

What's



Afoot

Low Back Pain (due to basic foot aetiology):

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This patient could present to the clinic with a history of low back pain after activities or long periods of standing. The patient has had x-rays of the lower back, which prove to be normal in appearance and there is no disc involvement. The patient has noticed medial shoe wear and has a history of minor foot problems.

Biomechanical Examination Tips:

The incidence of patients coming into clinics with low grade back pain is on the increase - probably due to public awareness and education on health matters. This increase of knowledge brings about the realization that pain diagnosed as age-related is no longer acceptable as 'normal'.

I believe considerable stress is placed on the spine - especially in the lumbar region - by abnormal gait patterns. Patients present at the clinic some form of foot fault. During the taking of a history they also complain about low back pain, particularly after prolonged activity or standing. Posture is an area of health that is poorly understood and has an immense effect on muscle fatigue.

On examination of the foot structures hypermobility is found to be prevalent - especially the Subtalar Joints and Midtarsal Joints. Usually a high rearfoot varus is compensated and the medial compartment of the foot collapses and pronates to the end of range of motion. This allows rotation of the lower leg and a forward tilt of the upper body and pelvis i.e. the centre of gravity moves forward. Compensation can then occur around the spine such as Lordotic curve development or if one foot is more pronated than the other then a scoliotic curve can develop. These compensations in the spine can cause muscle imbalance around the spine and as the muscle fatigues then pain can occur.

Postural fatigue can also be present in patients with minor biomechanical imbalances also. A patient may only have a mild pronatory problem in the feet with minor compensations occurring, but becomes symptomatic because they are in an environment which mounts

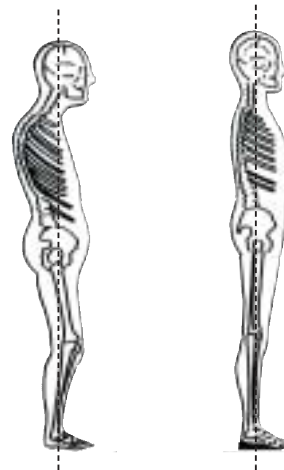


Figure 1: Poor body mechanics versus good body mechanics

a continual pressure on the body such as working a 12 hour shift on concrete floors. This type of problem should be treated whilst considered a minor complaint so as to prevent further compensation or degeneration for the condition with time.

Headaches have also been reported by patients being treated for foot and leg conditions which have no positive diagnosis. Anecdotal evidence shows that after being treated for their foot postural problems with some form of orthoses their headaches do not reoccur.



VASYLI



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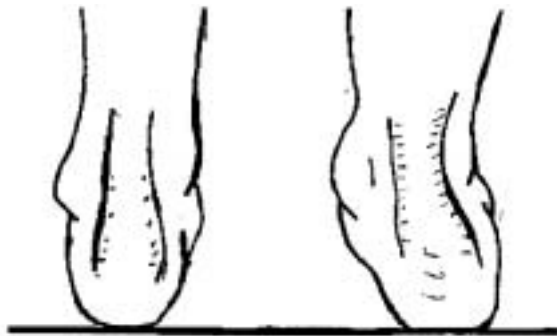


Figure 2: *The right foot everted (pronated) more than the left foot.*

Treatment Suggestions:

When dealing with problems related to poor posture, muscle overuse and mechanical abuse the best form of treatment is to combine both physical therapy and orthotic therapy.

One will not be as successful as it should be without the use of the other. Once a full examination is performed, the degree of problems with the osseous integrity known and muscle imbalance determined, then a successful treatment regime can be instituted for the patient's benefit.

When dealing with 'back ache' the practitioner must determine that there is no underlying disease or injury present that could be aggravated by therapy and change of posture.

Once it has been determined that there is no obvious pathology present in the spine but symptoms persist, then it is fair to assume that there must be another underlying factor causing pain. Pain is a warning sign issued by the body that there is something not right - pain is not normal. Some pain can be temporary as the body goes through changes, such as 'growing pains', but these pains are not normal - they are indicative of some form of postural stress.

When treating the muscular imbalance a program of strengthening and stretching muscle groups is necessary. In the case of hypermobility this is especially important as the integrity of the joints can only be maintained with

some form of stability. If the ligaments do not have the ability to stabilise the joints, then the muscular unit has to reinforce the ligament laxity. This is especially true in the Subtalar and Midtarsal joints, the knee is another area which regularly needs strengthening.

Surgical repair of these laxity problems can be indicated in some cases, but these are rare and usually the result of trauma.

Strengthening can consist of swimming, biking, running, isometric training, weights or plyometric training etc. Most practitioners can institute some form of exercise program for the patients but referral to the appropriate physiotherapist or coach for specialised training techniques is usually best.

Treatment of the poor osseous alignment is necessary to ensure long term compliance of the patient to postural change. Patients tend to stop doing exercise programs when symptoms abate, whereas once their orthoses are in their shoes they tend to keep wearing them until they are told they do not need them anymore.

Once the alignment problem is identified then a device can be devised to correct the problem. This may consist of heel lifts for posterior muscular tightnesses, rearfoot wedges in the shoes for minor pronatory compensations, standard retail arch supports such as the Orthaheel, mouldable supports such as VASYLI customised orthotics for more control or full prescription Orthoses for control of severe biomechanical faults.

If a patient is complaining of vague back ache, has mild to moderate faulty foot and leg biomechanics, such as a 4 degree compensated Rearfoot Varus or a low degree forefoot varus or forefoot valgus, this could be controlled with an appropriately fitted customized VASYLI Orthotic with rearfoot posting and forefoot balancing posts.

If a patient has a history of specific back pain and postural problems combined with serious foot and leg malalignments then a much more in-depth examination is necessary and an appropriate prescription may need to be fabricated specifically for the foot and leg in question - a full prescription is more likely to give enough control, in these cases, to effect any change on the body's centre of gravity and pelvic position. #

