

Foot pain: a result of postural alterations



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Every day our feet allow us to have a regular social life. Thanks to our feet, we can walk, run, jump, dance, play, express ourselves in different ways; our feet are an extraordinary piece of natural engineering able to bear in every situation the weight of our body and to let us walk more than 160,000 kilometers (about four times around the world).

Placed far from our head and eyes (home of perception and sight), "these strangers" are too often overlooked or forgotten. Even the characteristic smell of a foot suffocated in synthetic socks and hermetic shoes leads to consider it less and less important.

You will now learn more about this wonderful piece of biomechanics engineering created by nature that, thanks to 26 bones, 33 joints, 114 ligaments, 20 muscles and countless nerve receptors, plays important functions, some are automatic and therefore ignored at least until they work properly and/or do not cause pain.

The foot, in fact, is the organ that allows upright-standing, propulsion and movement, adaptation of steps on the ground and coordination of posture but not only.

It even has an important function concerning the venous return in the lower limbs: the "squeezing" of a maze of vessels and capillaries that run from the heel to the forefoot (Lejars plantar insole) and of vessels of the calf muscle allows the foot to act as a second heart pump. Thanks to the proper functioning of the foot-ankle-knee system, blood can be brought to the heart, avoiding edema, swelling and the appearance, over time, of varicose veins.

The existence of the so-called "reflexology chart" is also important, i.e. the projection on the plant and on the dorsum of the foot of corresponding points to all the other areas of the body, including internal organs. As a result, a proper walk, not hampered by uncomfortable shoes, rigid uppers, with heel and/or footplates, will practice a full beneficial and completely free massage to the whole body.

Speaking of purely mechanical functions, other than the clear support function, our foot has also a "radar" function, which means it analyzes the roughness of the ground in order to arrange immediate

postural adaptations to avoid trauma, sprains or compressions of various joints (from the foot to the entire column, to the skull).

Altered or no sensitivity of even one part of the foot would make responses altered or distorted: they would be incorrect but adapted, with the risk of tripping easily even on a perfectly flat ground.

Another important function performed by our feet is the softening. They in fact have three arches drawn among the calcaneus, the first and fifth metatarsal, able to change their arch of curvature to return then the elastic force that they accumulate, just as it happens in the “leaf string” dampers of vehicles.

When this mechanism works properly, the thrust from the weight above during the step is used for the functions of squeezing of the plantar insole and of massage of the reflex zones, but mainly the counterforce from the soil is damped, avoiding striking violently the upper joints: knees, hips, vertebral joints. Even the jaw may be affected by an incorrect foot support.

What should be the characteristics of a foot in good health?

From the functional point of view, the support of the foot should be equally divided between hind foot and forefoot, and in particular it should allow taking your weight off calcaneus, first and fifth metatarsal with a ratio respectively of 3:2:1.



As just mentioned, the existence of the three plantar arches (usually we manage to find the medial one only because it’s wider), which should provide the feeling of plasticity, adaptability and softness of the foot.

Let’s take a look at our feet:

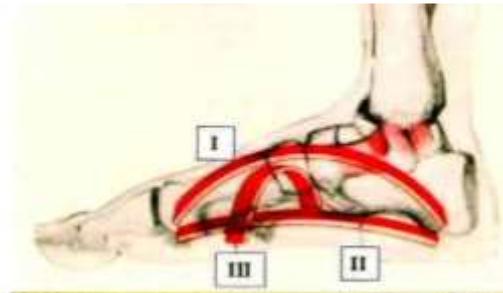
Barefoot, feet together from toes to heels; if feet have a proper shape, we should notice that big toes are fully touching, there is a little space between a plantar vault and the other one, and ankles (tibial malleoli) should touch.

The external sides of the foot should not have openings.

Moreover, toes should be straight, stretched, rested on the ground, each one on the extension of its tendon (that can be identified by slightly lifting toes from the ground), without having claw, mallet or hammer toes.

Let's consider also the fifth toe: it can be defined as our "stabilizing fin" and it has to be able to abduct (i.e. to open outwards). Sole and toes must not have calluses, blisters, redness or skin thickening, that might be caused by functional overload.

Even those who are not expert are able to recognize a functional correct foot by its appearance; in fact, calluses, distortions, "gnarly" feet, etc., should make us think of postural imbalance due to different reasons: accidents, vitiating posture, tensed diaphragm due to too much stress, surgery, scars, dental problems, eye problems, visual problems, visceral problems, etc.



- I) Longitudinal medial arch
- II) Longitudinal lateral arch
- III) Transversal arch

In other words, all muscle-joint problems of a body area are related to the whole postural system and therefore to feet. The relation to feet is actually more important than to other parts, since feet represent the interaction means with the ground, i.e. the main way through which the body let off postural problems coming from the top (since the force of gravity pushes us toward the ground and not into the sky). In case you use inappropriate footwear, with narrow tip, orthotics, heels, rigid bottom or constraints on the ankle, it's certain that feet will be damaged. When the foot suffers and is not able to soften the impact that comes from above, it returns its stiffness and problems again upward, creating the boomerang effect.

That creates problems, a mix between cause and effect, i.e. the pain, which makes it more difficult for the posturologist to solve the problem.

A Doxa survey shows that many Italians suffer or have suffered from foot pain: this problem, almost unknown among people who walk barefoot, with the foot free to adapt, affects mostly "civilized" people. In fact, footwear, which was born to protect our feet, can be turned into instruments of torture, (largely) responsible of foot problems.

The reason why women suffer from foot problems as a percentage almost double than men is related to the fact that they usually wear narrower toe shoes (toes do not have much space and are squeezed like a vise) and heels that force the weight of the body on the forefoot.

This is one of the causes of hallux valgus and the metatarsal (i.e. pain at the base of the toes due to the compression and the fall of the metatarsal heads).

The patient: “Why do my feet hurt so much?”

Mr. A., a 55-year-old company executive, comes to our studio exasperated by strong foot pain which hits him especially when walking and when standing for a long time. The pain makes him limp in case of uneven ground or cobblestones.

This situation has lasted for a couple of years and recently his knees have begun to hurt when he stands for long time. In addition, the entire back and legs are so rigid that it’s hard for him to put on socks and shoes. This widespread feeling of tension, combined with the significant overweight, makes him “feel like a battered 80-year-old”.

Medical diagnosis: “metatarsalgia” with Morton’s neuroma.

The observation of the patient's posture highlights that feet are deformed since there are many mallet toes, with clear fall of the metatarsal heads. The shape of the chest and the way of breathing show a diaphragmatic-respiratory arrest. In this regard Mr. A. refers that he has lived for many years under significant stress for his role as company manager, realizing that he sometimes forgets to breathe.

The column shows altered curves, i.e. the cervical and lumbar lordosis are strongly highlighted. Therefore, the therapeutic and posturologic approach starts with exercises to relax and release the diaphragm muscle (the main muscle for breathing) while the patient is in decompensated posture on Pancafit®.

Then, the posturology session continues with exercises that aim to reduce the tensions of muscles responsible for falls of the metatarsal heads.

At the end of the first session, considered “very challenging”, Mr. A. feels that the support of feet on the ground is much more secure and balanced and knees are more relaxed.

The patient, surprised with the result, decides therefore to continue with the posture sessions.

During the following sessions, in addition to continuing with the work of the first one, postural exercises for the neck were included, because of the tensions accumulated during the years of work and stress.

In order to speed up the recovery of the physical shape, the commitment of Mr. A. continues even at home: he agrees to do twice a week breathing exercises and exercises with the “Star balls” (special balls that decontract muscles of spine and of lower limbs), in order to ease tensions in the muscle back chain.

At the fourth session, Mr. A. can already walk firmly and fast and his problem has already been reduced by 80%; he no longer feels pain, just a little pain when wearing particularly thin-soled shoes.



At the ninth session, the patient is definitely “renewed”, both in physical appearance and in the way of feeling. Feet and knees that had suffered so much do not complain of any more pain, stiffness or tension. The neck can now easily turn around; he can also easily put on his socks.

The physical improvements achieved have given back to the patient a “desire to change”, to go back to being alive and dynamic as twenty years before, which makes him change his diet, with the result he has significantly reduced his overweight.

Today, Mr. A. really looks 20 years younger!



Basic working position of the Global Non-Compensated Muscular Stretching that allows tensioning of the muscle chains, which also include the lower limbs.



Special exercise that allows decreasing the tension of the muscles responsible for the fall of the metatarsal heads.



Operation that allows the proper repositioning of the metatarsal made in posture of Global Non-Compensated Muscular Stretching].

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