Principles of Manual Therapy -- Russian School

By Andrei Pikalov

Having been in the United States and worked with chiropractors for almost a year, I have found them very interested in the principles and practice of the Russian schools of manual therapy (MT). I hope to start a number of articles describing the achievements of Russian doctors in this field, to share this exciting information and to help further develop the chiropractic science through international contacts. With such cooperation, the health of our patients will improve.

Russian doctors who practice manipulative treatment (manipulative therapy -- MT) refer to their field as manual medicine (MM), and define it as "the system of manual diagnostic and treatment methods directed to the detection and treatment of disturbances of activity of the locomotor apparatus, which are manifested by functional joint blocks, hypermobility and regional postural imbalance."

The basic principle of MM is the use of exact nosology to determine indications/contraindications for MT and the treatment method of choice. Manual therapists (MT) use well known diagnostic methods such as clinical and paraclinical evaluations, x-ray, etc., but they put special emphasis on uncovering pathobiomechanical disturbances of the locomotor system and use special methods of manual examination to achieve this aim. Diagnosis could be based upon anamnesis, patient’s complaints, static and motion palpations, or passive range of motion tests. MTs, along with chiropractors, accept the complexity of diagnostic and treatment procedures for joints using MT arises from the structure of these joints. MM accepts the following classification of joints:

1. number of joint surfaces:
   - ordinary (simple)
   - compound (multiple)
   - complex
   - combined

2. form of joint surfaces:
- spherical
- elliptical
- block-shaped
- condylar
- cylindrical
- saddle-shaped
- flat

3. number of axes which determine the function of the joint:

- one
- two
- polyaxis

Another basic principle of MM states that the development of a pathological process in the joint shouldn’t be considered separately from the entire locomotor system (including vertebral column and muscular system); that MTs should extract from a clinical picture of certain diseases (such as spondylosis, degenerative joint disease, arthrosis, periarthrosis, etc.) the pathobiomechanical evidence of functional blockage, local hypermobility, myodystony, myodystrophia, regional postural imbalance of musculature, dysfunctions of posture and movement.

According to the Russian School of MM, functional blockage is the basic evidence of locomotor system pathology. Functional blockage is a reversible restriction of joint motion connected with reflex changes of the joint ligaments and muscles, and limited by both extra- and intra-articular joint processes. The reasons for functional joint blockages are different, but they are first of all connected with overload or inadequate joint load; microtrauma; forced hypodynamia; somatosomatic and viscerosomatic reflexes; and dystrophic/degenerative joint diseases. The joint may also be in the state of hypermobility (reversible increase in motion volume which is connected with a lack of supportive [myofixational] structures).

Disturbed motion at the vertebral motion segments (VMS) can be either a restriction or an increase. Both are candidates for MT, but each demands a different treatment procedure.

Not all hypermobility equals functional disturbance. There are people who have stretched joint capsules and ligaments due to their constitution, and their motion is greater than the physiological average, yet they don’t
present any complaint. Similar increases in joint motion can be seen in artists, gymnasts, or acrobats who have increased their ranges of motion considerably through training.

Hormonal changes during pregnancy can also loosen the joint capsule and ligaments, and may lead to pathological hypermobility and other neuromuscular disorders.

General hypermobility is conducive to muscular dysfunctions and functional blockages and influences methods of treatment chosen for MT. The local pathological hypermobility could be caused by decompensation or general hypermobility, local overloads, traumas or degenerative changes. MTs believe that the human muscular system specifically reacts by adapting to external conditions, and especially through the development of bone, joint, and ligament pathology: tonus-and-force relationships between tonic and phasic muscles are changeable (tonic are shortened and phasic are lengthened). This process supports the formation of specific postural syndromes such as cervical hyperlordosis, oblique pelvis, hyperabduction, etc.

Thus, functional joint blockage, hypermobility, and muscular dysfunction (regional postural muscular imbalance) can be determined by specific MM diagnostic procedures.

MM follows a certain treatment protocol: relaxation (general and regional), mobilization, manipulation.

Relaxation (general and regional) provides the opportunity to perform manipulations directed to the elimination of functional blockages. The aim of relaxation is to loosen spasmotic muscles; this is accomplished through massage (point massage, segmental massage, classical massage, shiatsu, etc.). General relaxation is reached with the patient’s adaptation to the treatment circumstances and good psychological contact between the patient and the doctor.

Mobilization is a hands-on treatment directed to the restitution of normal ranges of joint motion that have been reduced due to functional blockages or spasmotic, shortened muscles. Mobilization includes repetitive, rhythmic movements of certain body parts through the passive range. Mobilization is performed by traction which varies in level of force used: 1) minimal, which the pressure of joint surfaces became zero; 2) continuous, without disturbance of elastic structures; 3) and stretching of elastic structures up to physiological limits.
Mobilization consists of repetitive movements that constantly increase in volume on the side of restricted motion. Mobilization by pressure is performed by the contact finger (spots bone or hypothenar) pressure to restore normal range of motion.

Mobilization is performed slowly during the expiration phase of breathing (5-10 respiratory cycles). Mobilization can be both specific (application) to one concrete joint in one direction) and nonspecific (influence several joints at the same time).

Manipulation influences the joint with a short, quick thrust directed to the immediate elimination of functional blockage. Manipulation is performed as a thrust or traction thrust, and it is specific. Conditions for the fulfillment of manipulation are the same as for mobilization, but the difference is in the low amplitude, single, and rapid movement. The MT will recommend to the patient to rest for two to three hours after the procedure and may recommend immobilization of the joint for one-two days.

References


Acknowledgement

The author wishes to thank Ms. Ashley Cleveland for her invaluable assistance with manuscript preparation.

Andrei Pikalov, MD, PhD
Kansas City, Missouri
Page printed from: