VOJTA THERAPY SUCCESS THROUGH THE RECONSTRUCTION OF PATIENT'S DAILY COMPETENCE

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Abstract: The topic of this paper highlights the broad spectrum of Vojta Therapy's effect which has shown its efficiency worldwide, from infants up to adults. Now it came to an elaborate form of therapy, which assumes a neurological assessment of the child, of his dynamics and major delays.
The purpose of the study is to outline briefly the physiotherapy techniques and methods applied in "Vojta" program through which is achieved the activation and maintenance of physiological movement patterns, the facilitation of the automatic adjustments of the body posture's control, facilitation of maintaining active the extremities's supporting function, the stimulation of the coordinated muscle activity and activation of the functions for the regulation of vegetative nervous system.
The study developed shows the general patterns (results) of the therapy, which relates to motor responses: is activated the skeletal muscles of the entire body in a coordinated manner, and the nervous system is reached in all its major points.
Conclusions
Through Vojta therapy is achieved the positive changing of the movements for coordination, vertical positioning, independent walking and speech. Such a feeling profound and positive, leads to the improvement of the communication skills. This fact stimulates the development of patient's independency related to the accompanying adult. The positive effect manifests itself psychically; during the daily therapy, the child experiences the affection and safety throughout parents'care. Thus, is strengthened the parent-child relationship and this leads to gaining new experiences.
Keywords: *Neurological assessment; vegetative nervous system; Vojta therapy; physiological movement pattern; muscle activity; skeletal muscles; communication skills.*

Introduction: what is Vojta therapy?
At a premature birth the nervous system is not sufficiently developed. Therefore, the premature babies are prone to develop immediately or during the first months of life, ophthalmic and neurological problems. In order to detect any eventual neurological damages a medical check done by a specialist is recommended after the age of three months. The problems can be diverse, but many children are diagnosed as having disorders or delays in the motor activity area, which are most easily to be traced by their parents after 3 months when babies cannot hold their head, after seven months when they cannot sit in their butt, or after 1 year and 6 months when they cannot walk standing up on their legs. To recover these dysfunctions or delays it is recommended start this therapy. In Romania are recognizes two types of therapy: Vojta and Bobarth.
Vojta therapy was developed by the Czechoslovakian neurologist Vaclav Vojta in the 60s. There have been observed the motor reactions that occur throughout the body as a result of the peripheral stimulation of a patient in certain positions, concluding that those components that have determined the muscle activity are to be found in all forms of human movements.
From this point of view the discovery was taken and developed by many specialists. Now we came to an elaborated form of therapy which assumes a neurological assessment of the child, its dynamics and major delays. It is based on the conception that the nervous system is an opened system that can receive numerous external stimulations, stimuli that might affect the operation and can cause changes of the anatomical maturation. The reflex movement is the meeting point of all these complementary aspects.
As a diagnostic method, Vojta therapy can be applied to children from a very young age (newborn babies, infants). The therapeutic objectives are: changing the child's reflex activity and orientation towards a predominantly physiological stage. This is done by introducing another method of central neurological activity that gives the patient a new type of physiological awareness. The muscle proprioception (perception of self) plays a very important role in the success of the method. Other objectives include: better

control of respiration, controlling of neural-vegetative reactions, balanced development of the loco-motor system, preventing the orthopedic problems.

Vojta is a therapy in three stages: the study of the postural automatism reactivity, study of the spontaneous and reflexology motor functions. The methodology is compressed by the use of physical therapy based on the reflexive displacement and "pathing" (tracking the nervous system).

The parents whose children practice Vojta therapy tell us how the children cry very loud during the meeting. It's interesting to see how these "crying sessions" repeatedly affect them from the physical and emotional point of view (Robănescu, Nicholas, 2001).

Developed in the years 1950-1970 by pediatric neurologist Dr. Vaclav Vojta, the therapy Vojta (or the reflexive locomotion) is one of the physiotherapy treatment programs considered as standard, especially in Europe, for children with mobility problems.

Dr. Vojta therapy has developed the therapy bearing his name through empirical observations. He studied the reactions that occur in the entire body as a result of the peripheral stimulations to the patient standing in a particular position. It was found that certain parts of this general muscle activity that was provoked, are to be found in all forms of human locomotion.

Vojta therapy can be helpful in spastic tetra-paresis, the rehabilitation after brain injury, spinal cord injury, rehabilitation after stroke, multiple sclerosis and other neurological disorders. Due to the nature of the brain, Vojta therapy is most effective in the first year of life, but can be used later.

The general patterns discovered by Vojta in 1954, represent the basis of reflexive locomotion. The general patterns relate to the motor responses that occur when applying Vojta therapy. It enables the skeletal muscles of the entire body in a coordinated manner, and the nervous system is reached in all its important points (Jianu M., 2004).

In addition to the skeletal muscles are also activated the muscles that control the facial expressions, movement of eyeballs, respiration, urinary bladder and colon functions. This influx of motor reactions is determined by the pressure applied on certain body parts (called 'areas") with the patient sitting in certain non-specific positions. The motor reactions thus obtained are part of the usual patterns of human movement: walking, stretching of the hand, grasping of an object, rolling. The general patterns form the basis of a motor rehabilitation of the babies, children, adolescent and adults.

The therapeutic goals of the reflex locomotion are: to facilitate the automatic control of the body posture, to facilitate the active control of limbs and to stimulate the coordinated muscle activity. These natural abilities, which every healthy human possess, are more or less hindered by a central or peripheral lesion of the nervous system.

By Vojta therapy, a patient with mobility impairments, gains also the ability to communicate and initiate contact with another person. For a child, these things are extremely important because this helps him to integrate into his environment. The reflexive locomotion can be used as basis for other therapists to help children accomplish the tasks given by the psychologist, educator, speech therapist. To be effective, Vojta treatment must be used several times a day. A treatment session lasts 5 to 20 minutes. Parents play an important role in implementing the therapy only because they spend enough time with their child to be able to practice it several times a day.

The therapy may last several weeks, several months or years. Meanwhile, the therapist must educate the parents and support them. The treatment program, its duration, the pauses length are constantly reviewed and revised by the specialist, taking into account of the progress made.

Considered an important medical tool, Vojta therapy is used to assess child development from birth and is a reliable diagnostic tool. For the physiotherapist, it is a global therapy that can be used in the first days of life, both as a method of prevention and as an actual curative one.

Vojta therapy goals

This form of therapy based on the locomotion reflex, aims the following objectives:

- Modifying the activity reflex of the child and orientation of the neural motor development towards physiological pathways. This occurs by inserting a different central neurological activity that produces a new awareness on the physical appearance for the patient. Muscle

sensitivity has a very important role throughout the program;
- Changing of the spinal automatism in spinal cord lesions;
- Breath control, in view of increasing the vital capacity;
- The control of the neuro-vegetative reactions and supporting a balanced growth of the loco-motor system;
- Prevention of orthopedic degradation, frequent in severe pathological cases.

Vojta therapy methodology

From medical point of view, Vojta therapy proposes three methodological aspects.

The study of the postural automatic reactivity – testing of the immediate postural changes (from 7 to 11 reactions) helps spotting any problems related to the management of automatic reactions of the central nervous system. The sequential changes in these reactions in the first year of life, in case of a normal development, are clearly established. Therefore, such an examination helps to detect the main central and peripheral functional abnormalities, helps also to identify the degree of development reached at the time of examination.

The kinesiology analysis of spontaneous motor function - every stage of normal development is characterized by behaviors that correspond to certain aspects: guidance, locomotion. These basic requirements stimulate the implementing of loco-motor strategies that are automatically adapted to the postural characteristics of that time (Pásztai, Z., 2001).

• Vojta therapy uniqueness lies in a clear defining of kinesiology contents and of those locomotion strategies. This means that the working postures, supporting polygon and movements characterizing the optimal development are clearly defined. The difference between the multiple individual variations and postural fundamental components needs to be done to enable the systematic diagnosis of the patient and of the comparison with possible new pathological aspects.

In Vojta therapy, the procedure for the "normal" movements as catching, vertical standing and walking will not be taught, practiced and trained by the primary teacher. Vojta therapy stimulates the brain to activate the "movement model" imbedded, “inborn” and, as a coordinated movement, to export it to the trunk and limbs’ muscles.

Healthy children in the first year of life, have at their disposal, a complete set of vertical standing and human displacement motions.

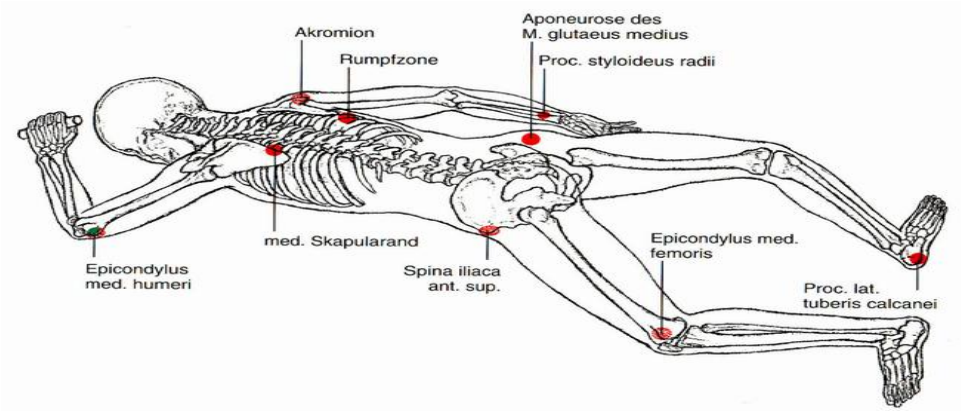
Beginning with catching, then rolling and walking on all fours, up to the independent walking.

Up to central nervous system injuries and disorders of posture and movements, regardless of their cause, these inborn movement patterns could be used spontaneously.

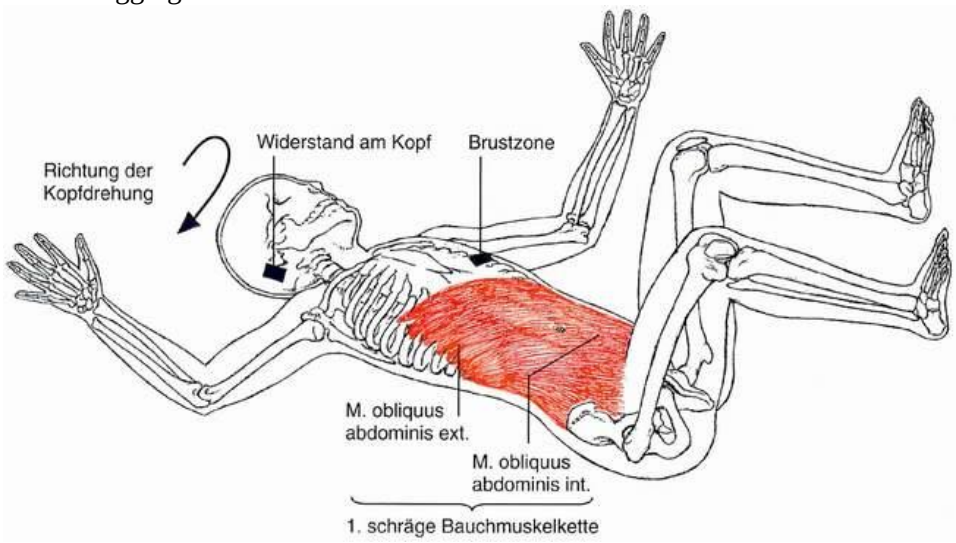
The "bricks for construction" of human displacement

Voita developed by this so-called reflex movement, a method, making possible that all elementary movement patterns be again available, at least partially, also in people with damages of the central nervous system and the musculoskeletal system.

For this, the therapist is practicing with his patients, in position on the back, on the belly or on the side, a pressure with a precise direction, on clearly defined areas of the body. This stimulation results, for the patients of any age, "as a reflex" to two movement complexes, in which exist all components of human locomotion: "reflex dragging " and " reflex rolling ". These complexes can be activated regardless of the will of patients (Pásztai Z .2006).



Reflex dragging



Reflex rolling

Guidance and recommendation for Vojta therapy

This therapy can be used from the birth till a late age – of course with different purposes:

• For infants the central nervous system is in full training. The abnormal movements are not fixed, yet.

• For young children, in school, teen age, the therapy may still influence the process of maturation and growth.

• For adults on the fist place is the possibility of using again the movement patterns, once in good state, in order to diminish the phenomena that result in pain, limiting the functionality and strength (Jianu M., 2003).

The influence:

Each patient must be treated individually, according to his affection, possibilities and limitations given by these.

Vojta therapy effect may include in particular the following areas:

Skeletal muscles:

- The column will be extended and rotated segmentally and will operate more mobile
- The head can be moved more freely
- The joints get centered. Wrong positions (vicious) are reduced.
- Hands and feet would involve more precisely for the supporting and clamping function.

The face and mouth area:

- suckling, mastication and swallowing will be alleviated
- eyes will move independently of the head and be more focused
- voice will become stronger
- Learning skills will be facilitated and the speech clearer

Respiratory function:

- thorax increases
- Breathing will become more extensive and constant

Vegetative nervous system:

- skin will be better vascularized
- the sleep-wake rhythm improves
- regulatory functions of the bowel and urinary bladder will be activated

Perception:
- Equilibrium reaction will improve
- Space orientation will be better
- Perception for hot-cold, sharp-blunt will become stronger or more accurate
- The perception of one's body will be clearer
- Recognition of forms and structures by palpation (stereo - gnosis) will become better
- Concentration will be more sustainable and flexible

Psychic:
- The patient is calmer, happier and can be more emotionally involved

Multilateral Intervention

Vojta Therapy can be used as a basic therapy in the field of physiotherapy, for example:
- central coordination disorders in infants
- movement disorders due to brain damage (cerebral paralysis)
- peripheral paralysis of arms and legs (brachial paralysis, spina bifida etc.)
- Different muscle disease
- sickness or functional limitations of the spine (example scoliosis)
- orthopedic injuries of the shoulder and arm, hip and leg, especially when rising
- In treatment of erroneous hips development (DCS / dislocation)
- in disorders of respiratory function, mastication and swallowing

Vojta therapy can not be used to:
- acute febrile diseases / inflammatory diseases respectively
- specific diseases, such as osteoporosis
- Certain heart or muscle diseases
- pregnancy

Achievements: teamwork

For Vojta therapy's success, usually it must be done several times a day ie up to four times (Albu, Constantin Vlad, Tiberiu-Leonard; Albu, Adriana 2004).

A session lasts between 5 and 20 minutes. A decisive role in Vojta therapy, have the child's parents or the person who will carry out daily therapy. Besides the basic disease, the intensity of the exercises, frequency and accuracy decide the efficacy and success of the treatment. After the recommendation of the doctor for Vojta therapy, the therapist establishes an individual program and decides together with the patient / parents the therapeutic goals. Teaching the parents / caregivers about the treatment techniques, must be done immediately, so that the therapy can be started at home, and the necessity for the intensity of treatment, should becomes possible. During the therapy, that can extend over weeks, months, even years, the therapist must provide parental support. The program, dosage or breaks during therapy will be adjusted to the patient's development.

More emotional safety

Through Vojta therapy one can achieve a positive change in the coordination of gripping movements, vertical standing, walking and speaking. By this, the child is able to exteriorize and to fulfill easier and better his wishes and needs. Thus, the patients are less frustrated and act safer and happier.

Older children say they feel after Vojta therapy "easier" on the move.

Positive feelings lead to dramatically improved communication performance.

Conclusions

By applying the reflex locomotion in Vojta therapy is intended that the elementary components of human vertical standing and displacement, meaning:

1. Balance the body during movement ("postural coordination")
2. Raising the body against gravity
3. The movements with a precise target of the limbs, grasping and stepping ("Phasic motion") to become accessible and usable again.

The difference related with other physical-therapeutic techniques and methods

Vojta therapy is not practicing movement functions, such as catching, rolling from back to the belly or walking. It rather uses, therapeutic activation of the reflex locomotion, mediates the access via the central nervous system, to the movement patterns partly singular, necessary for a certain movement or action.

After Vojta treatment, these partial models are spontaneously available to the patient. By the regular repetition of the "normal movement" stored in the brain, is prevented the initiation of avoiding movements. These are in any case just a replacement for the "normal movement" itself, which is desirable.

Activation of vegetative reactions and other automatic ones.

By help of reflex locomotion can be activated and influenced, in addition to the "larger" reactions, like motor ones, certain reactions such as:

• Movements of eyeballs (eye motility)
• Movements of the tongue and movements of jaw (orofacial motility)
And the vegetative functions:
• Adjusting the urinary bladder and bowel function
• Breathing
• Suckling and swallowing
Reflex locomotion and in connection to the ideal motor development
The partial models of the reflex locomotion include all components of the human motor development up to the independent walking. By the regular application of Vojta therapy, is achieved the "opening of the routes" for these partial models in the central nervous system, so that the activation status achieved by therapy be maintained for a period of time, and the spontaneous movements of the child / adult will be positively influenced.
Clinical experience has shown that, after an activation through reflex locomotion, a patient (child / adult) will have available a much better - even normal posture. This gives the patient an increasing emotional safety in dealing with the environment and in accumulating new experience

References:

[1]. Robănescu, Nicolae (2001) – Reeducare neuro-motorie,"The neuro-motor rehabilitation", Medical Publishing House, Bucharest.
[2]. Jianu M., 2004 Breviar de ortopedie pediatrică; "Pediatric orthopedics breviary" Bucharest Tridona Publishing House;
[3]. Pásztai, Z., 2001, Kinetoterapia în afectiunile aparatului locomotor, "Kinetic therapy in loco-motor apparatus disorders", Oradea, Publishing House of Oradea, pg. 9, 13, 27,185-189;
[4]. Pásztai Z .2006 ,Rolul tehnicii de întindere musculară în normalizarea functiei stato-kinetice a aparataului neuro-mio-artro-kinetic la copii cu disfunctii locomotorii, " Role of the technique for muscle stretching in normalizing the static-kinetic function of the neural-myo-artro-kinetic apparatus at the children with locomotion dysfunctions" PhD thesis ,University „Alexandru Ioan Cuza", Iasi
[5]. Jianu M., 2003;Atlas color de ortopedie pediatrică , "Pediatric Orthopedic Colored Atlas" Bucharest Tridona Publishing House;
[6]. Albu, Constantin; Vlad, Tiberiu-Leonard; Albu, Adriana (2004) – Kinetoterapia pasiva, "Passive kinetic therapy", Polirom Publishing House, Iasi, p. 164.