

CHAPTER SIX

LUMBAR SPINE SCREEN

(6,p.17,p.374-379, 436-444)

A lumbar spine screen is useful prior to performing lower extremity tests. This procedure will rule out the most frequent spinal subluxations that affect the muscles and joints of the lower extremity. Nerve roots mentioned are the prime innervation to these muscles. These tests were chosen over others for ease and efficiency of testing.

These muscle tests should be performed before range of motion tests or orthopedic tests (if feasible) so that decompression of the nerve root does not occur, rendering a false negative test. If you feel that prior testing has decompressed the nerve, get the patient up and have them walk around about ten steps to allow gravity and body weight to compress the structures, then perform these muscle tests.

		PRE	POST
Foot Plantar Flexion - S1	Tibial N.	_____	_____
Gluteus Medius - L5	Superior Gluteal N.	_____	_____
T.F.L. - L5	Superior Gluteal N.	_____	_____
Adductor - L4	Obturator N.	_____	_____
Psoas - L3	Femoral N.	_____	_____
Rectus Femoris - L2	Femoral N.	_____	_____
Piriformis - L5	Sacral Plexus	_____	_____

When the above tests are strong and the patient has low back or leg symptoms, have them lie prone and test these muscles.

Gluteus Maximus - L5, S1	Inferior Gluteal N.	_____	_____
Hamstring - L5, S1	Sciatic N.	_____	_____

By this point you should have discovered where the problem is in an estimated 80% of the population. If at this point all tests are strong and the patient has low back or leg symptoms, other things need to be ruled out in this patient.

1. Sacroiliac Subluxation
2. Facet Jamming
3. Spondylolisthesis
4. Muscle Strain
5. Disc Protrusion Or Prolapse
6. Referred Organ Pain e.g. prostate, uterus, kidney
7. Nutritional Deficiency
8. Fracture
9. Infection
10. Malignancy
11. Diabetic Neuropathy

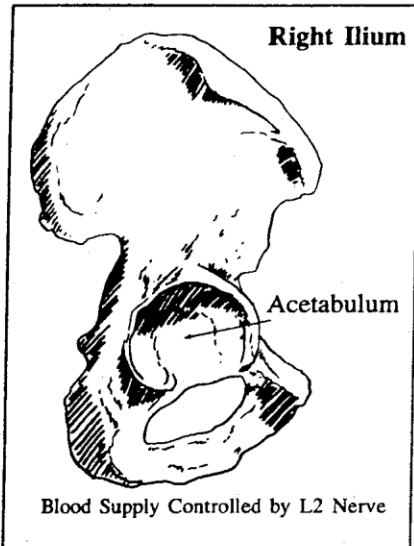
This is a simplistic but valuable overview of the low back. Given that you have ruled out a spine or pelvis problem or you have already corrected the problem, it is appropriate to now search out the lower extremity for its involvement.

CHAPTER SEVEN

THE HIP

(6,p.446-450; 17,p.402-463)

The femur is a long bone that makes up a portion of two very important joints: the hip and the knee.



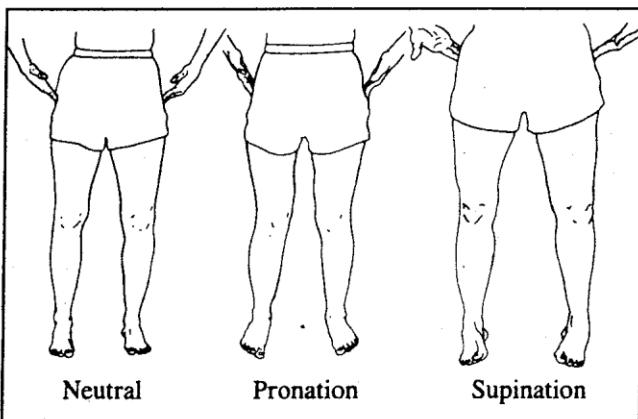
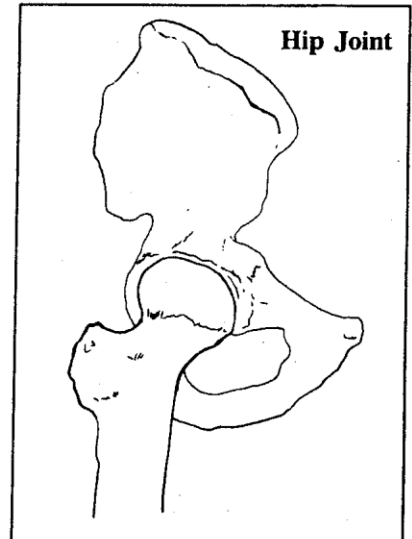
The hip consists of a pelvic socket called the acetabulum that receives a ball like structure called the head of the femur. This ball and socket joint is multi-axial in its motion. Motor control of this joint ranges from L1 to L5 and S1.

Therefore, stressors can come from many levels. It is important to note at this time that blood supply to the acetabular socket is controlled by the L2 nerve root. This trophic supply is important for the maintenance of healthy hyaline cartilage.

It has been my experience that patients with an L5 and L2 subluxation are the same ones that have both acute and chronic degenerative joint disease of the hip. Many x-rays have shown these levels to correlate with this problem,

especially when a hip prosthesis has been acquired already by the patient. Usually L2 will appear at the apex of a lateral lumbar curve.

Therefore, an L5 and L2 subluxation combination together should raise a flag in your mind that this patient is on an express lane to hip D.J.D. (Degenerative Joint Disease).



As an example of the relation the hip has to pronation and supination of the ankle, place your finger tips on both greater trochanters while you are standing. Now pronate both ankles and you will feel the trochanters move forward into internal rotation. Now supinate both ankles and you will feel the trochanters move backward into external rotation. If you really want to play with this, pronate one ankle and supinate the other ankle. You should now notice that the hip on the side of pronation lowered, and the hip on the side of supination raised. This is

how foot and ankle problems can mimic short or long legs when they are in a patho-mechanical relation. It is also a major reason for you to consider the effect on the spine and pelvis from this view point. Think of the pelvic torque that occurs when one foot pronates and the other foot supinates.