Treatment of varum and valgus knee in posturology

Author: prof. Daniele **RAGGI**
Degree in Sport Science, Physiotherapist, Posturologist, Mézières practitioner. Lecturer in Posturology c/o School of Medicine (Department of Experimental Medicine and Pathology), Università "La Sapienza" in Rome and c/o School of Sport Science, Università Cattolica in Milan. Director of Posturalmed (Posturology studio) in Milan.

This article is about two of the most common pathologies concerning the knee: *valgism* and *varism*.
Knee valgism is a pathologic accentuation of the morphologic modifications happening during the bone growth. Valgism is considered pathologic when the angle between thigh and leg is outwards from the center of the body and it measures less than 160°. The extent of the angular variation is important to define it as physiological or pathological. The analysis of the variation can be done easily, by measuring with a measuring tape the distance between the two medial malleoli the patient standing keeping his/her knees joined.
In an ideal normal subject, the two malleoli lightly touch each other, as it happens with the femoral condyles. In case of pathological valgism, in addition to the aesthetic problem characterized by the typical "knock knees", there is also a functional problem.
The origin of the pathology is to be found in genetics, reduction of the muscular tone, bad overweight conditions, and static problems. During childhood, an association of flat foot and knee valgism is common.

Knee varism refers to the opposite deviation of the valgism, in which parenthesis knees occur. There is a significant difference between the two conditions: in valgism the alignment problem concerns the joints, in varism it is about femoral and tibial diaphysis. It is important to remember that babies show a more or less accentuated knee varism persisting also as they begin to walk. If in this period rickety alterations of the bones growth take place, varism condition tends to fix and to worsen due to a different development between the lateral femoral condyle and the medial one. In this phase of life such osteogenesis conditions might get complicated because of alterations of the load, which in turn are caused by the bad alignment of the knees.
Usually to treat these pathologies are used kinesitherapy, orthopedic insoles, proprioceptive exercises, and in the worst cases even surgery.

Interested muscles

Here are the muscles interesting the knee:
Anterior thigh: Sartorius, quadriceps;
Medial thigh: adductors;
Posterior thigh: biceps femoris, semitendinosus, semimembranosus;

Lateral thigh: tensor fasciae latae;

Anterior leg: anterior tibial;

Lateral leg: peronei, extensor of the toes;

Posterior leg: triceps surae, posterior tibial, flexors of the toes.

GLOBAL APPROACH

With "global "approach we intend a specific attitude of the therapist observing the patient and a different way to consider the "pathology". In this optics, varus and valgus knee (and most of the muscular and articular pathologies) are considered as the "*effect*" of a "*cause*" that is not to be found in the same point where the pathology occurs.

For instance, observing a professional soccer player's varism it is easy to think that the origin of the problem is in the knee and that such condition, due to the subject's age, cannot be reversed anymore. It is not true! First of all, it is important to say that his varism has probably started at the beginning of his career and it has got worse because of the continuous solicitations on various muscles. It is not the case of knee joints, but of joints that, though can act on the knees, belong to distant districts. We are talking about the "muscular chains" connecting the whole body. In the specific case of the soccer player, the main responsible for his varism is the "posterior chain". This information can result incomplete, though, since many other factors can contribute to the retractions of the muscular chains themselves: visual problems, malocclusions, temporomandibular joint, problems deriving from a wrong position of the tongue or a retracted diaphragm, etc.

Usually the muscular chains become shorter due to the effect of muscular retractions, which in turn are caused by traumas, stress, hyperkinesia, wrong postures, antalgic attitudes, etc.

Many causes can than participate in the development of a pathology. This is the reason why a therapeutic and postural intervention should always first of all take into consideration and identify all the factors and, once found the triggering cause, act directly on it.

What is possible to do at therapeutic and postural level?

Let's consider some exercises acting on the muscular chains through the global non-compensated muscular stretching with Pancafit®.

We talk about **muscular stretching** because muscles during their life tend to retract, to become shorter, hypotrophic but hypertonic; **global** since all muscles are connected to each other to form real muscular, fascial and connective chains. This is the reason why it is not enough to stretch just the muscles directly interested by the trauma. **Non-compensated** because any time we try to stretch a muscle in any district of the body, the body does not want to feel the pain caused by the deformation of the connective

tissue, so it compensates through the muscular chains, creating systems of muscular length loans, with advantages for some areas and disadvantages for others.

The revolutionary aspect of Pancafit® is that such an extremely simple tool allows reducing or even eliminating these compensations: As a matter of fact, when we lay on Pancafit® all the muscular chains are gently forced to stretch. Moreover, using some accessories, it is possible to reach the same result that would be reached by two or three therapists working at the same time on the same patient.

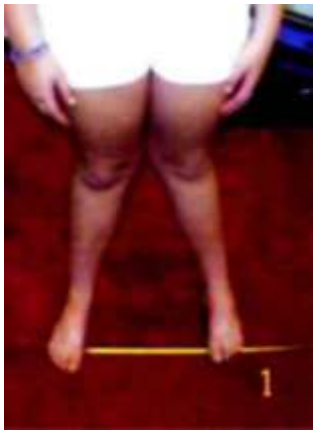

Figure 2

Figure 1 shows the case of an 10-year-old boy.

Luca has always suffered from remarkable valgus knees and genu recurvatum: the space between the heels measures 27cm.

We do some sessions with Pancafit®, aiming to restore the most correct possible general posture. As shown in figure 2, it is necessary to find a correct position of Pancafit® to make the coxofemoral joint find a working angle creating a light tension in the posterior chain. Then the therapist teaches the patient how to restore a correct breathing in order to set free the tensions of diaphragm pillars and so recreate a stretching reaction in the back and the lumbar region. After that, a specific pad is placed under the knees, so that they do not “escape” from the tensions the therapist is trying to make emerge. In addition, a gage – in this case two balls fused one with the other – is inserted to avoid both knee internal and external rotation due to an antalgic mechanism. Finally, the feet are united, respecting the tension that will inevitably emerge, and kept in axis with the patella, and possibly kept in hammer position. This position has to be kept for an enough time, managing the tensions that emerge: if these increase, it is possible to loosen the grip on the tibiae or to open Pancafit® of some degrees. If they decrease, than the tibiae can be put nearer one to each other and fixed with velcro closing strips.

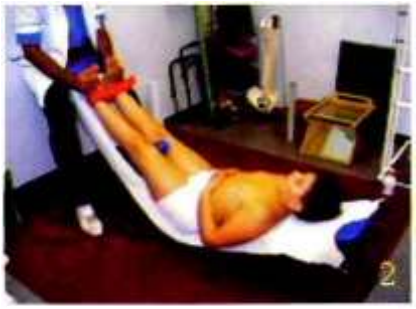

Figure 1

At any session different reactions may emerge, however all these tensions move towards the point where the cause of the treated condition is. The therapist has to manage any emerging tension, pain, or memory following the principles of the method. The same goes for the cases of valgus knee.

Figure 3

The results can be concretely measured session after session using a measuring tape.

In Andrea's case, after five sessions of about 30 minutes each, there has been a reduction in the distance between the feet from 27 cm to 13 cm, and genu recurvatum has almost completely disappeared (figure 3).

This method allows to reach really interesting results and every session is full of reactions, new tensions, memories of old traumas, histories of negative emotions, etc., i.e. of all the factors that during life participate in making the muscles of the chains retracting, causing muscular and articular pathologies.

For more information on the Raggi Method®- Pancafit® please address to
Posturalmed S.A.
Tel. +39 0239257427 or +39 0239265686
- Fax +39 0239200420
Email: corsi@posturalmed.com
Website: www.posturalmed.com