

Superior to Inferior Pelvic Shearing

The +Y Or -Y Innominate

Displacement of the innominate in the +Y plane is usually caused by a significant trauma such as falling on one ischium or one foot with the knee extended. This displacement of one innominate relative to the other is, as the B illustration in Figure 6-23 shows, translation of

the whole innominate in the positive Y axis. This results in one innominate being superior to the other. However, the same subluxation can appear to be different in standing AP X-rays, with different pelvic tilts. For instance, the +Y subluxation in an anterior pelvic tilt is not likely to be seen. A physical exam of the pubic symphysis and the other joints and landmarks is the key to analyzing this condition. A superior pubic symphysis is surrounded by ridged,

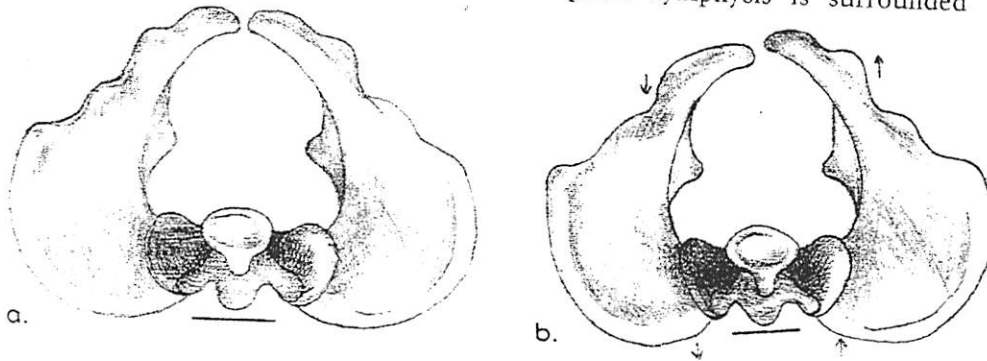


Figure 6-22

PELVIC SHEARING - non physiologic subluxations

This is an illustration of a theoretical view from above looking down on the whole pelvic girdle, not just a slice. In (a) the three joints of the pelvis are seen, the right and left sacroiliac joints and the pubic symphysis are aligned. In (b) the right pubic rami is anterior or ventral to the left and the sacrum is rotated. The shearing of the pelvis will have the appearance of positive and negative Z plane translations of one innominate relative to the other in the axial view. This type of injury involves sacral rotation as the right innominate shifts forward or anterior to the left. It is difficult to describe the axis of rotation in the varying pelvic tilts. Pubic symphysis shearing, tearing, and SI joint ligament damage are very likely in this type of injury.

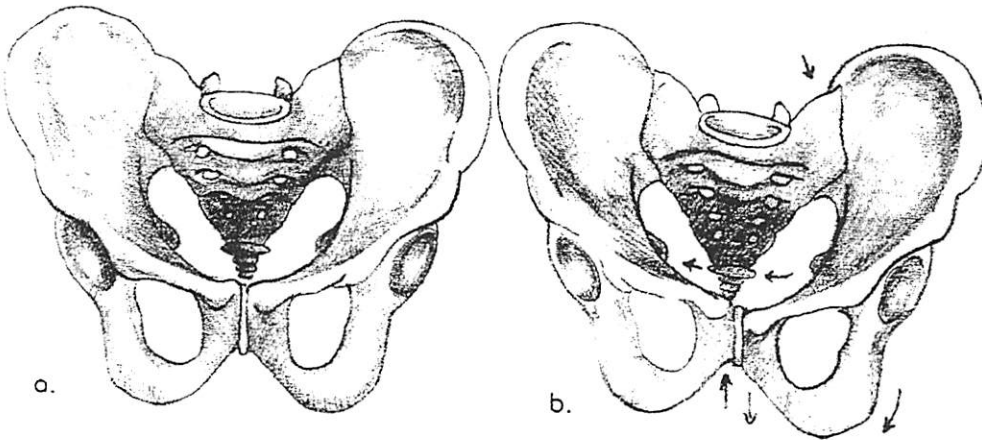


Figure 6-23

PELVIC SHEARING - non physiologic subluxations

(a) is an A to P view of a normal pelvis and (b) is the A-P appearance of a positive Y translation of the innominate on the left relative to the other. (Note the sacrum is tipped and the sacral apex is to the left of the pubic symphysis and the space between the ischial spine and the sacral border.) Also note the subluxation of the pubis with the pubic rami on the left being elevated relative to other. I do not feel this an incidental finding. The psoas, iliacus, and all the muscles attaching to the ischium and pubis will be adversely affected. This type of injury involves sacral shifting with the ala elevating with the superior innominate. This involves pubic symphysis and SI joint injury and intrinsic ligament damage because of the non physiologic displacement of the segments. Possible tearing of the pubis symphysis takes place. Axial imaging views will show the right iliac crest before the left in sequentially inferior views. Rotational displacement can be concomitant with Y or Z plane displacement. Combinations of these subluxation patterns in all planes can be present in one individual.