrying the baby (Figure 2a, 2b, 2c, 3a, 3b, 3c, 4a, 4b)

Constant contact of the child with the mother and the father stimulates positively and calms the child down what is very important form the psychological side of view too. Holding and close contact with the baby at night with the mother is very important since it



Figure 1a, 1b: Tying of the hat blockade the circulation of the blood. Follow disturbing free flow of blood from the brain to the heart through the external jugular vein (vena jugularis superficialis). Correct is only to put free front part of neck (Figure 1a).

eliminates possible stress connected with the darkness. Stress closes the capillary in the blood circulation system. It causes semi-asphyxia and can lead also to anomalies in the circulatory system of the brain. Stress is very danger for older people, close the capillary in the heart and if is chronic lead to the infarct.

Orthopedic Rules of Prophylactics**Carrying babies and small children in abduction - importance for the hips (Figure 2a, 2b, 2c, 3a, 3b, 3c, 4a, 4b)**

Carrying should be done with the maximal abduction and flexion of the hips. The child should be carried, face to face - facing the mother. Only such way of carrying is proper for hips' development. By carrying the child in a proper manner - we can also treat or prevent the wryneck (muscular torticollis) simultaneously if it's first symptoms are present. We found that only stretching of the shortened muscle sterno – cleido - mastoideus - by turning the baby's head to the side of the wryneck (rotation stretching !) is a proper way of



Figure 2a, 2b, 2c: Carrying of the babies and small children in abduction is very important for the hips (Figure 2a). It should be done with the maximal abduction and flexion of the hips. Every other method of carrying is incorrect (Figure 2b, 2c). All pictures made in Poland.

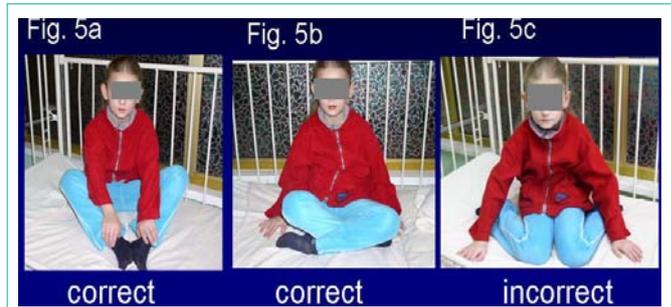


Figure 5a, 5b, 5c: There are necessities of proper sitting (Figure 5a, 5b) for children in every age. It is important for hips, knees and spine. In this position, the feet are together and the knees are in flexion and directed to the sides („butterfly position” description taken from karate). The sitting in Figure 5a is better than in Figure 5b.

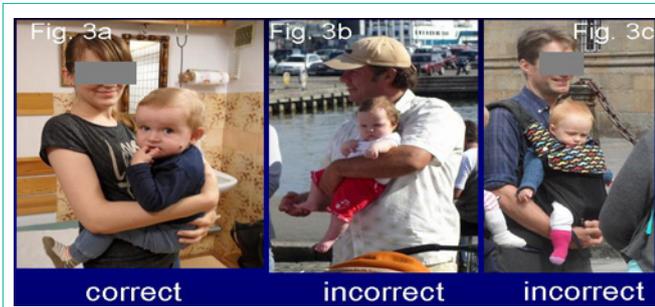


Figure 3a, 3b, 3c: Carrying of the babies and small children in abduction is very important for the hips (Figure 3a). It should be done with the maximal abduction and flexion of the hips. Every other method of carrying is incorrect (Figure 3b, 3c). Pictures 3b, 3c were made abroad (not in Poland).



Figure 6a, 6b, 6c Proper sitting of children in all figures. In butterfly position (description taken from karate) the hips are in full abduction, spine is relax. Such position can also correct antetorsion of femoral neck (AT).



Figure 4a, 4b: Newborn 3 weeks (Figure 4a). Proper carrying of the child. Hips in abduction, prevention of dysplasia. Head turned to the right side (!) - prevention of wry neck right side. Fig 4b child 3 years old. Therapy of wry neck left side. The head is turned to the left side (!) to stretch m. sterno – cleido – mastoideus.



Figure 7a: Mother of the child (in the middle) in childhood operated in Lublin (1984 and 1985) because of dislocation of the hips. Grandparents of the child on sides. Child and older persons sit in proper position. Child sit in full abduction of the hips, older persons sit in internal rotation of the hips as prophylaxis of arthrosis.

treatment and only such a therapy gives good results (!). This method of treatment was introduced by T. Karski in 1974. Such method can prevent operations of the wryneck. There were publications on this method of treatment in Orthopädische Praxis in Germany in 1991 and in American Research Journal of Medicine and Surgery in 2016.

The timing of the beginning of standing and walking of the child

It is allowed to stay and to walk only after one year or a few weeks or months over one year. It occurs that some children want to stand earlier than to sit. These are the children with symptoms of Minimal Brain Dysfunctions (MBD) because of their extension contracture of the trunk muscles and muscles of the legs. Premature standing

can lead to varus deformity of the shanks and is not proper for the development of the hip joints.

Varus deformity of the shanks – how to treat and to prevent

The “O”-shaped deformity of the shanks exists in three forms: 1/ in Blond disease, 2/ in rickets, 3/ in kidney disease. According to our observations, the Blount varus deformity of shanks is caused by the following four reasons: A/ unusually big varus deformity of the shanks of a newborn. It is because of the insufficient space in the mother’s uterus,

B/ precocious standing and walking – at the age of 8 - 10 months, mostly in children with MBD, C/ obesity, D/ insufficient



Figure 8: Girl (on left) 10 years old. She was operated because of dislocation of the hips. Standing in abduction and in internal rotation for proper farther development of hips. Mother and father sit in internal rotation of hips as prevention of hips arthrosis. Both parents – full, proper internal rotation of hips.

Vit. D supply. In the therapy of such varus deformities (Blount disease) we recommend preventing the children from standing and walking during 2 - 4 months (!), giving proper doses of Vitamin D3. The presented treatment is for the 1 to 2.5 year old children and in all our cases was very satisfied. After 2 - 4 months - the shanks will spontaneously return to the anatomical proper axis (!). These observations were published in Germany in *Orthopädische Praxis* (1991) and in the USA in *American Research Journal of Medicine and Surgery* (2016 - T. Karski & J. Karski).

Valgus deformity of the knees – causes, therapy

The “X” shaped deformity of the knees appears mostly in children with the laxity of joints. The laxity enables children to sit in improper positions namely with the legs on the sides of the body (Figure 5c) which is called “TV sitting”. Such sitting position diminishes the external rotation, increases the internal rotation of the hips, it can also increase the antetorsion (AT) of femoral neck and heads – as a result, we observe incorrect walking. Such pathology occurs mostly in children with Minimal Brain Dysfunction (MBD). We should recommend to children never to sit in an improper way. The best is sitting with cross-legged shanks or sitting in “a butterfly position” (a term from karate). In this sitting position – the feet are together, and the knees are flexed at 80 – 90 degrees. It enables proper development of the hips and normal axis of the knees.

The Necessity of Proper Sitting for Small Children Important for Hips and Spine (Figure 5a, 5b)

It is a position, where the feet are together and the knees are in flexion and directed to the sides (butterfly position – in karate). Such position of sitting is the best for the hips (Figure 5a, 6a, 6b, 6c, 7), it reduces the antetorsion of the neck of femurs, it protects the spine from scoliosis, because the spine is in a proper, flexion position, it also prevents the valgus deformity of the knees (see chapter above). Here I would like to draw readers' attention - „sit straight up” it was the old recommendation, and now proven incorrect. Sitting in a straight position can fix the extension contracture of the spine – and this can enable the development of the so-called idiopathic scoliosis (discovery of etiology – T. Karski in 1995 – 2009 – see literature). Adults persons



Figure 9, 10a, 10b: Boy 10 y. with scoliosis (Figure 10a, 10b). Effect of standing on the right leg. Standing ‘at ease’ on right leg is in all individuals the cause of the so-called idiopathic scoliosis. Girl 10 y. (Figure 9) stand on the left leg – she in clinical examination has the proper axis of spine.

should sit only with maximal internal rotation of the hips (Figure 7a, 8). Only such sitting is proper for older people because protect before arthrosis of the hip joints. This affirmation is based on observation of T. Karski more than 30 years (see in literature article publish in USA).

The anterior tilt of pelvis in children and back pain in adults

The anterior tilt of pelvis is a very common deformity in children with MBD. As a result of the wrong position of the pelvis, hyperlordosis in lumbar spine develops. This posture deformity is common in children with Minimal Brain Dysfunction (MBD) and ADHD (Attention Deficit Hyperactivity Disorder) because of the contracture of the flexors of the hips. Such a deformity requires therapy in childhood because in adult age it causes back pain. In therapy, we recommend stretching exercises for flexors of the hips, especially for m. rectus, one of the four parts of m. quadriceps.

What we should know about jumping on hard surfaces of children at the age of 4 to 11

Jumping causes necrosis of the femoral head, what means the Legg–Calvé–Perthes–Waldenström disease. Over many years of observations, we found out, that these are mostly the children with MBD who like to jump. During jumping fractures of bones in femoral head occur. The cartilage is resistant and during jumping only it's structure is being changed, bones are however being broken. This moment is the start of the Perthes disease. These problems were discussed in the article in *Locomotor System Journal* in the Czech Republic in 2017 (J. Kałakucki, T. Karski, J. Karski – see literature).

Standing ‘at ease’ on the right leg in children, youths and adults and it's influence on the hip and the spine (Figure 9, 10a, 10b, 11a, 11b, 11c)

The children with the habit of standing on the left leg are not affected by any pathological changes because such a way of standing is never permanent. Standing on both legs is of course also without pathological influences to the locomotors system. Standing ‘at ease’ on the right leg is permanent and because of this fact, it influences the axis of the right leg and, what is especially important it causes the so-called idiopathic scoliosis in two etio-pathological groups.

The etiology of scoliosis and recommendations for a new treatment

The observations of the “spine deformity” were started by the author (T. Karski) in 1984 and described in details in years 1995 – 2007/2018, also in many articles in the USA.

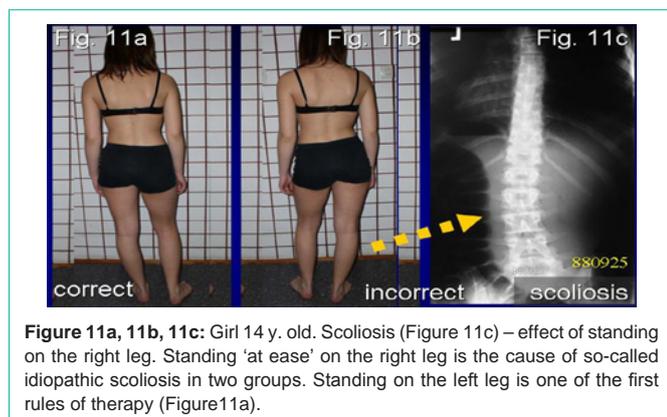


Figure 11a, 11b, 11c: Girl 14 y. old. Scoliosis (Figure 11c) – effect of standing on the right leg. Standing ‘at ease’ on the right leg is the cause of so-called idiopathic scoliosis in two groups. Standing on the left leg is one of the first rules of therapy (Figure 11a).



Figure 12a, 12b, 12c: Getting off the car on one leg / on one foot is the cause of distortion of the ankle joint, knee and in some special cases also of the hip joint. Hip - if this joint is affected by arthrosis and the movements are limited. Everybody should get off the car only on both legs / both feet.

In the new classification (T. Karski 1995 – 2007) there are three groups and four types of scoliosis.

The first group it is “S” double scoliosis connected with walking and standing ‘at ease’ on the right leg. 3D. Lumbar left convex curve, thoracic right convex curve, gibbous on the right side. The spine is stiff. Progression. The second group “C” and “S” types of scoliosis, 2D. The only cause is standing ‘at ease’ on the right leg. In “S” scoliosis additionally – laxity of joints. In both types of scoliosis, the spine is flexible. No progression or small. The third group - it is the “I” type of scoliosis. Spine stiffness only, without curves or with very small ones. The only cause is the gait. This spine deformity till 1995 – 2007 was no included to the “scoliosis group”.

The recommendations for treatment of scoliosis and it’s prophylaxis are

- standing ‘at ease’ on the left leg or symmetrically on both legs,
- every day bending/flexion exercises to prevent stiffness of the spine. Especially important are the flexion exercises in direction of the convex side of curve,
- sitting in a relaxed way, the “butterfly position” is the best (description derived from karate),
- sleeping in the embryo position,
- sport – karate, taekwondo, aikido, kung fu and other similar

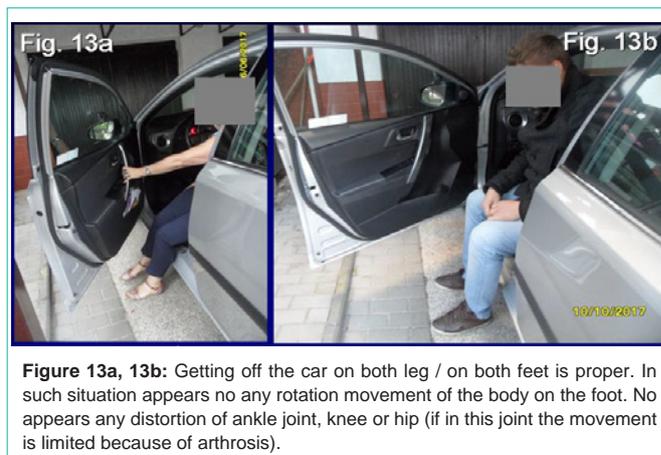


Figure 13a, 13b: Getting off the car on both leg / on both feet is proper. In such situation appears no any rotation movement of the body on the foot. No appears any distortion of ankle joint, knee or hip (if in this joint the movement is limited because of arthrosis).

kinds of Far Eastern Sports are the best.

Standing ‘at ease’ on the right leg in adults

Standing on the right leg causes the development of the scoliosis in children and adolescents (see chapter above), but fixes the scoliosis in adults. Permanent standing on the right leg changes scoliosis into a degenerative one.

The doctors in every country should remember about the cause of standing of “back pain” and should introduce this knowledge into the treatment of patients suffering from pain. Standing on the right leg, it also causes degenerative changes and pain in the right hip and the right knee, what need special treatment.

In the treatment of “imperfect hips” (see article publish in USA) we recommend the following procedure:

- standing with feet wide apart (in abduction 20 – 30 degree), toes turned inward (like in Karate). See picture in Figure 8,
- walking with feet wide apart (like sailors).
- sitting - with knees together, feet wide apart (like young girls). See picture on Figure 7a, 8.
- sleeping - in prone position with the affected leg in abduction and flexion - other part of the night in embryo position, what is important for the spine.

Using small cars, what can happen?

Some years ago, we discovered that getting out from the (small) car should happen only on both legs / both feet (Figure 13a, 13b). Getting off the car on one leg / on one foot is the cause of distortion of the ankle joint, of the knee and in some special cases also of the hip joint, if this joint is affected by arthrosis primarily and the movements are limited (Figure 12a, 12b, 12c). The rules of prophylaxis were described in American Research Journal of Medicine and Surgery (2017) and in Grimson Publishers Journal (USA) in 2017 and also in Czech Republic in Journal of Locomotors System, 2017.

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