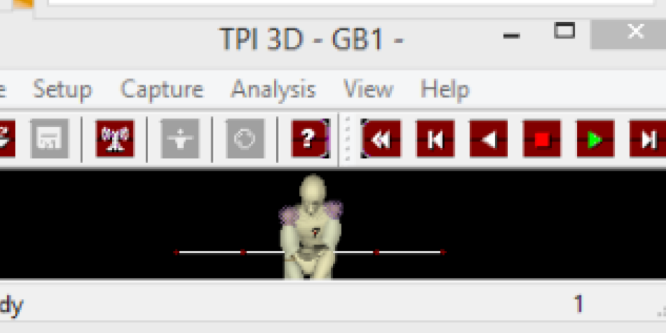
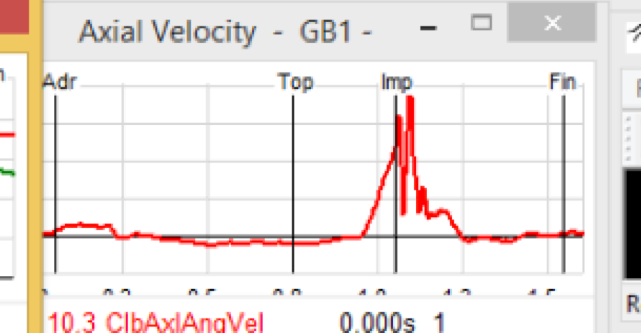
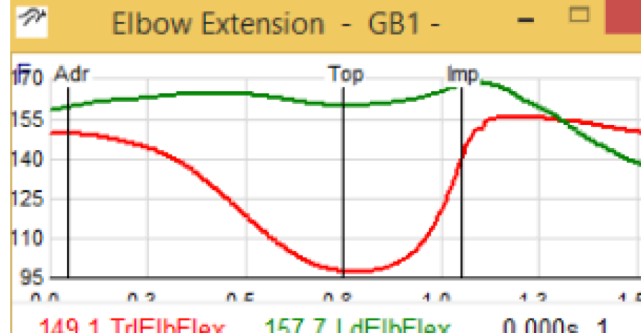
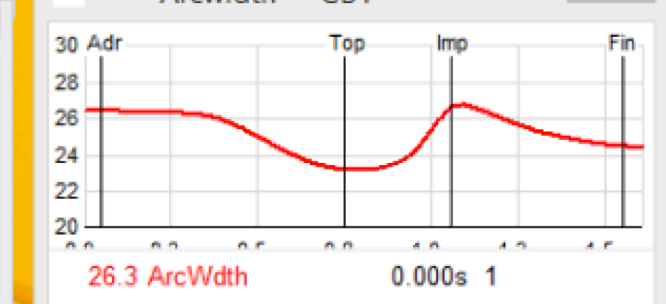
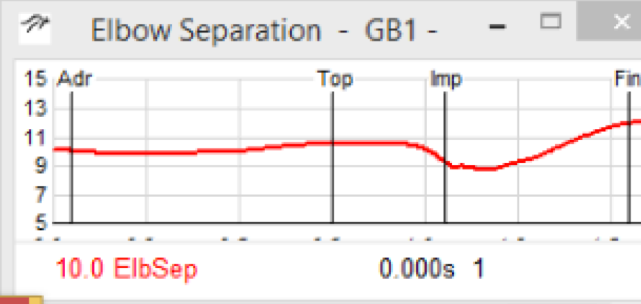
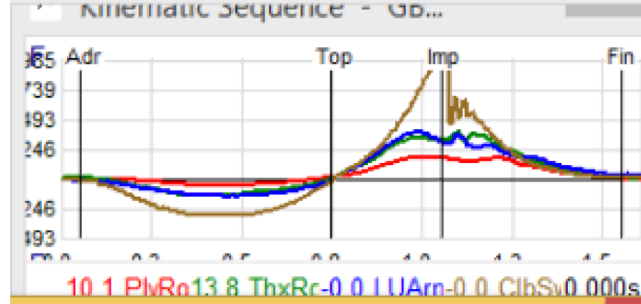
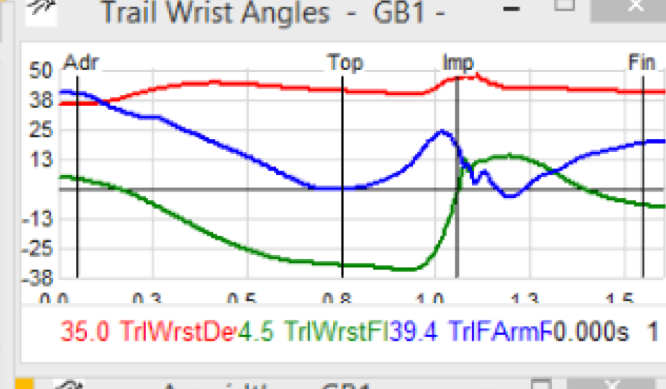
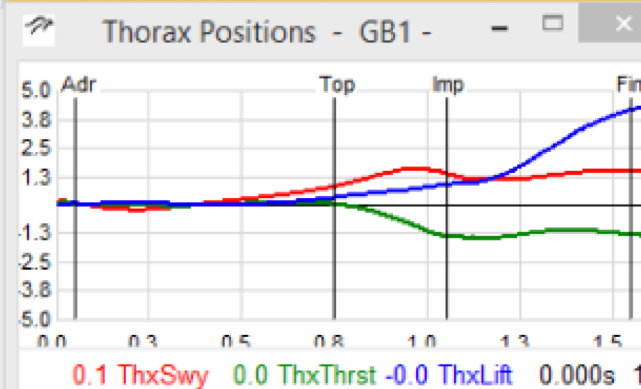
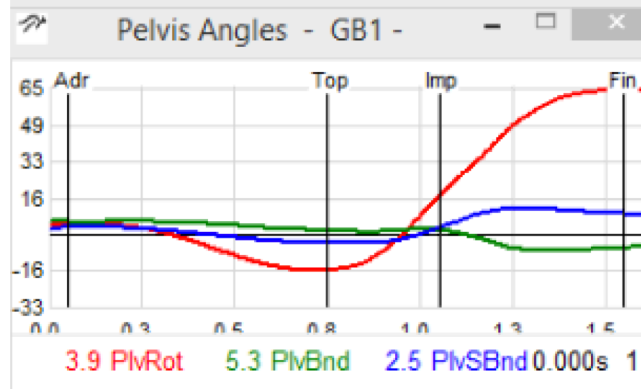
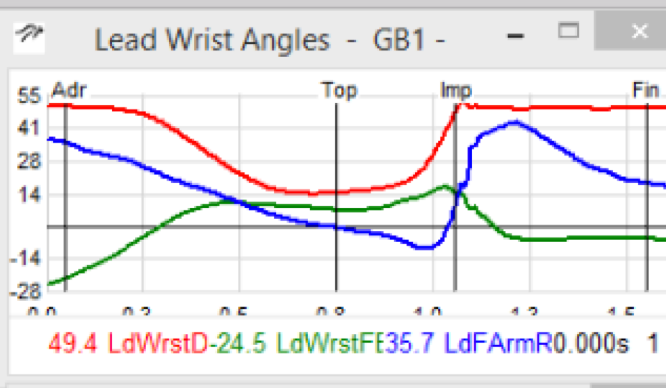
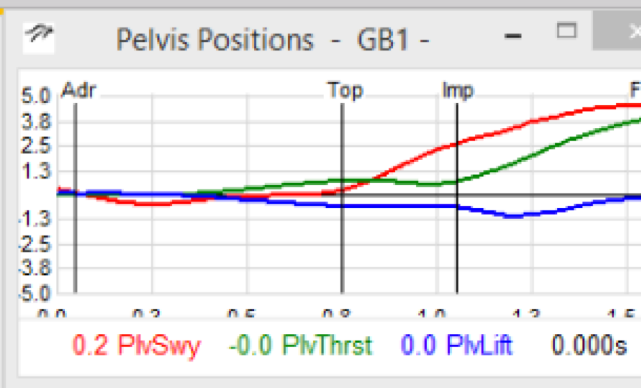
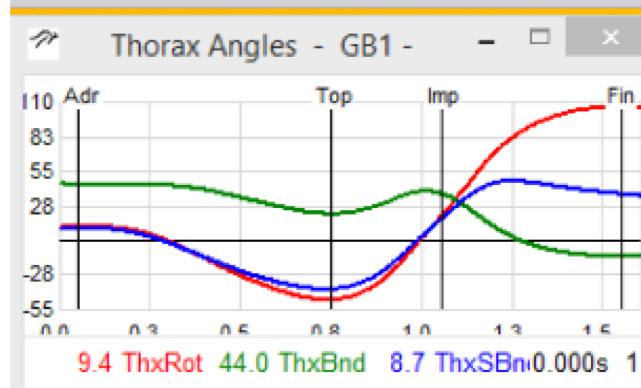
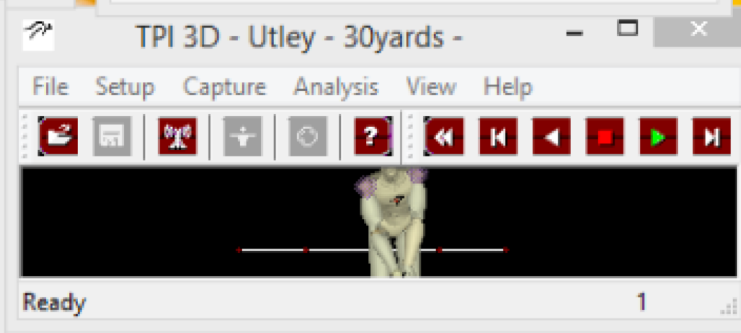
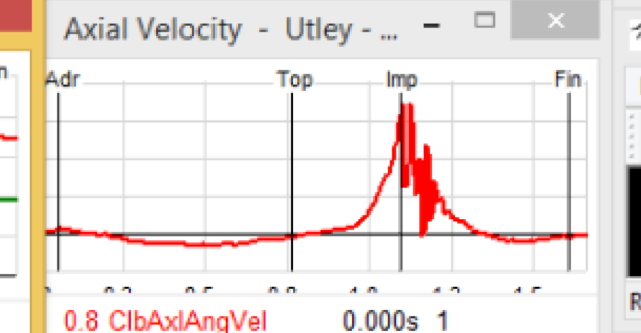
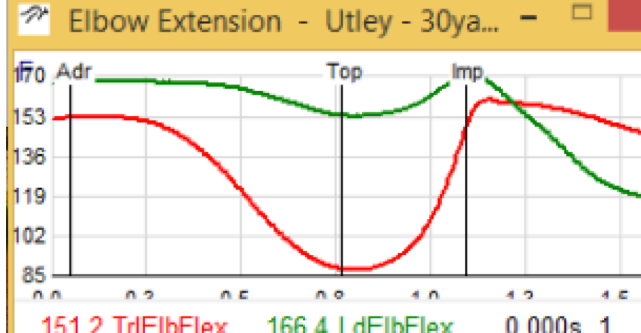
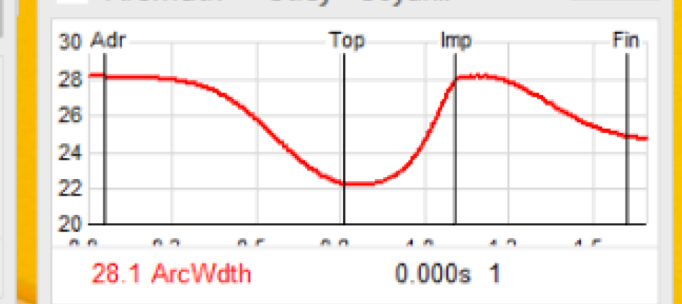
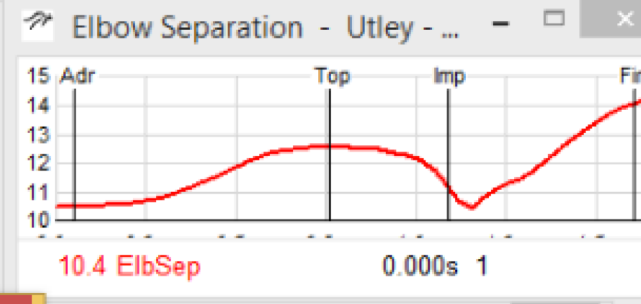
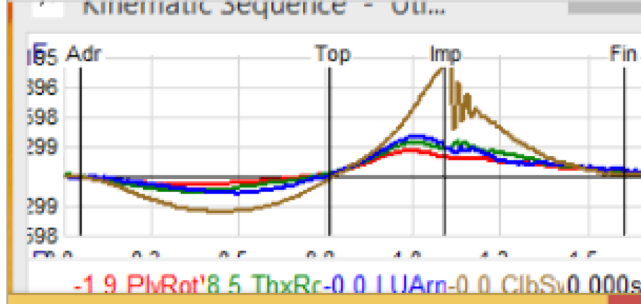
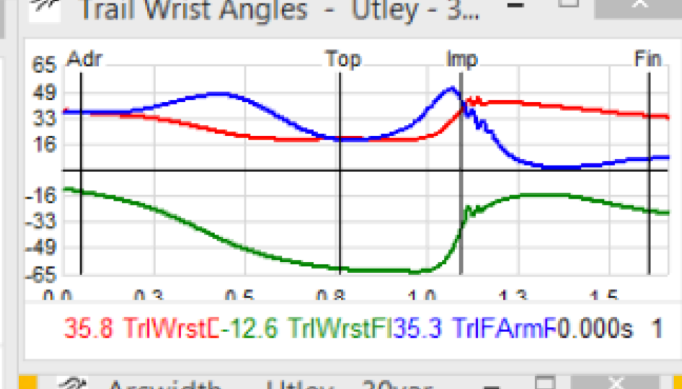
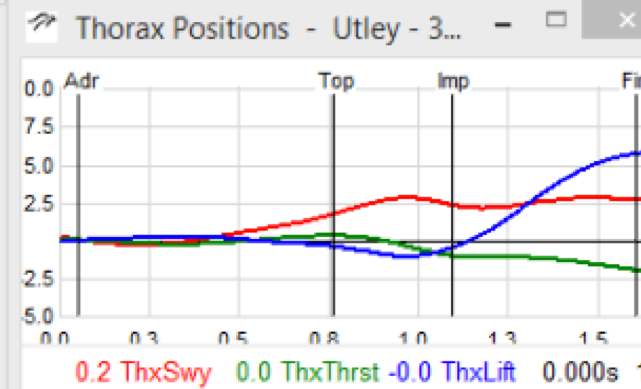
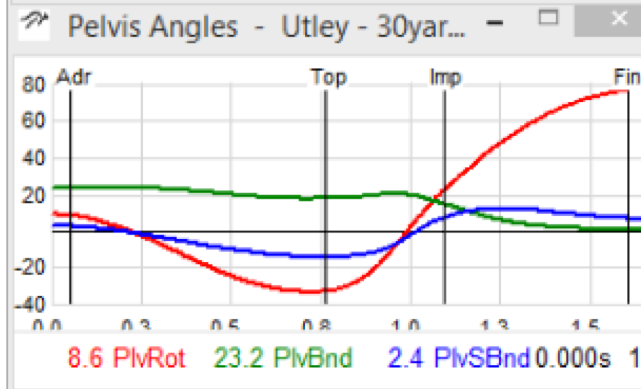
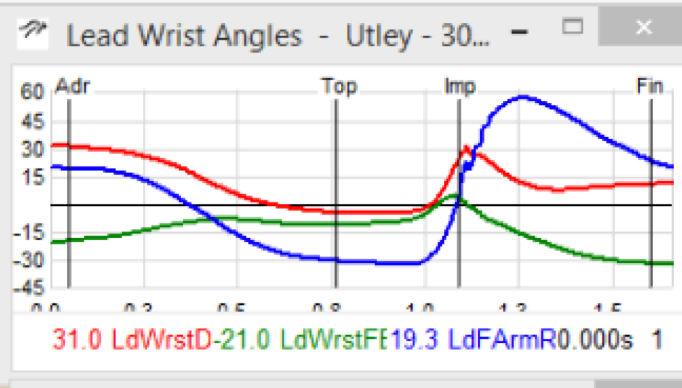
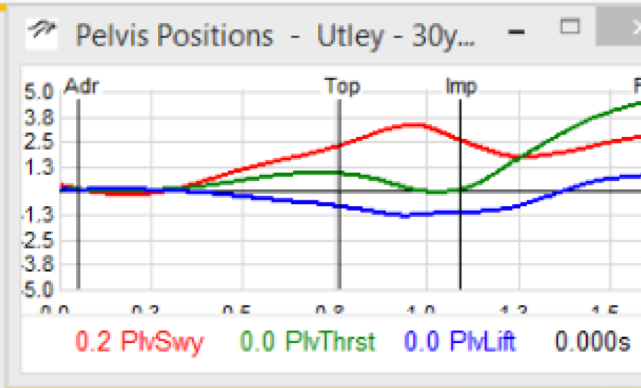
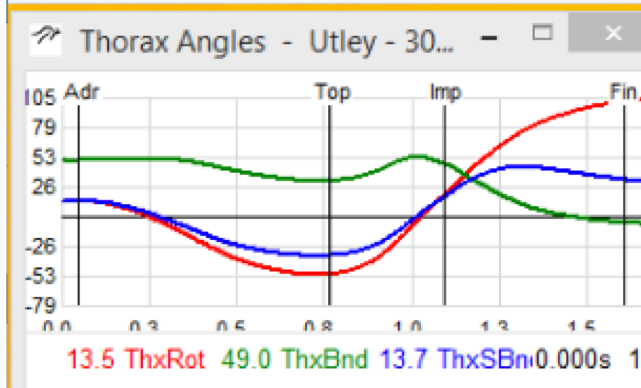


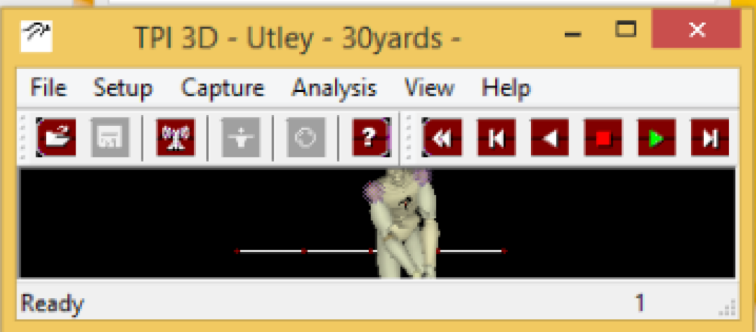
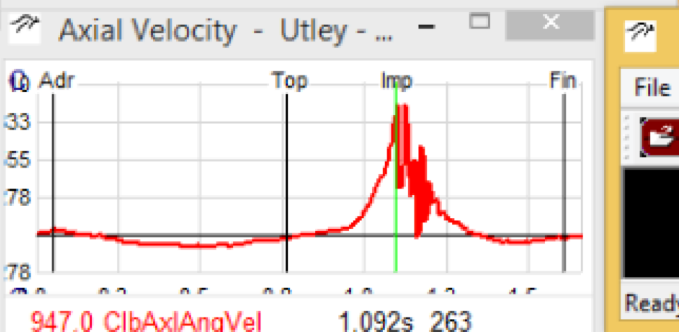
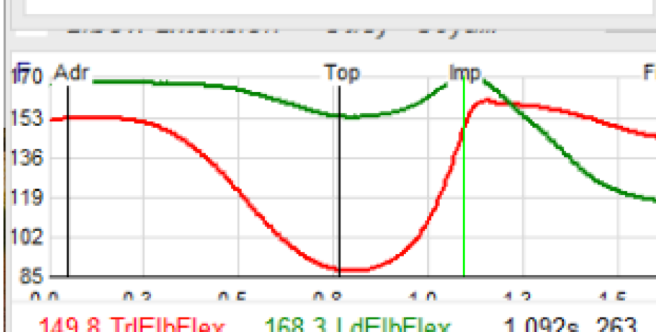
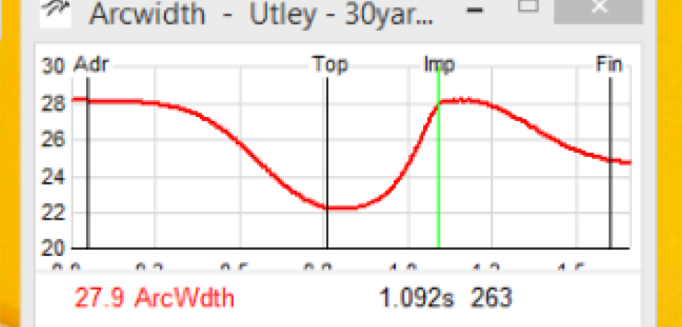
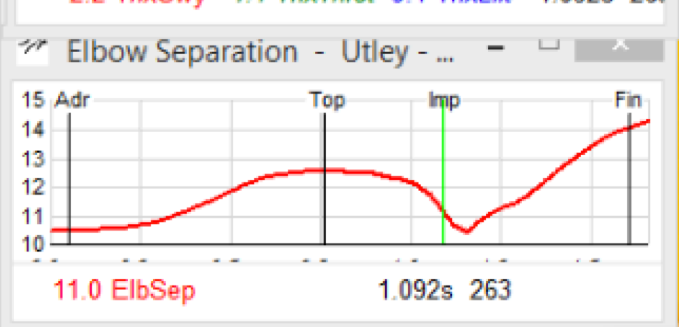
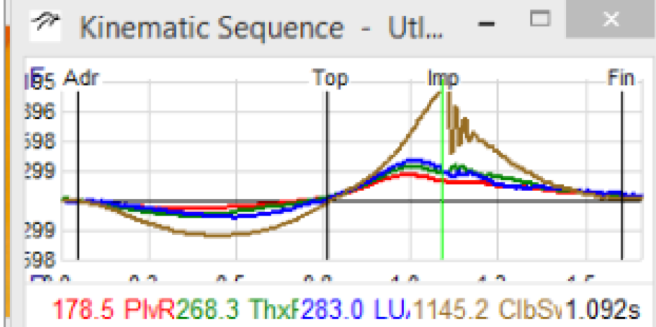
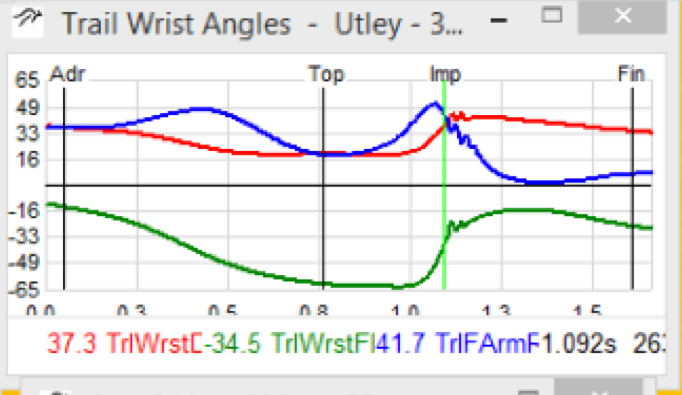
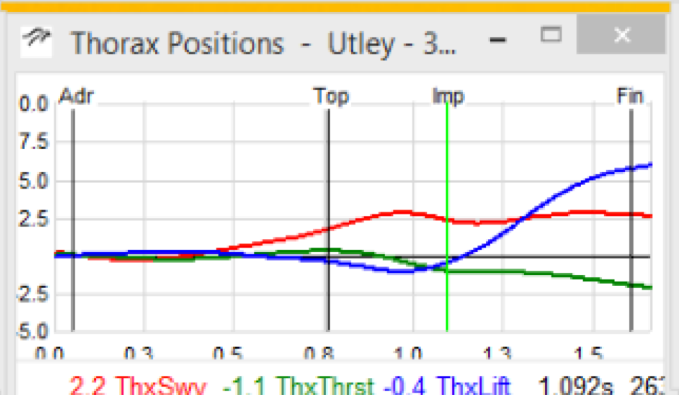
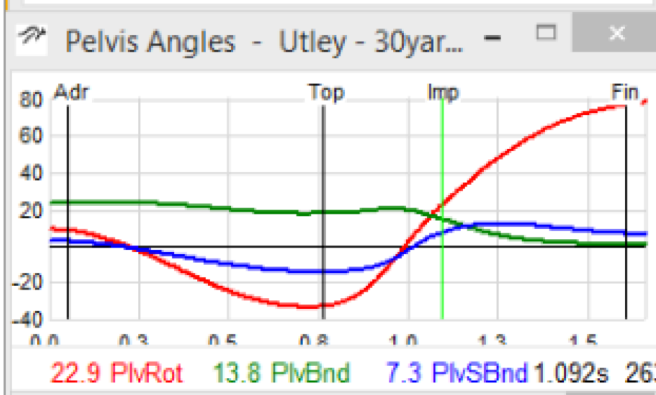
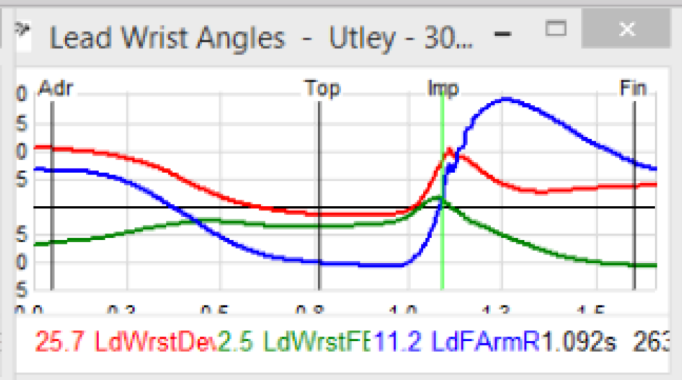
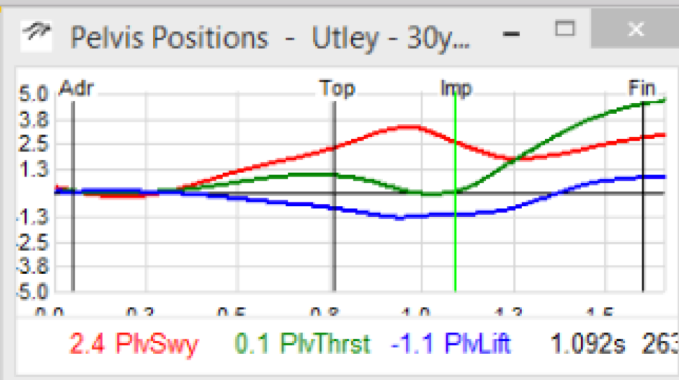
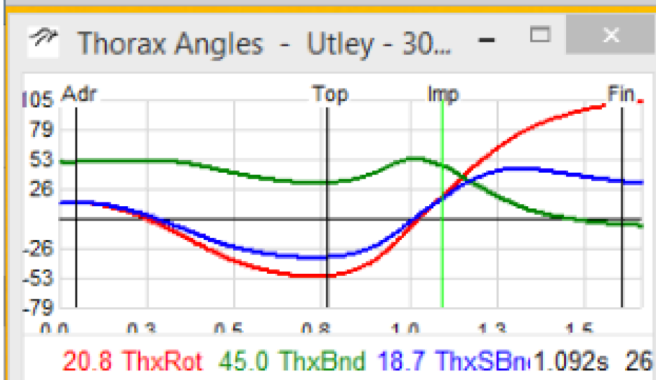
Topics

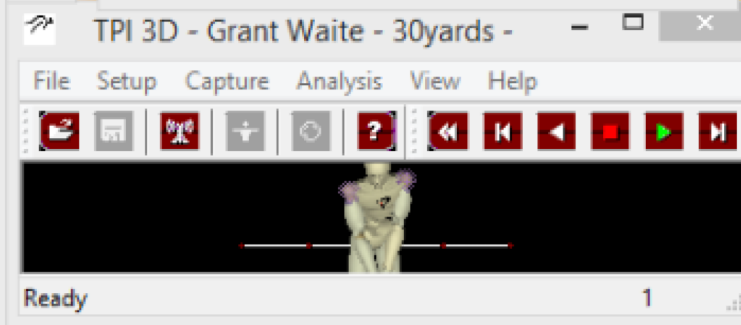
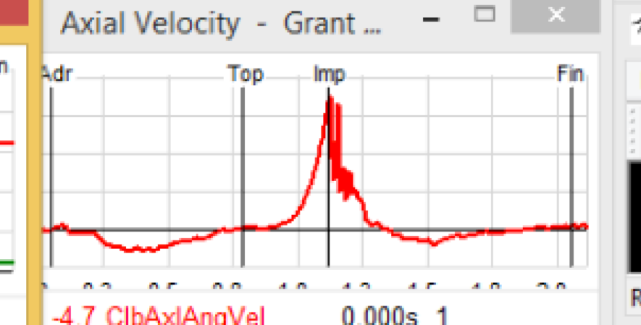
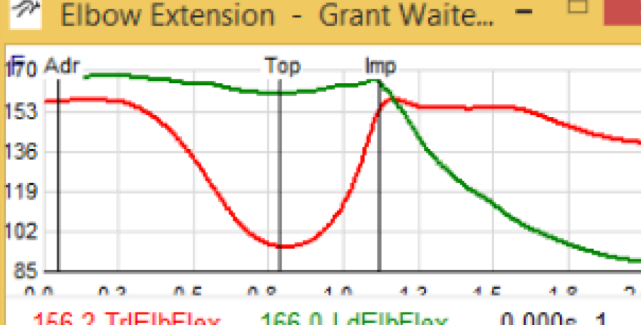
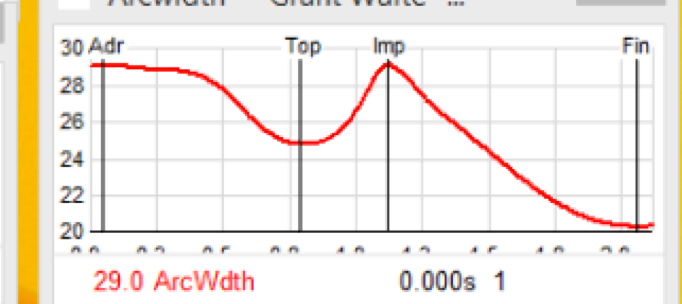
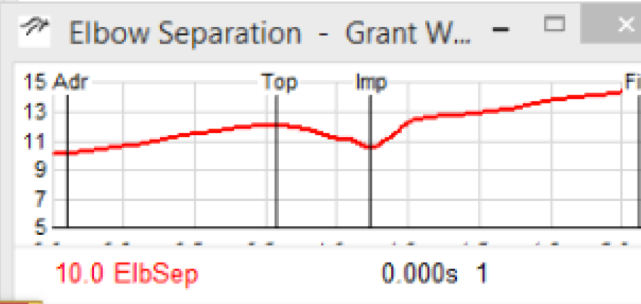
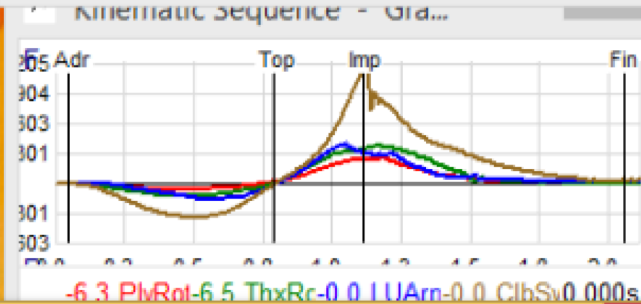
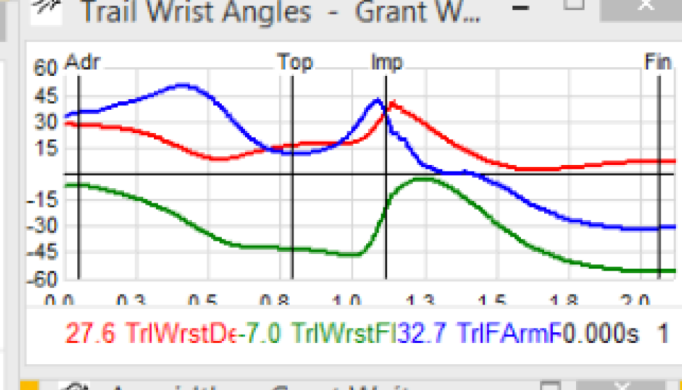
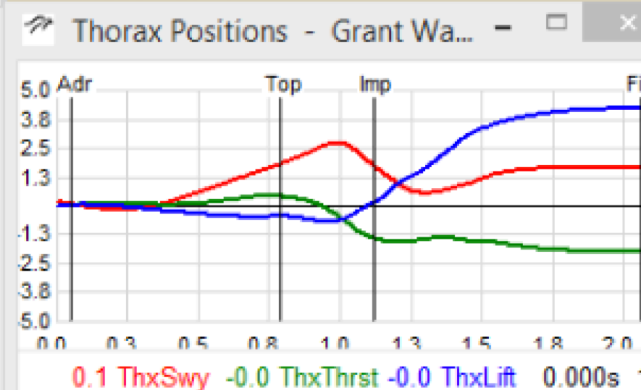
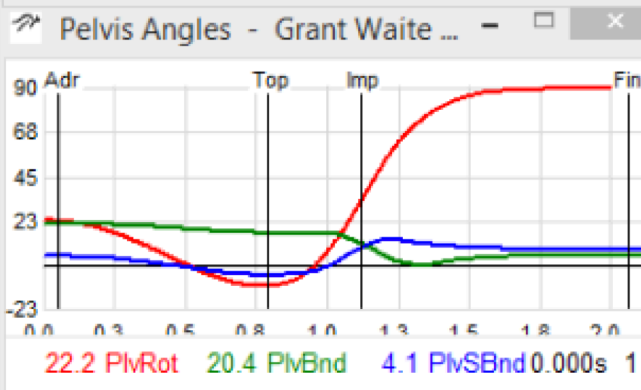
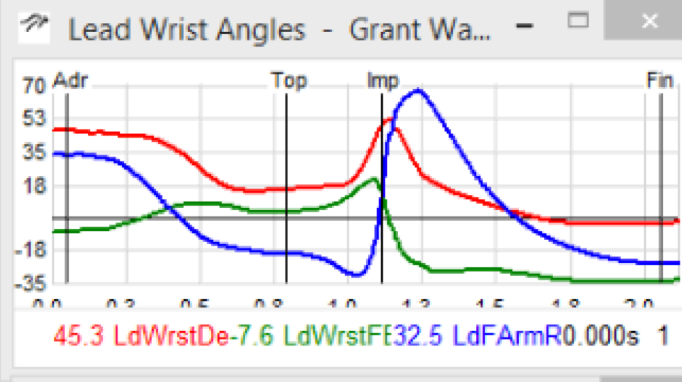
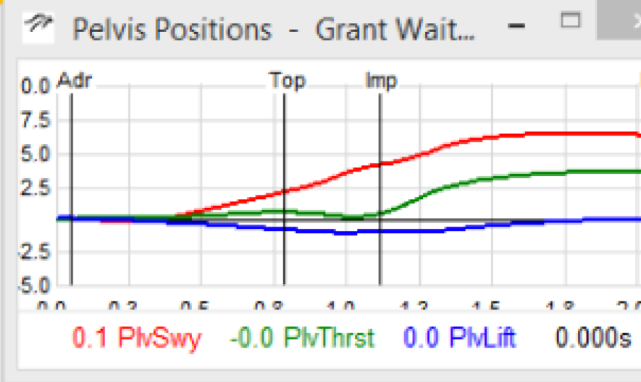
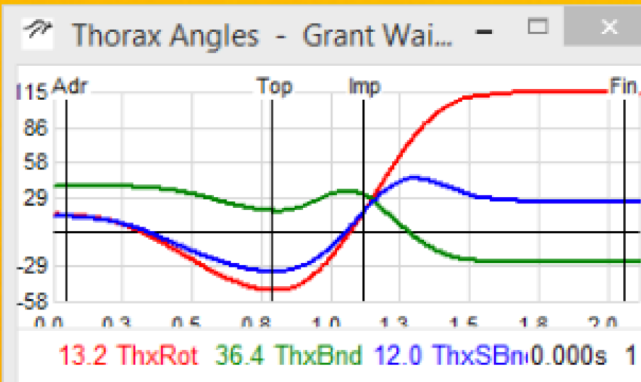
- 3D – Short Game – Coast and Cast
- Anatomy – Lumbar Spine
- Coaches Questions/Swing Discussions

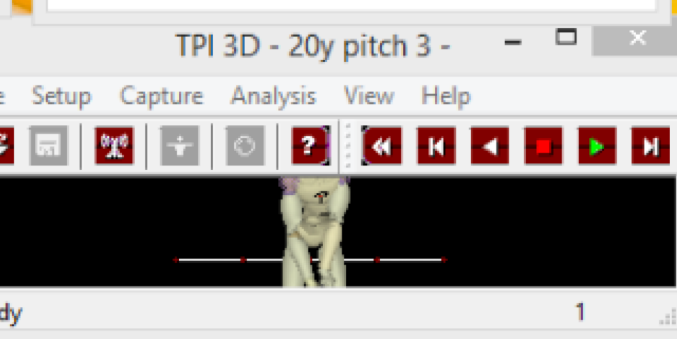
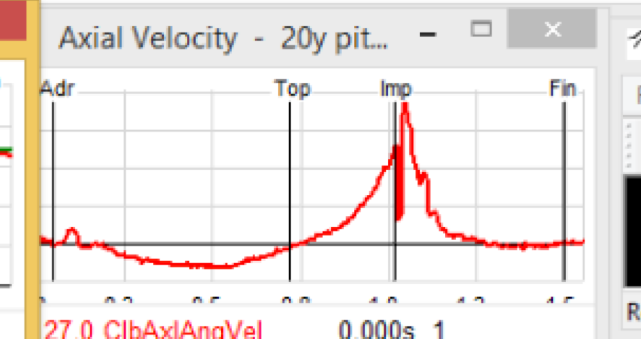
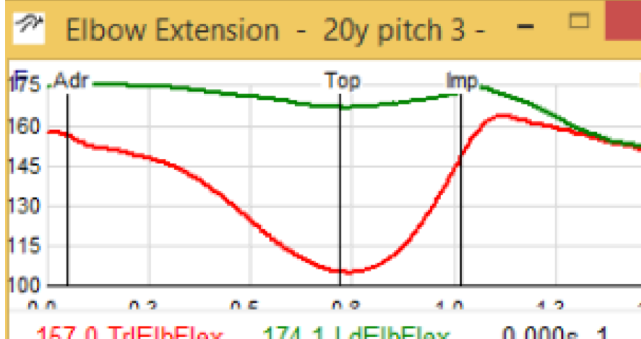
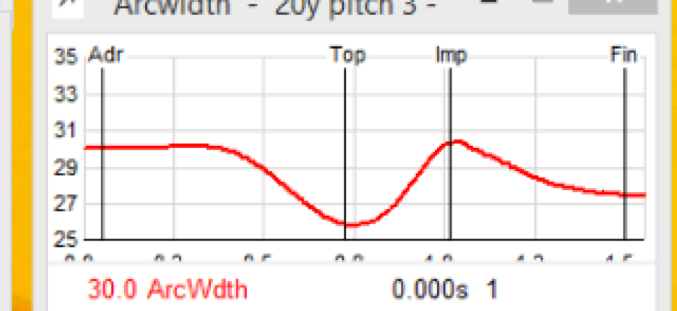
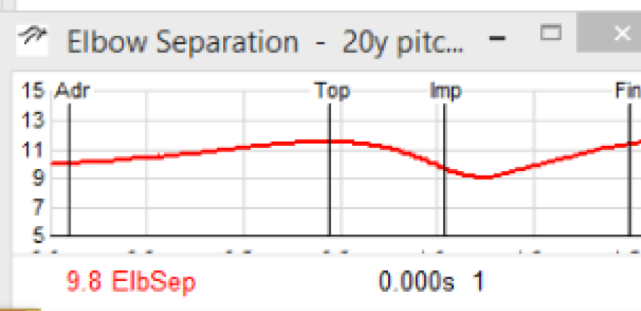
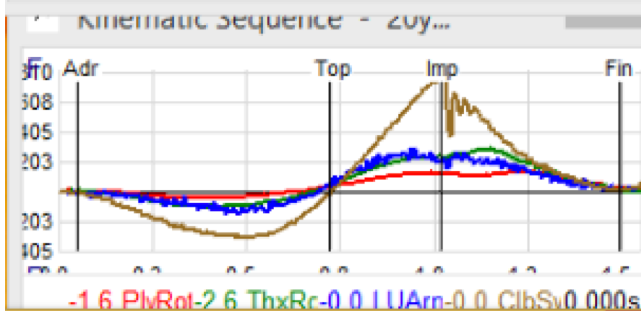
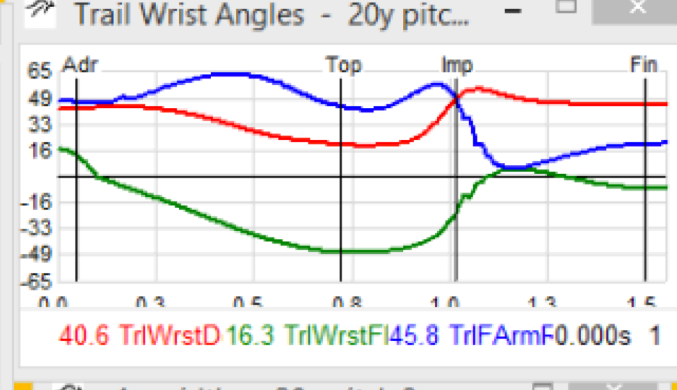
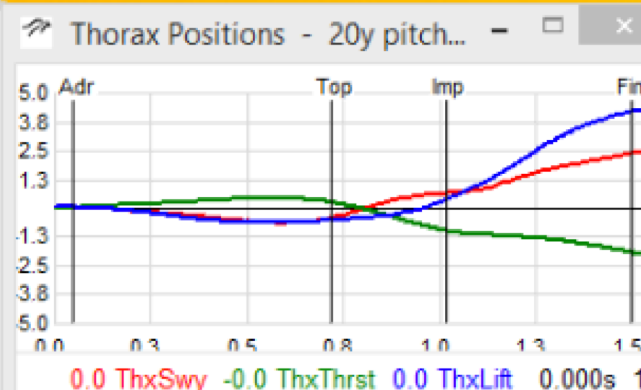
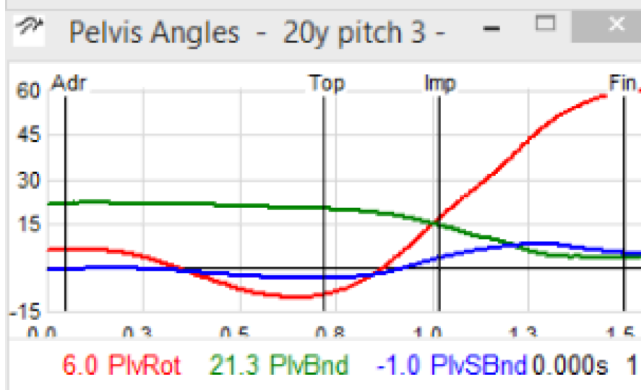
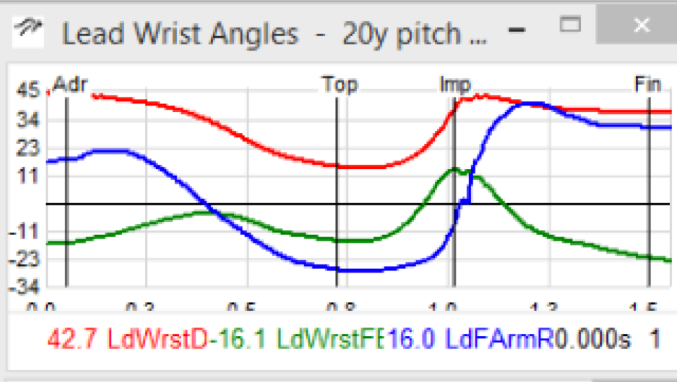
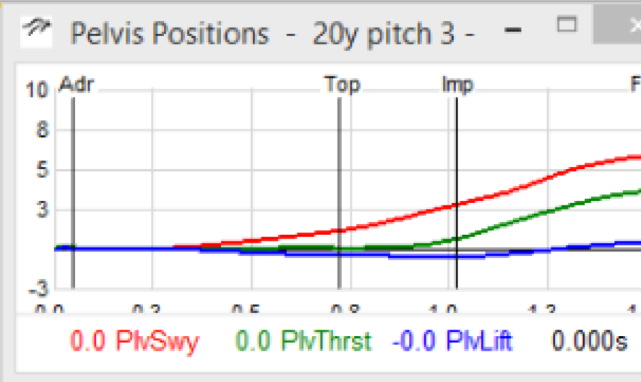
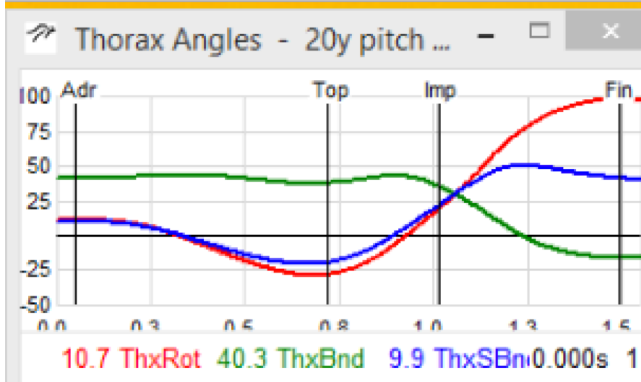
Short Game – Being intentionally weak and precise

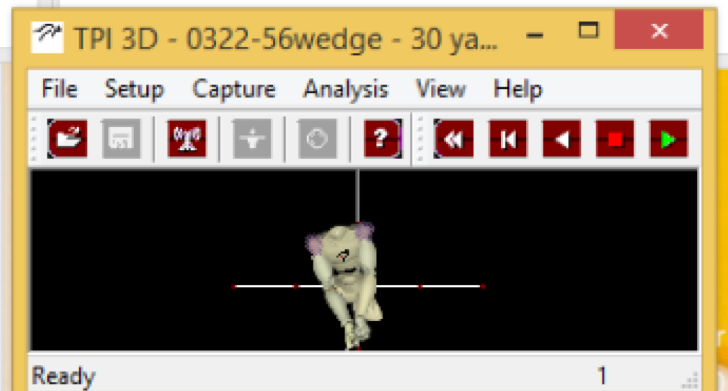
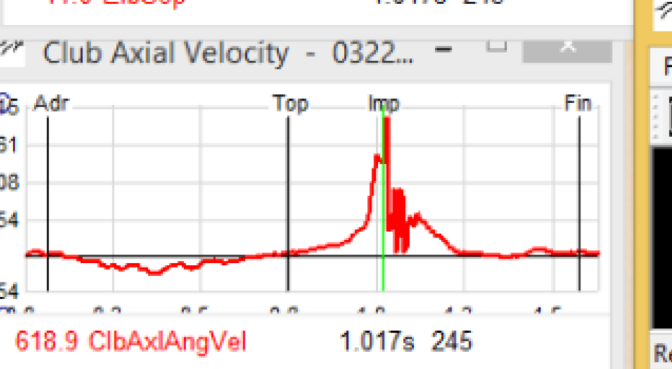
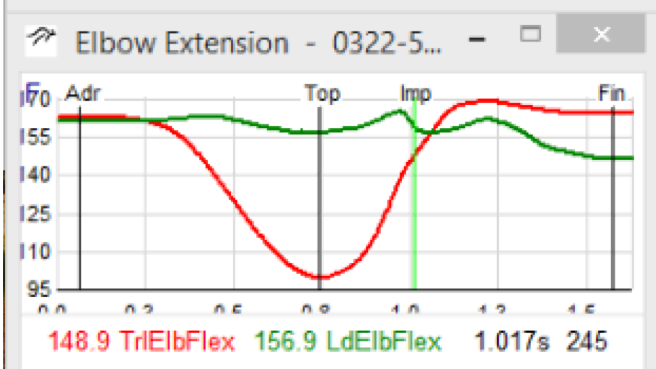
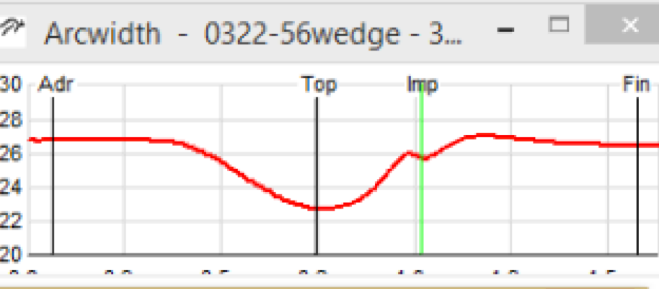
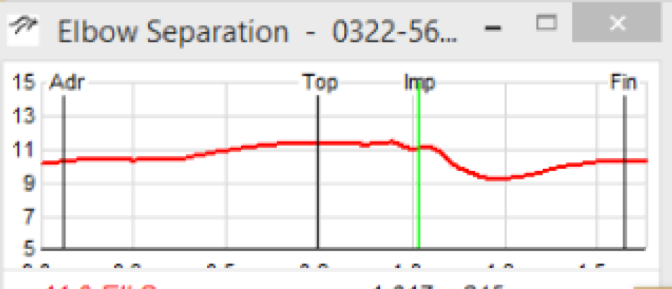
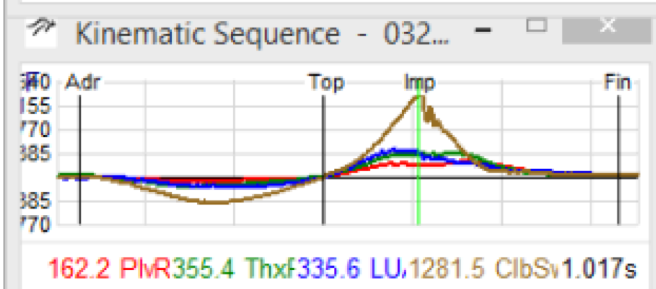
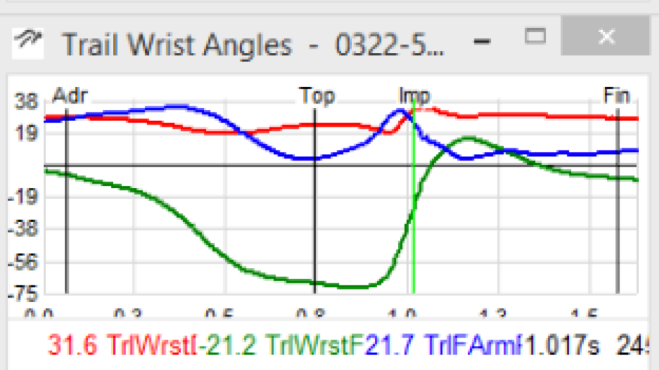
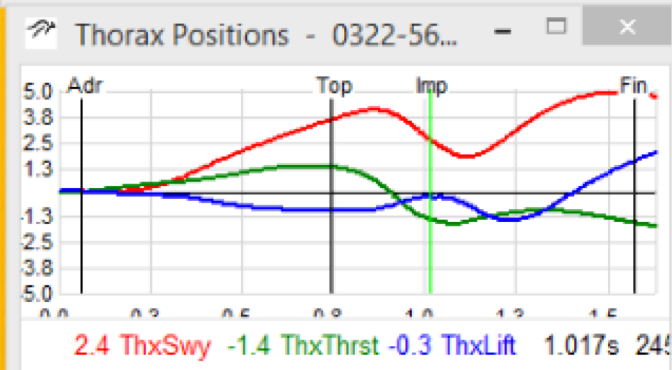
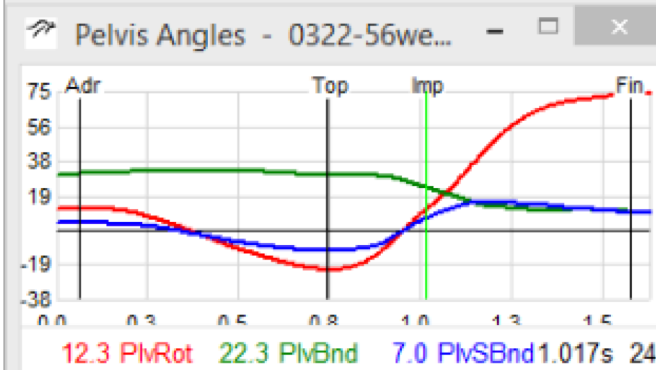
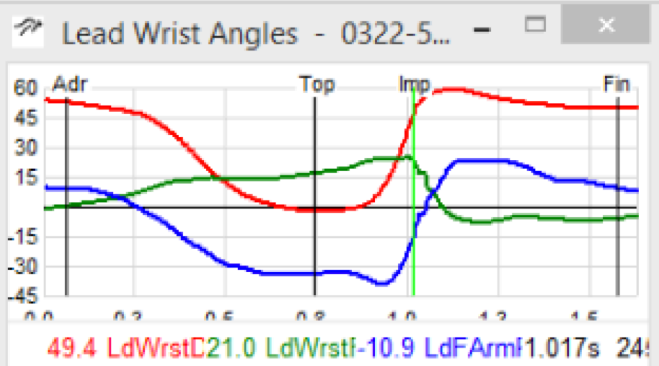
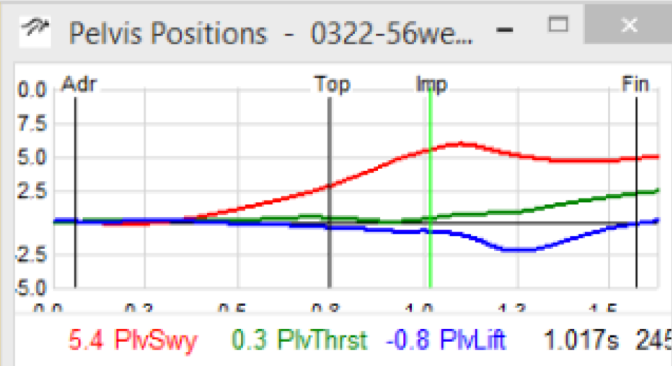
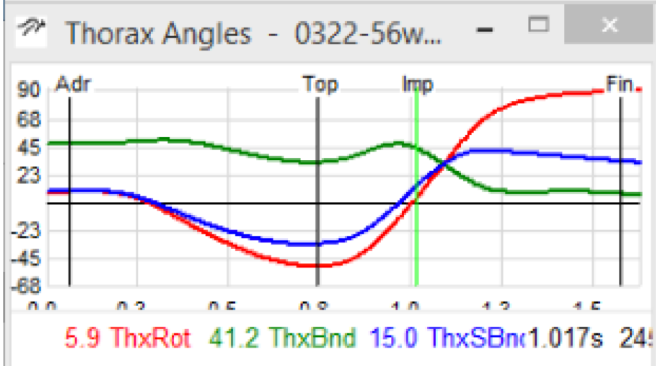


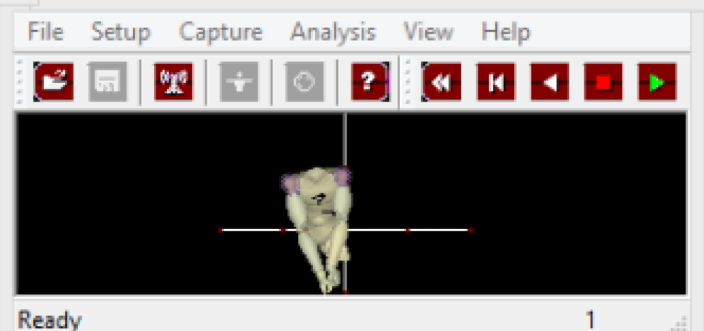
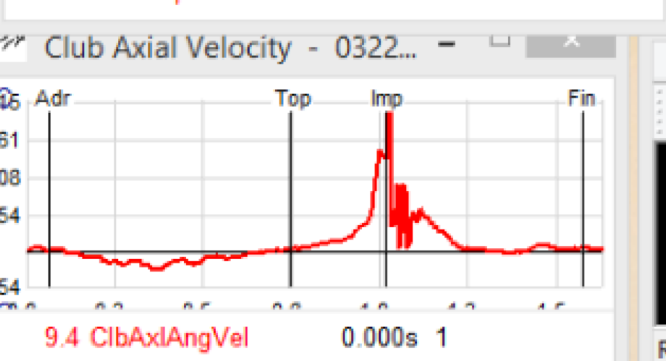
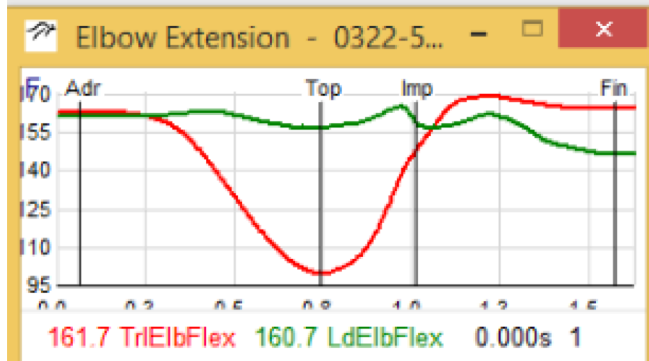
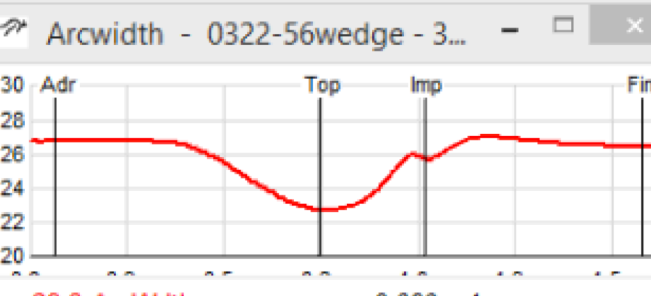
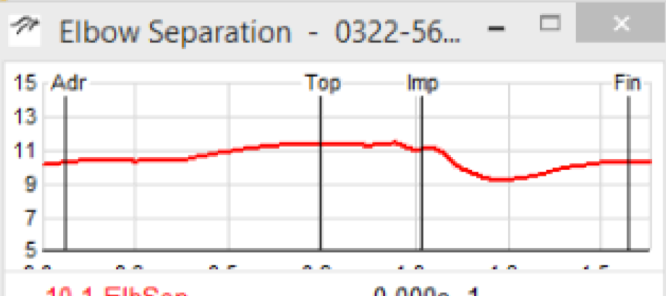
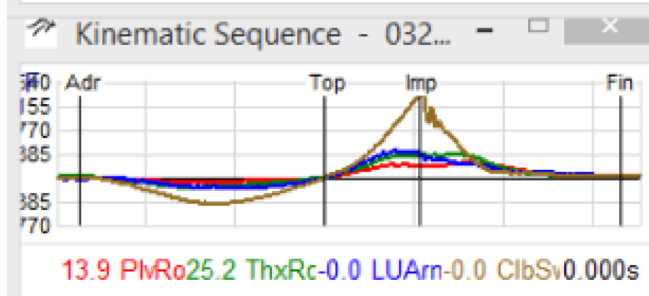
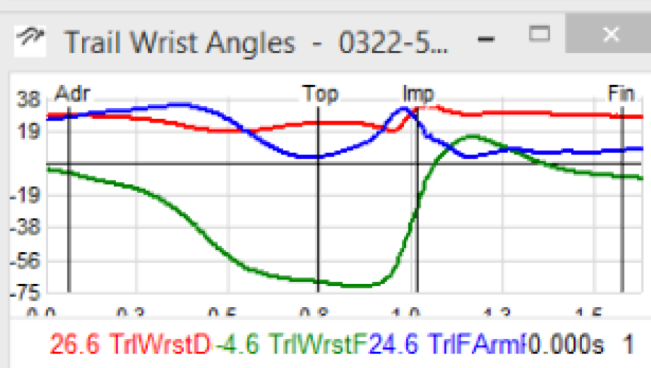
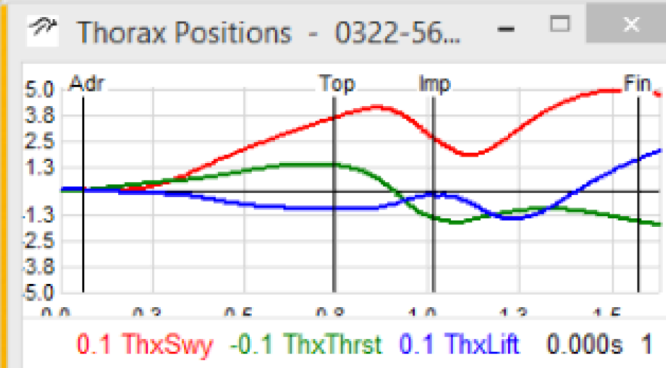
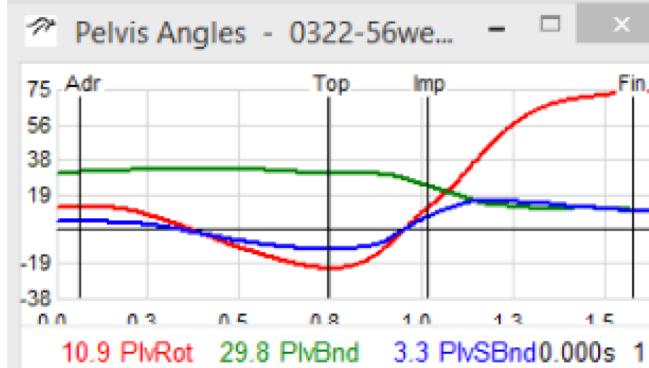
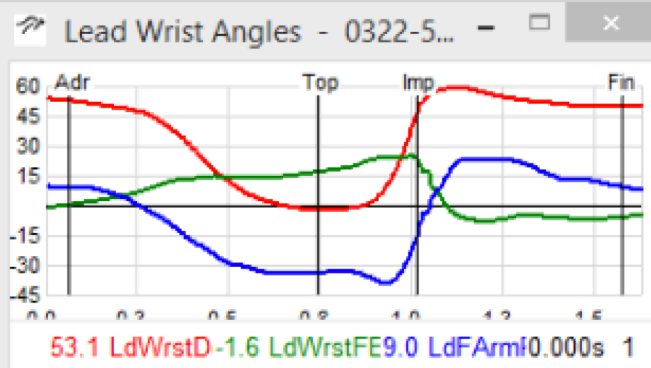
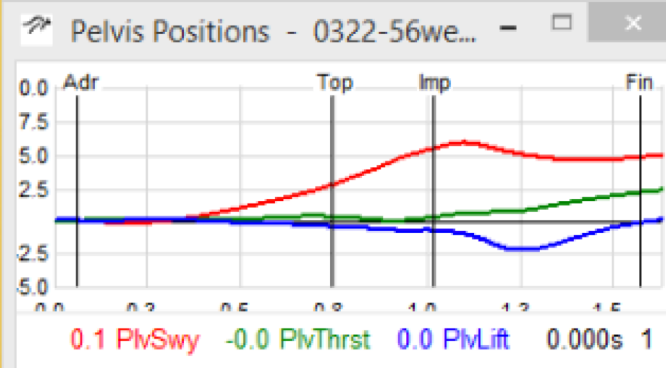
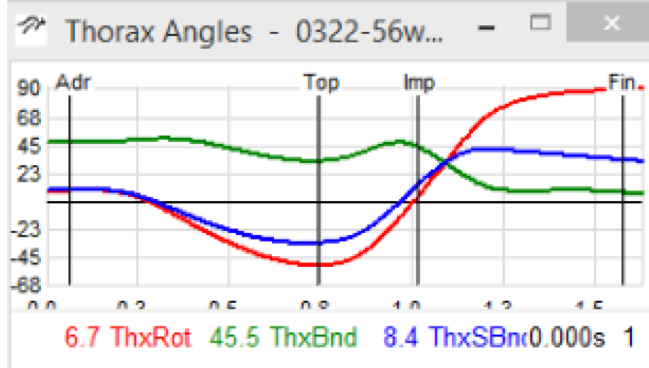


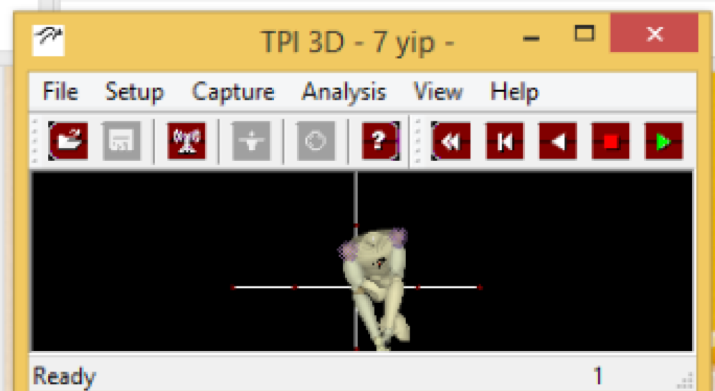
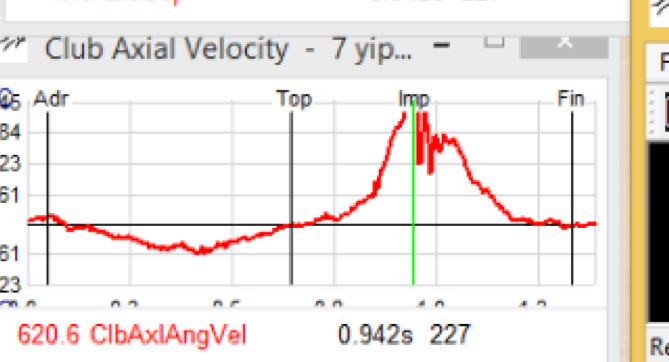
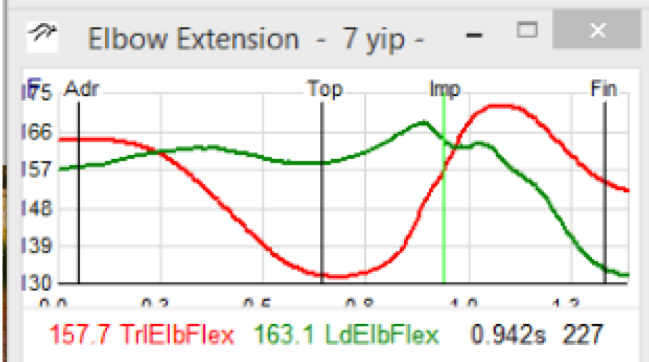
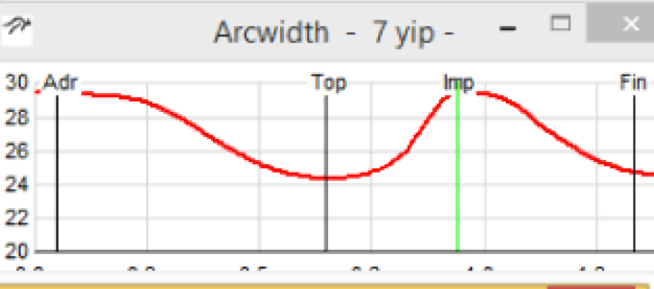
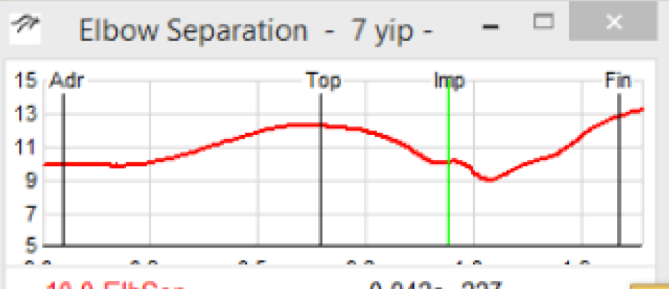
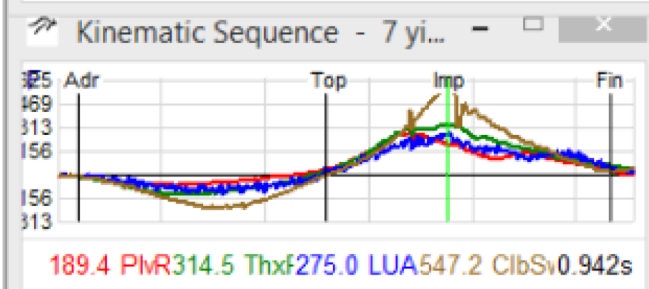
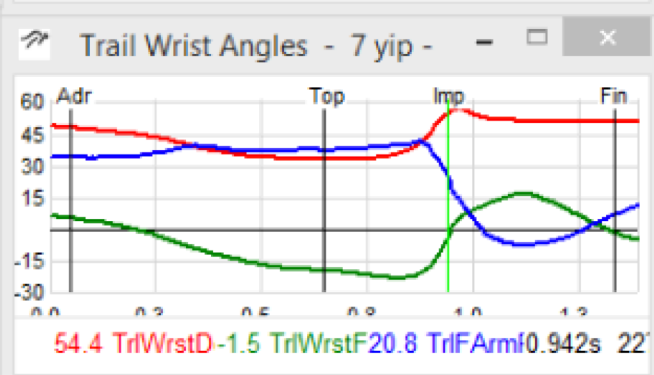
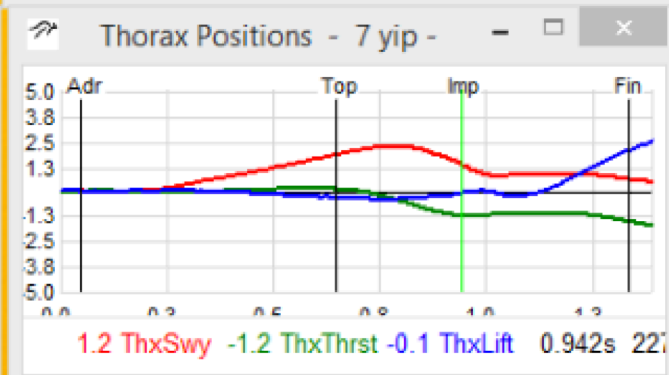
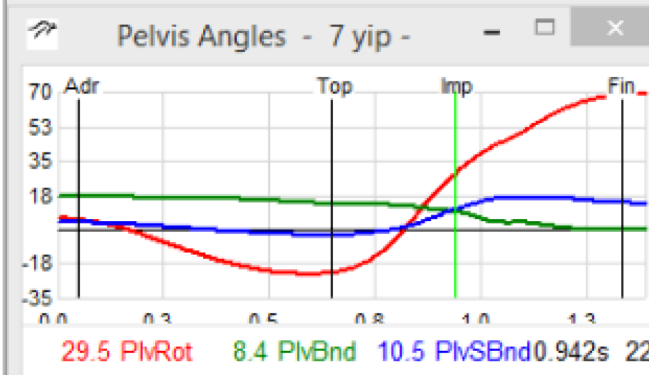
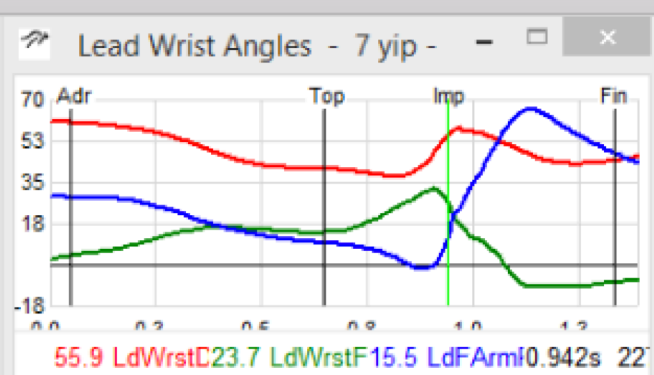
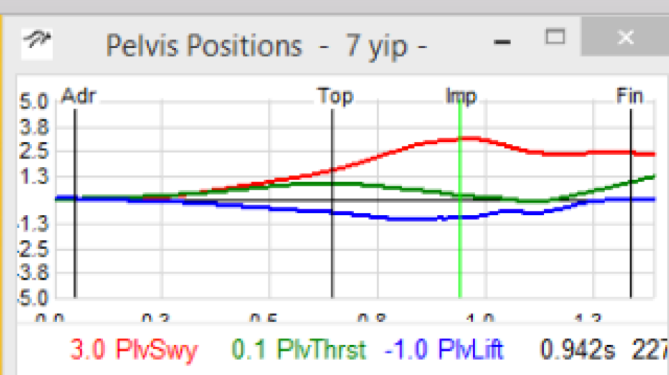
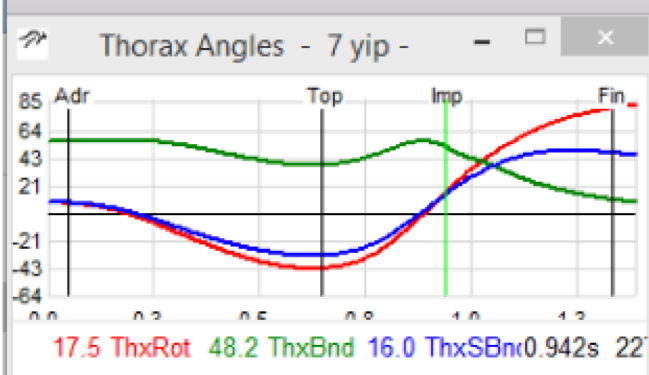




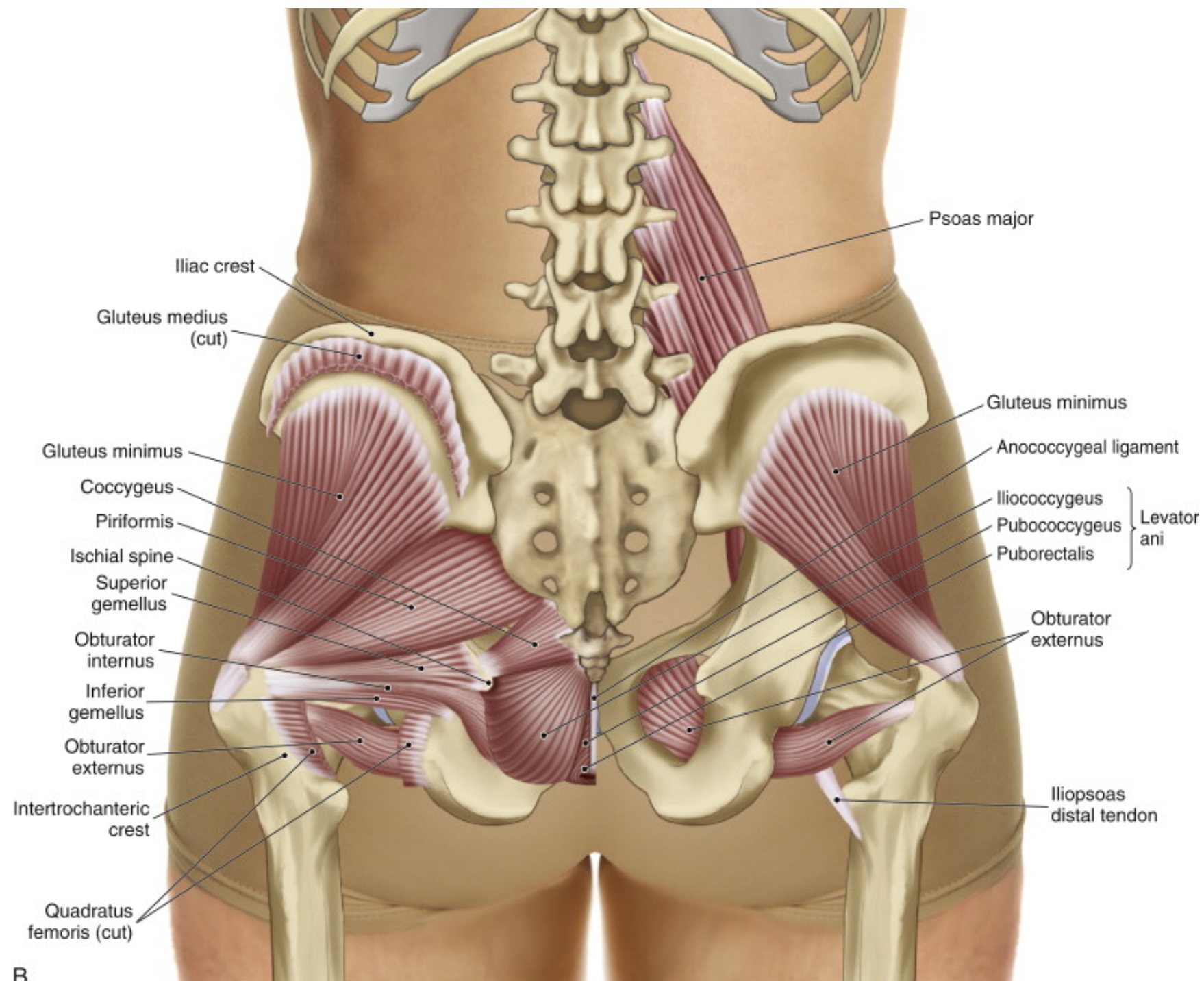




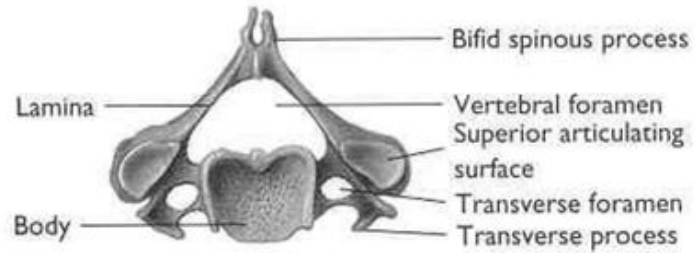




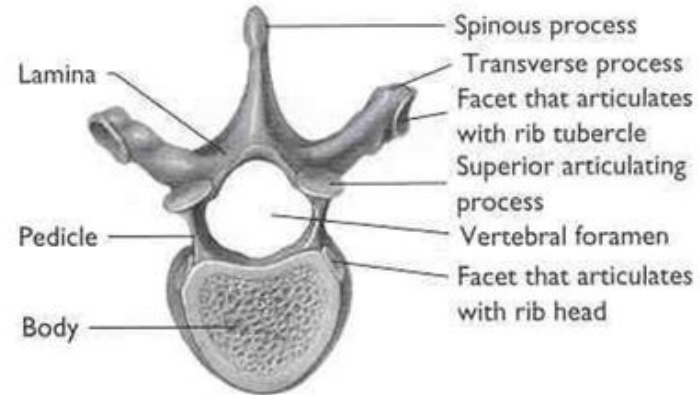
Lumbar Spine



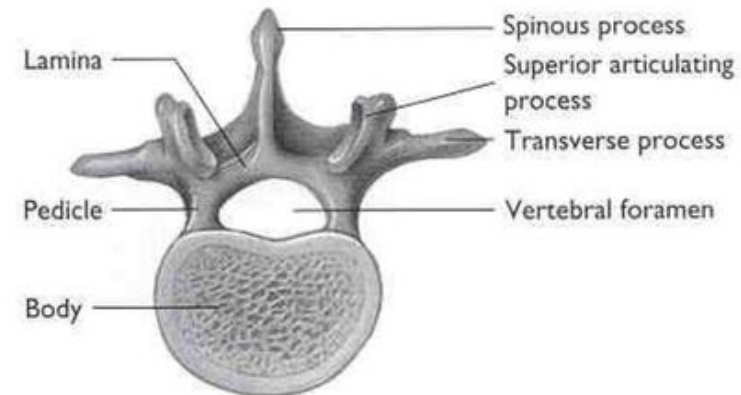
Facet Orientation – related To movement capability



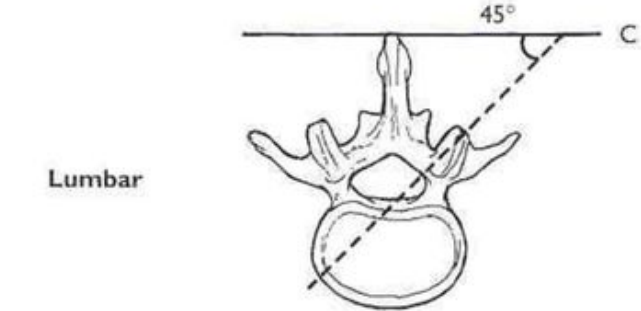
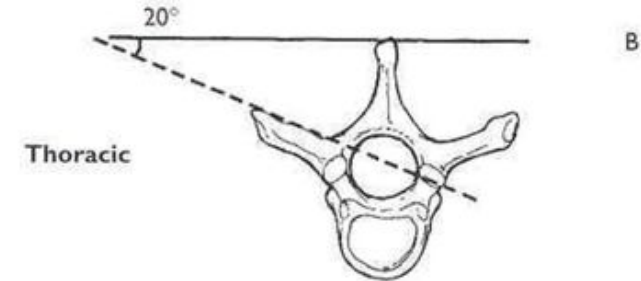
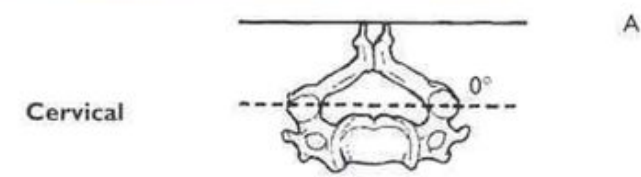
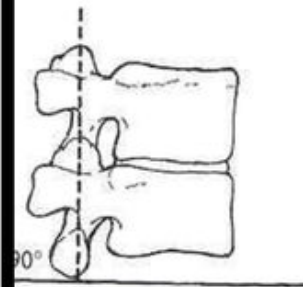
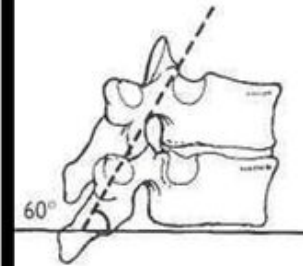
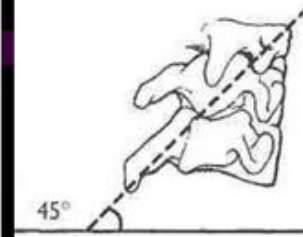
A Cervical vertebra



B Thoracic vertebra



C Lumbar vertebra

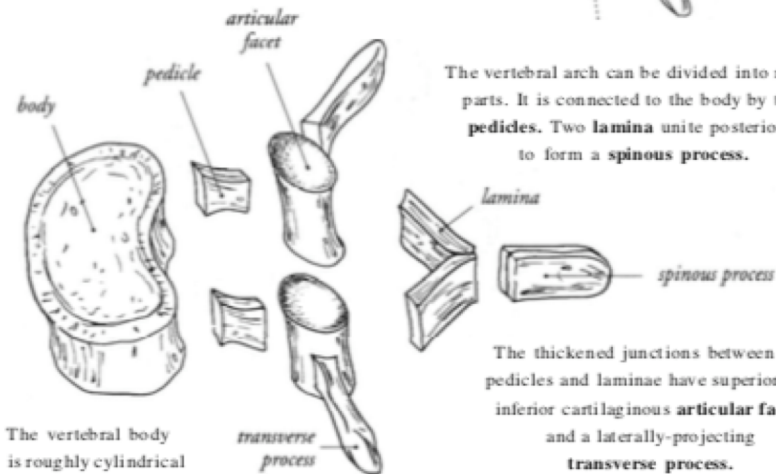
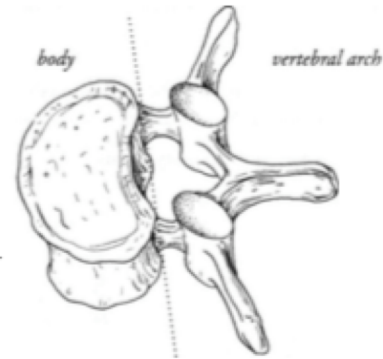


Vertebral structure

Each vertebra consists of two main parts: the massive **body** (anterior), and the **vertebral arch** (posterior).

This page shows a typical vertebra.

Depending on its position in the spine, its shape and size will vary (see also p. 54-71).



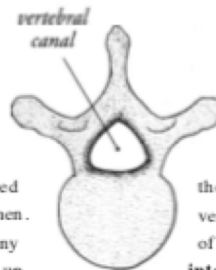
The vertebral body is roughly cylindrical and consists of six surfaces.

The vertebral arch can be divided into many parts. It is connected to the body by two **pedicles**. Two **lamina** unite posteriorly to form a **spinous process**.

The thickened junctions between the pedicles and laminae have superior and inferior cartilaginous **articular facets** and a laterally-projecting **transverse process**.

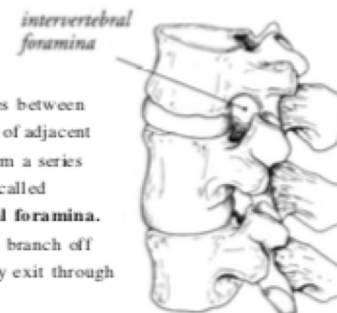
The vertebral holes stacked on top of each other form a bony pipe. This is the spinal canal, through which the spinal cord passes.

The opening between the body and the arch is called the vertebral foramen. As foramina of many vertebrae are lined up, they form the **vertebral canal** through which the **spinal cord** passes.



The spaces between the pedicles of adjacent vertebrae form a series of openings called **intervertebral foramina**.

As spinal nerves branch off the spinal cord, they exit through these foramina.



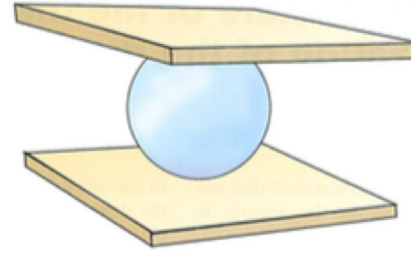


Figure 32

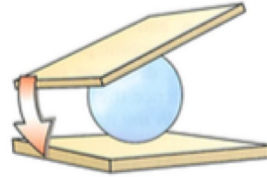


Figure 33

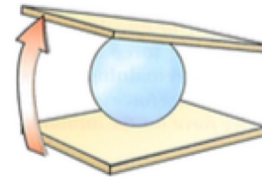


Figure 34

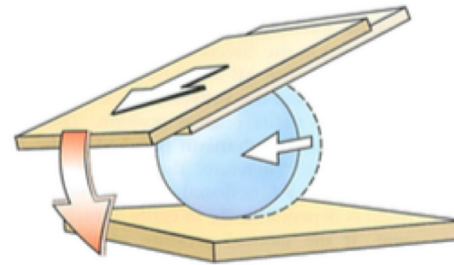


Figure 36

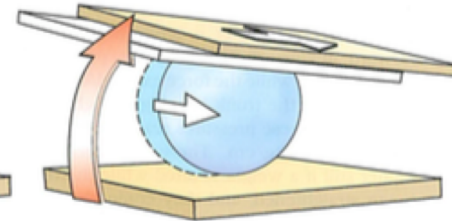


Figure 37

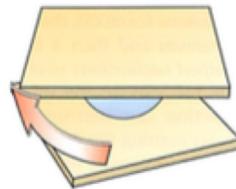


Figure 35

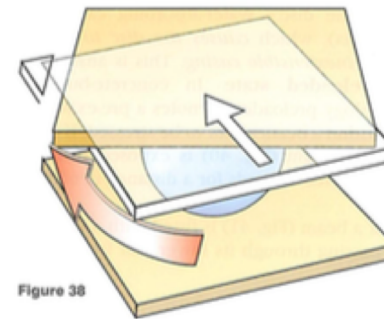


Figure 38

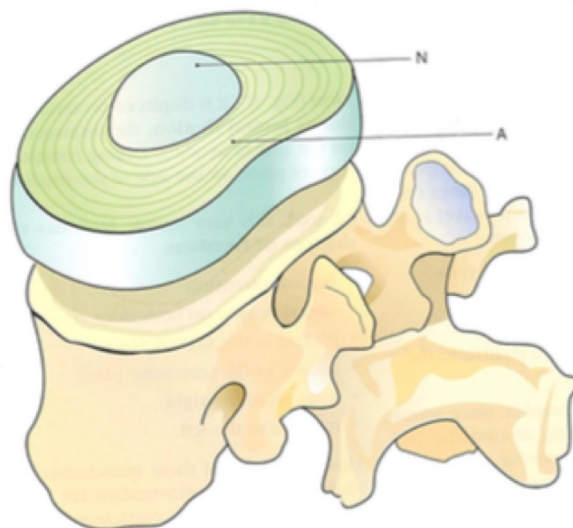


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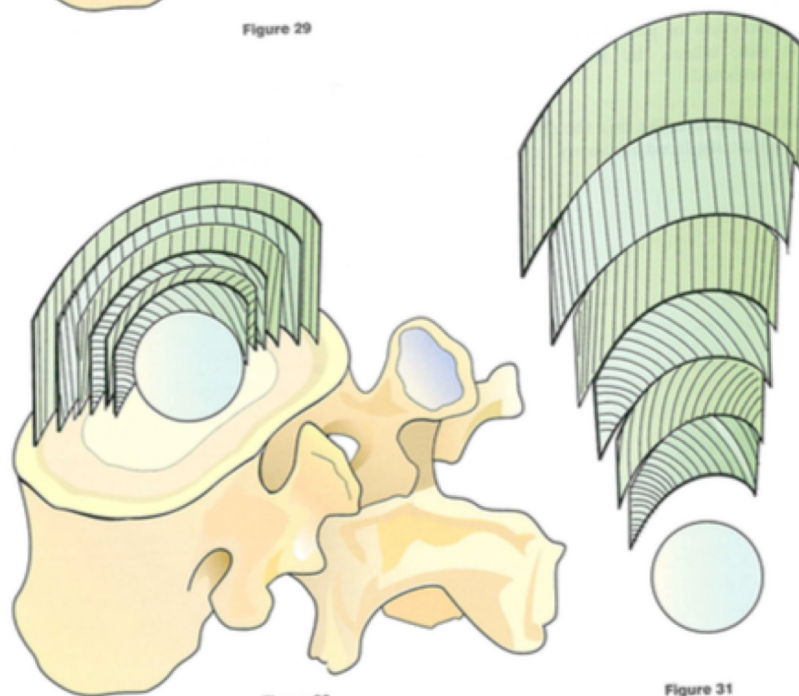


Figure 30

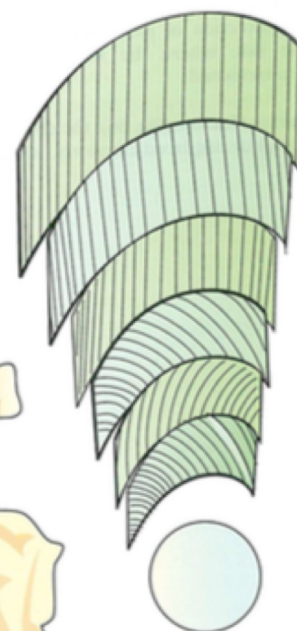


Figure 31

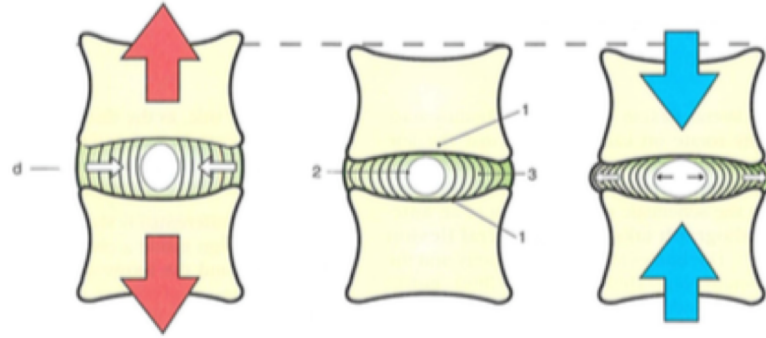


Figure 60

Figure 59

Figure 61

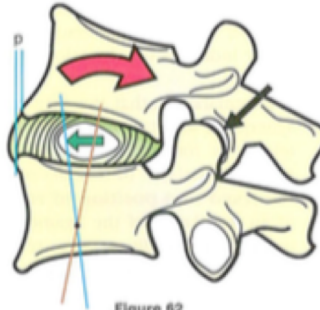


Figure 62

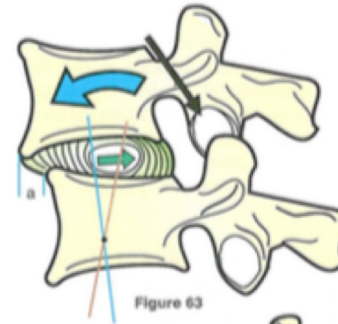


Figure 63

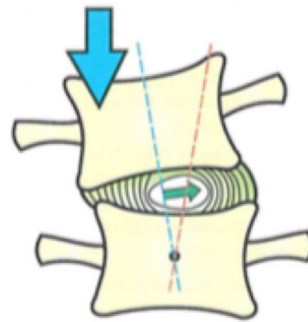


Figure 64

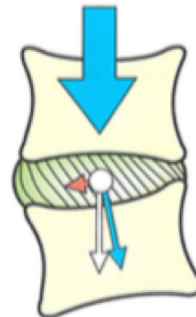


Figure 66

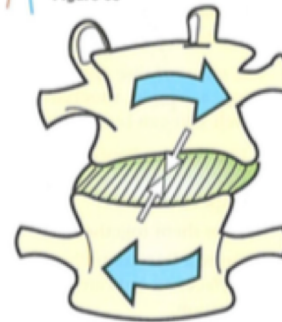


Figure 65

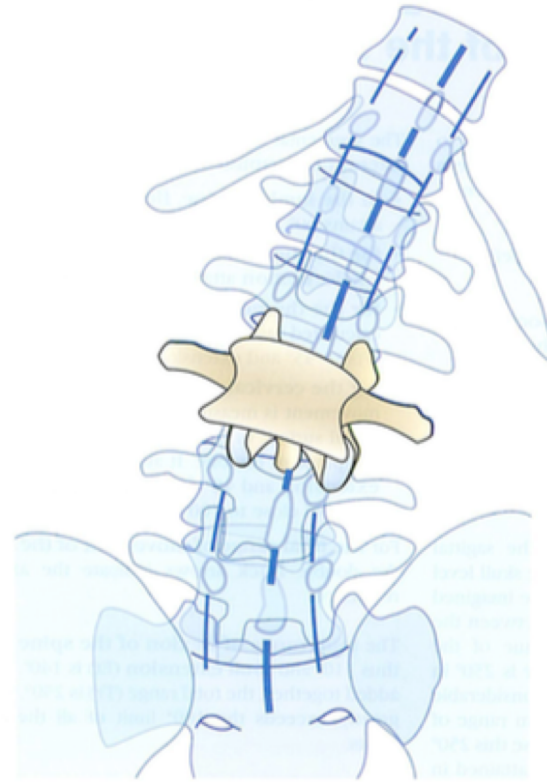


Figure 67

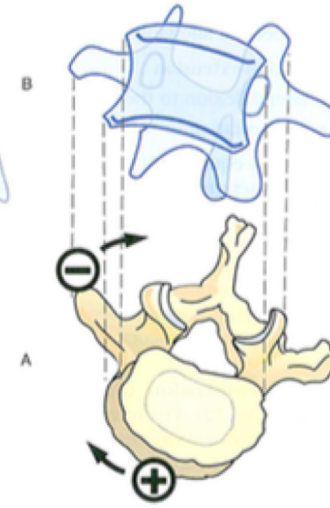


Figure 68

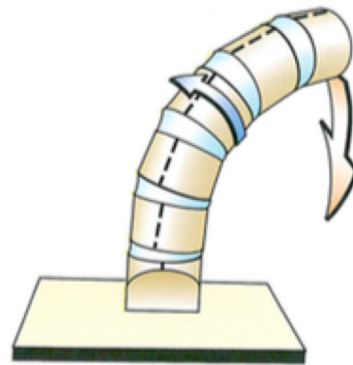


Figure 69



Figure 70



Figure 71

Lumbar Spine Movements

Flexion = 60

Extension = 20

Lateral Flexion = 20

Rotation = 5

Total Spine Movements

Flexion = 110

Extension = 140

Lateral Flexion = 75-85

Rotation = 90

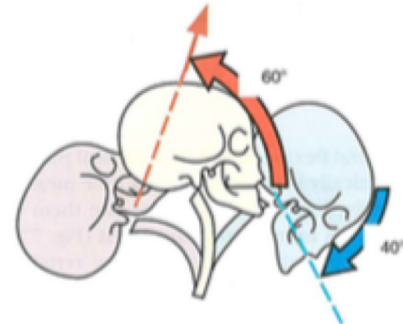


Figure 75

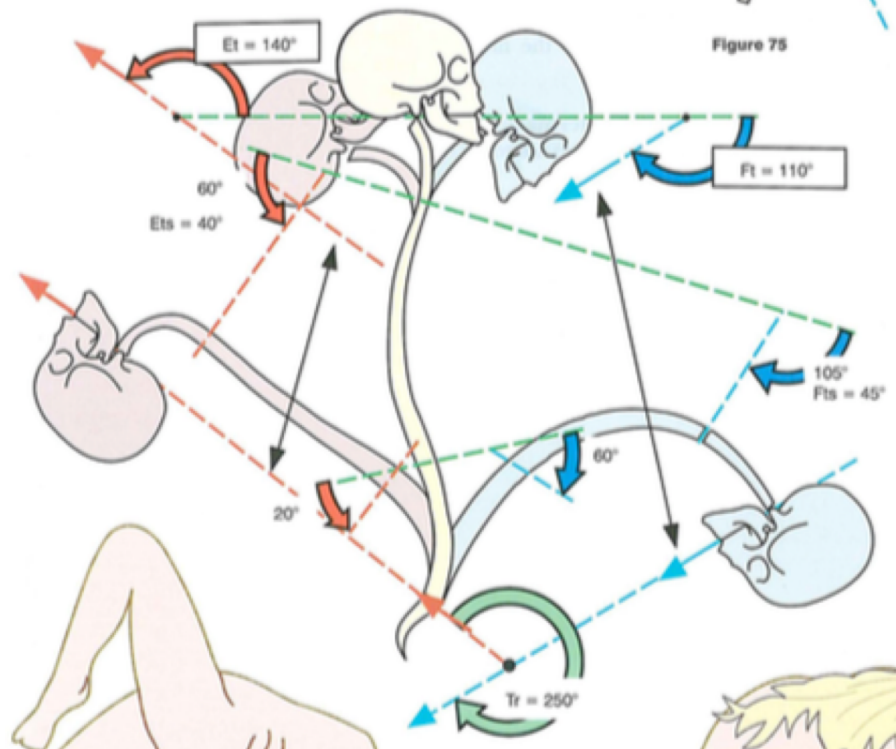


Figure 72



Figure 73

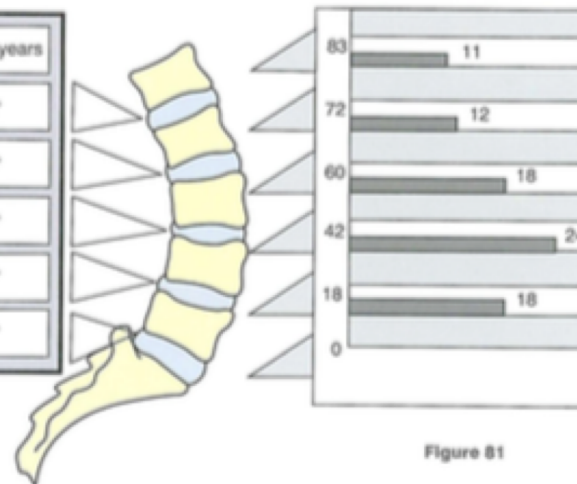


Figure 74



2-13 years	35-49 years	50-64 years	65-77 years
	8°	4°	2°
10°	8°	5°	5°
13°	9°	8°	3°
17°	12°	8°	7°
24°	8°	8°	7°

Figure 82



2-13 years	35-49 years	50-64 years	65-77 years
	8°	4°	2°
10°	8°	5°	5°
13°	9°	8°	3°
17°	12°	8°	7°
24°	8°	8°	7°

Figure 82

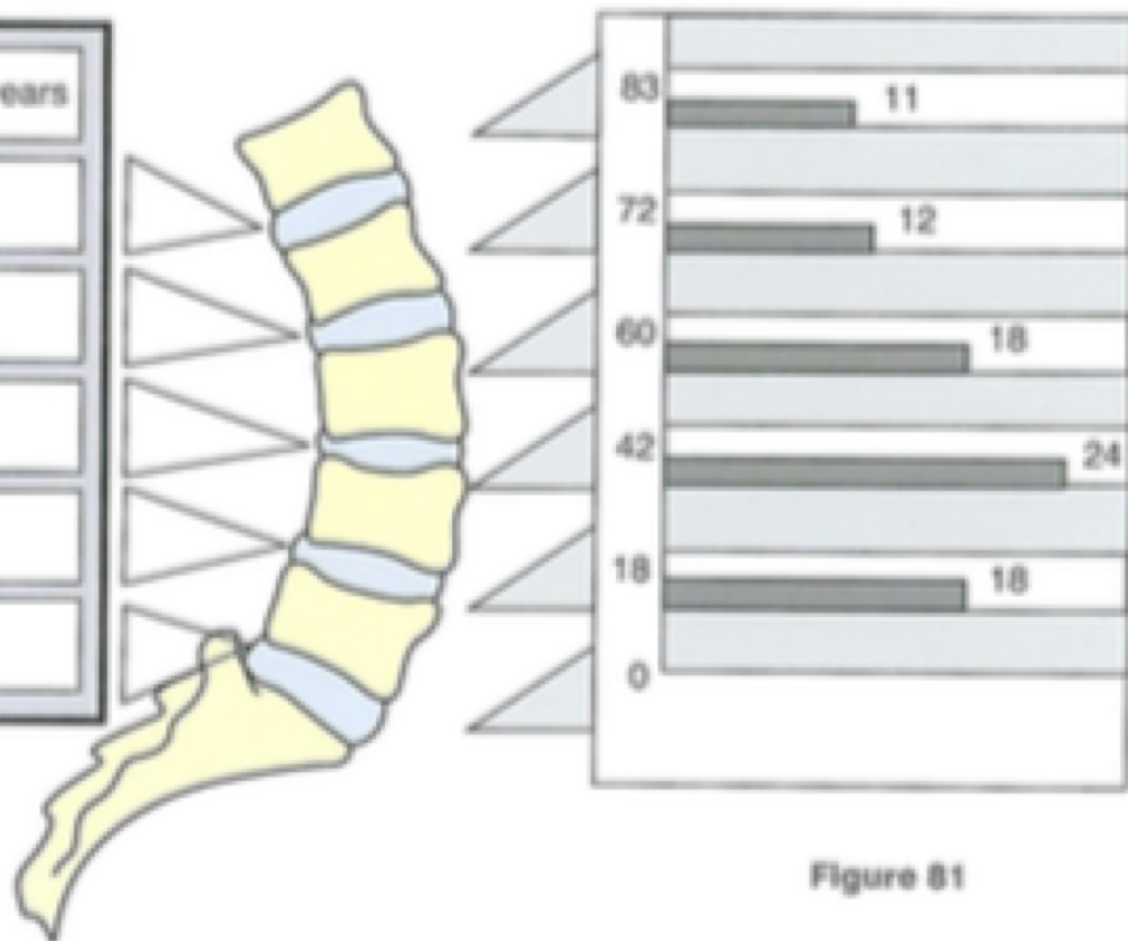
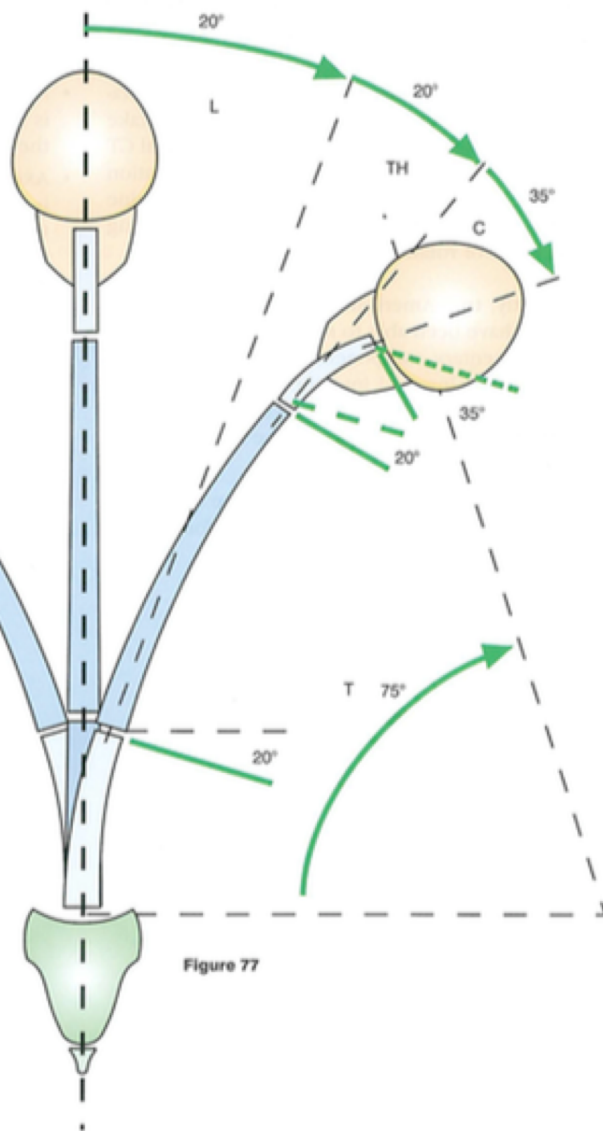
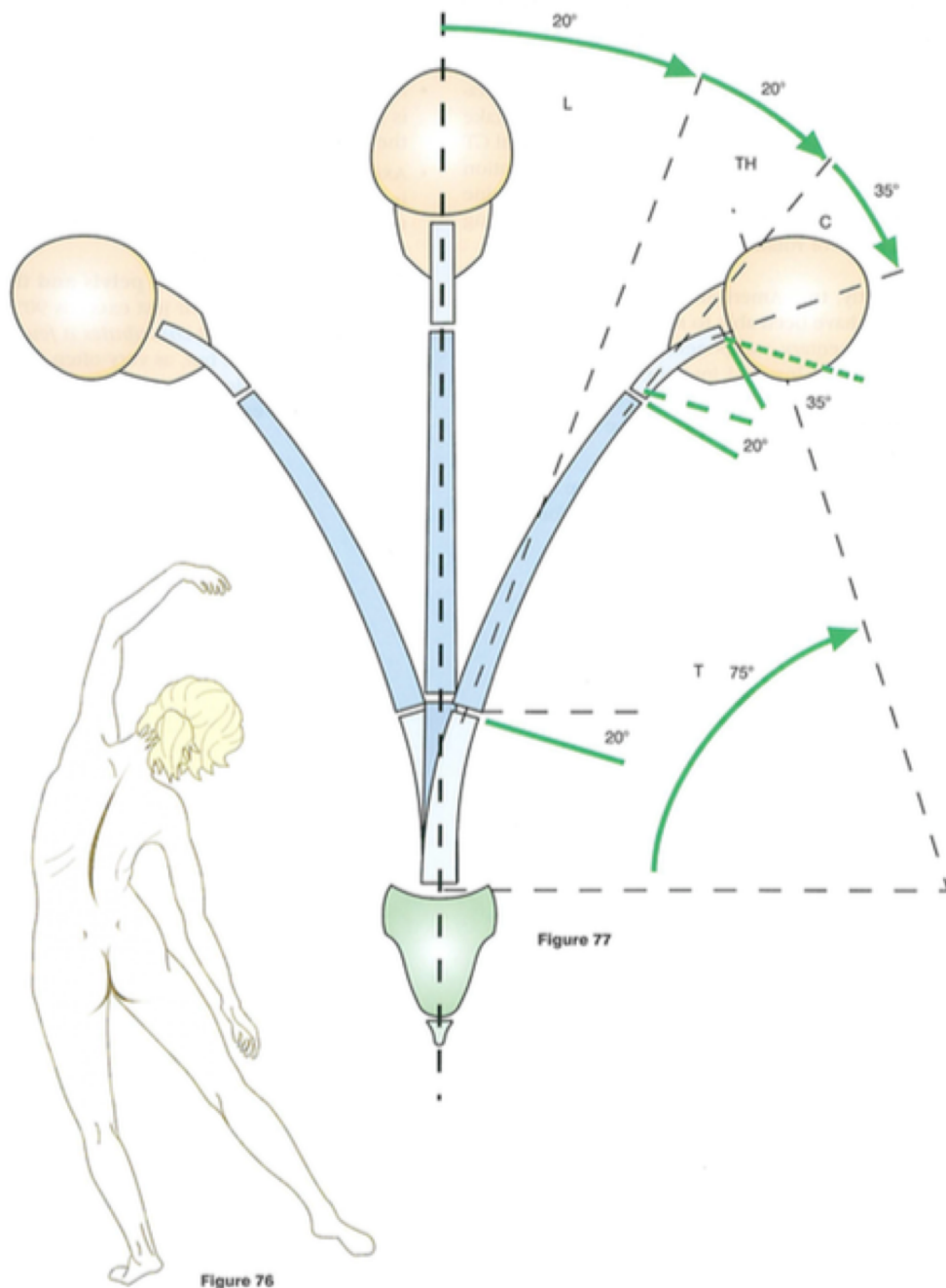


Figure 81



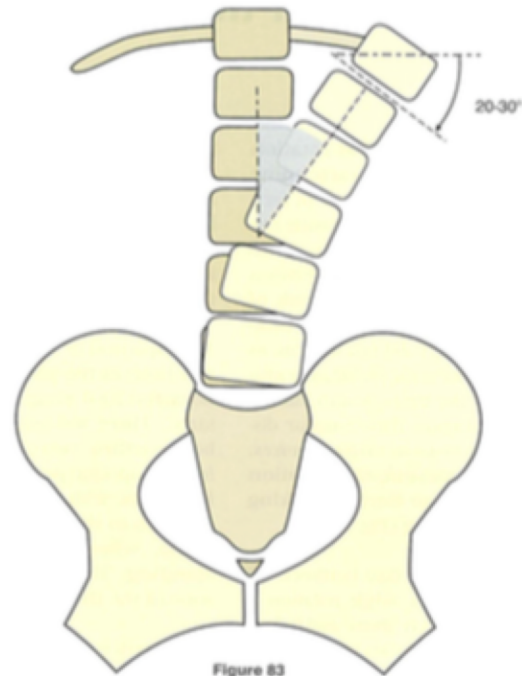


Figure 83

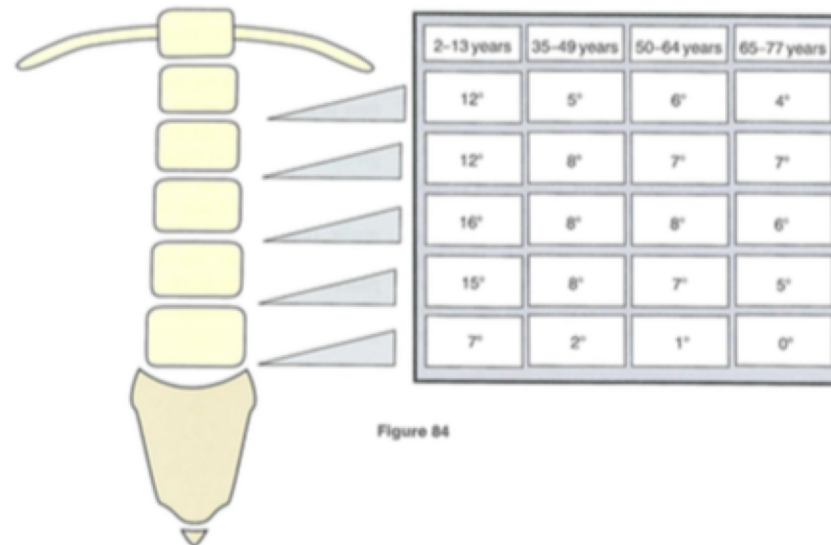


Figure 84

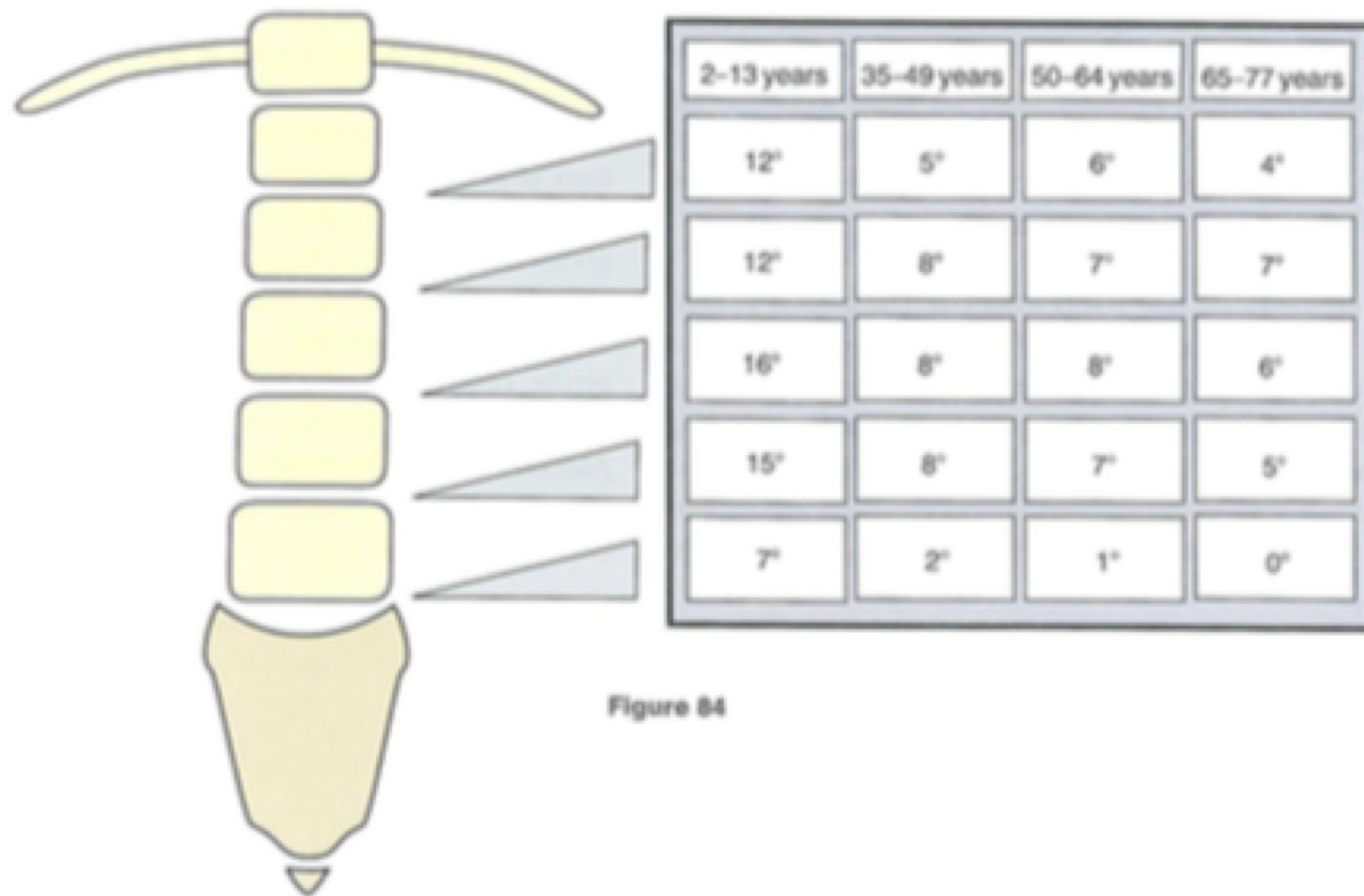


Figure 84

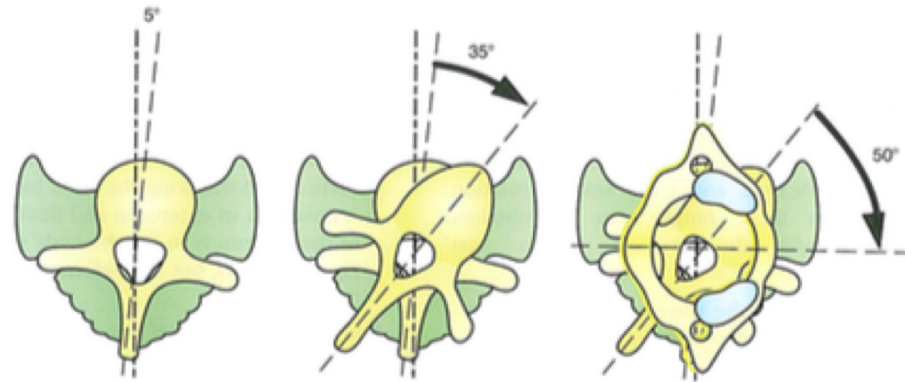


Figure 78

Figure 79

Figure 80

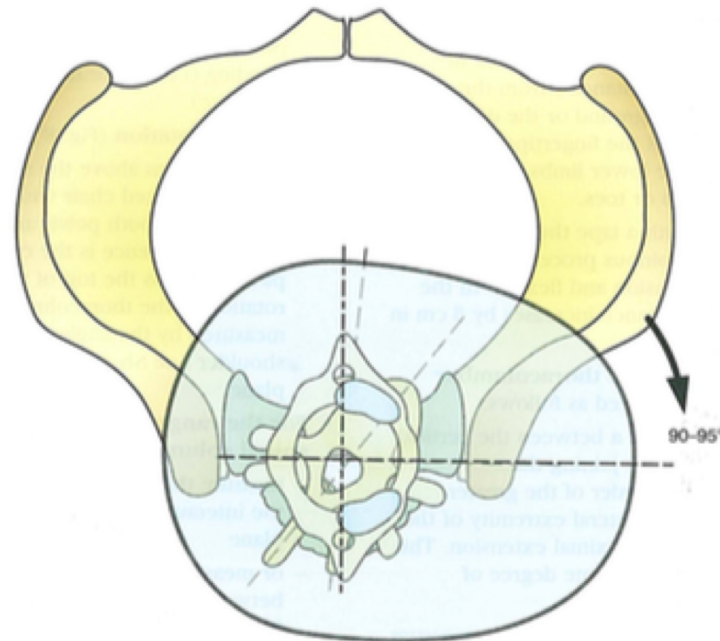


Figure 81

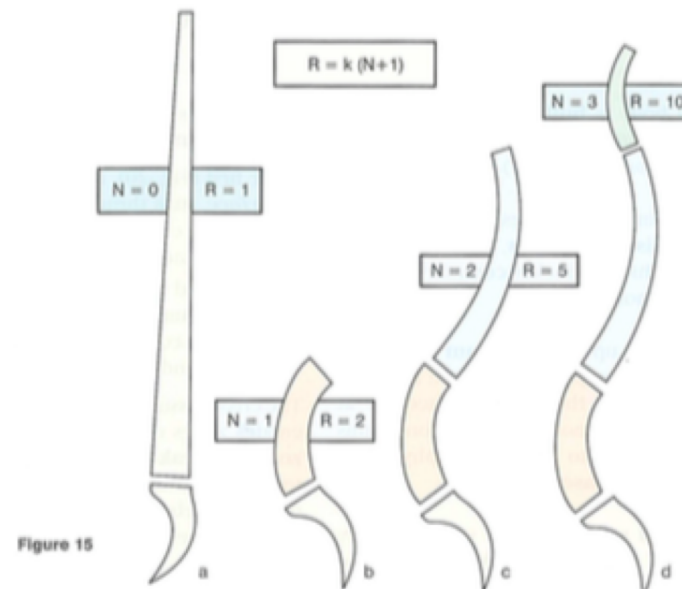
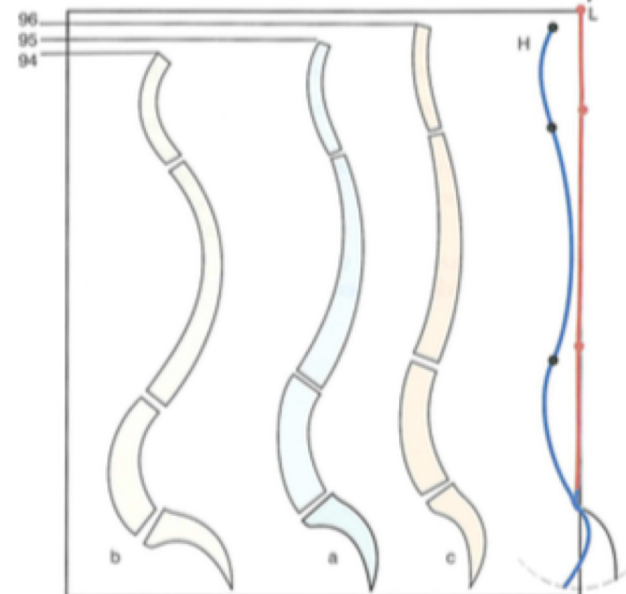


Figure 15



Spinal index	low 94	intermediate	high 96
Spinal curvature	exaggerated	intermediate	attenuated
Spinal type	dynamic	intermediate	static
Delmas index	$\frac{H \text{ (height)} \times 100}{L \text{ (fully extended length)}}$		

Figure 16

Common Pain Sources - Compression

SIJ

Disc

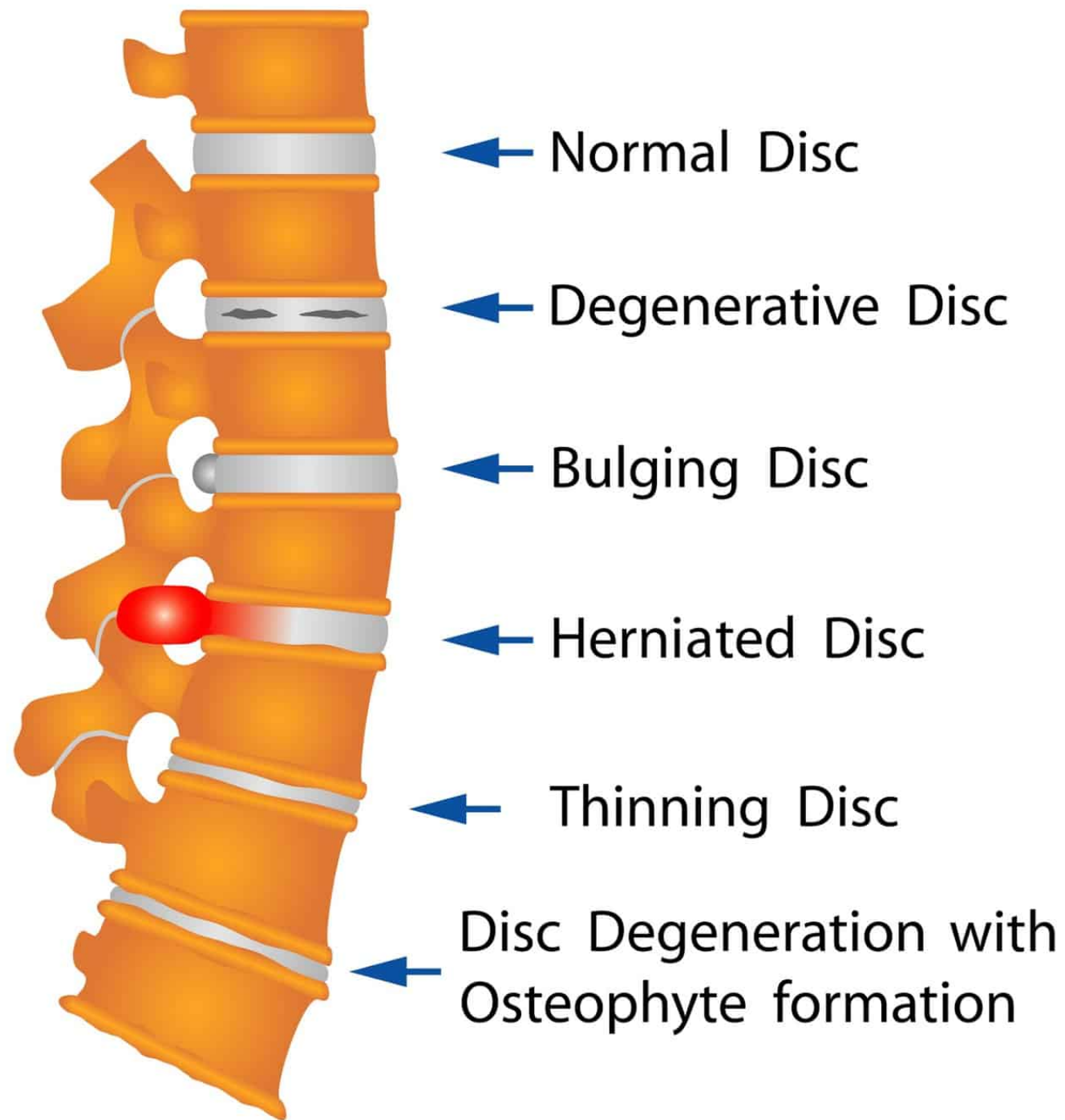
Ligament

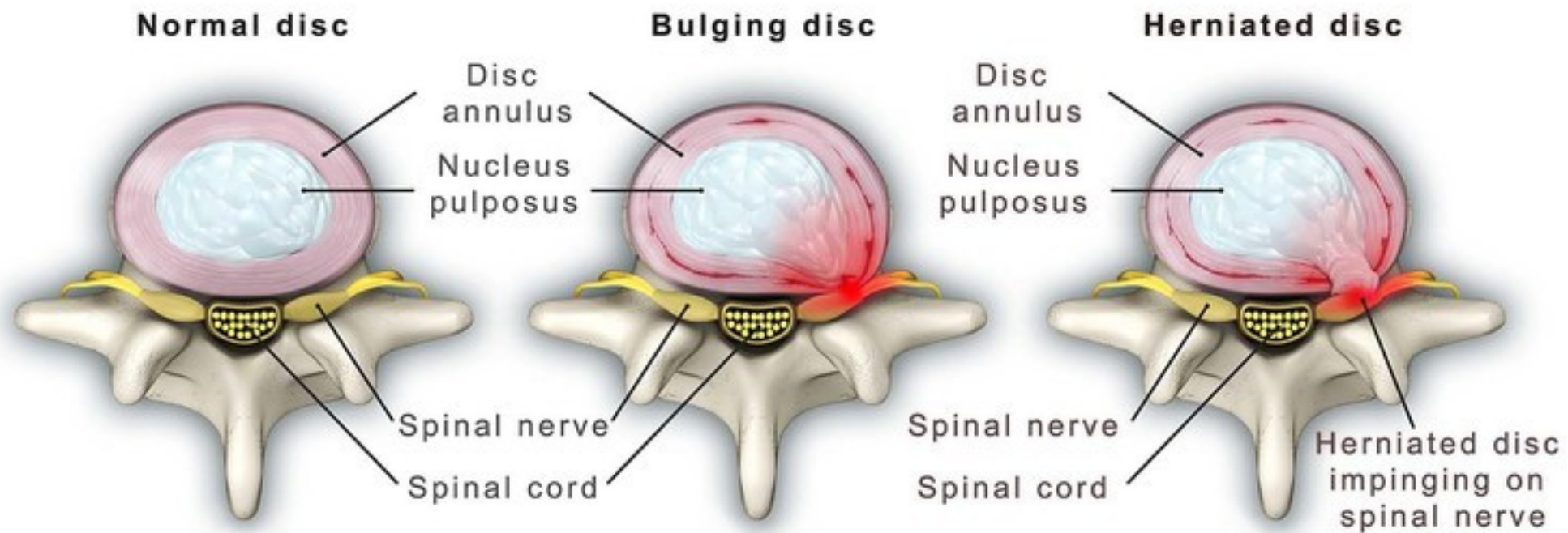
Muscle

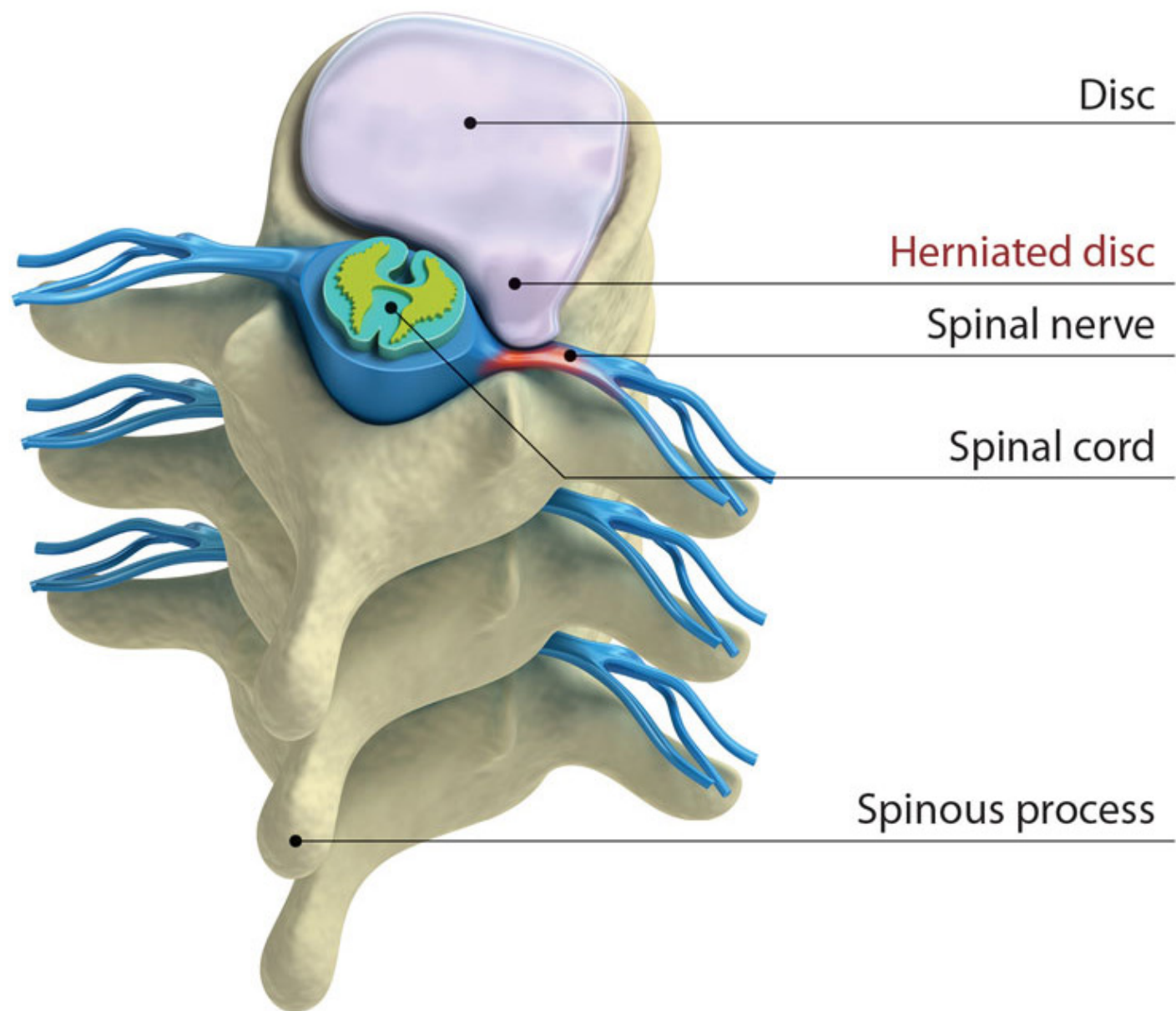
Facets

Sciatica

Organs (they don't know it)







Disc

Herniated disc

Spinal nerve

Spinal cord

Spinous process



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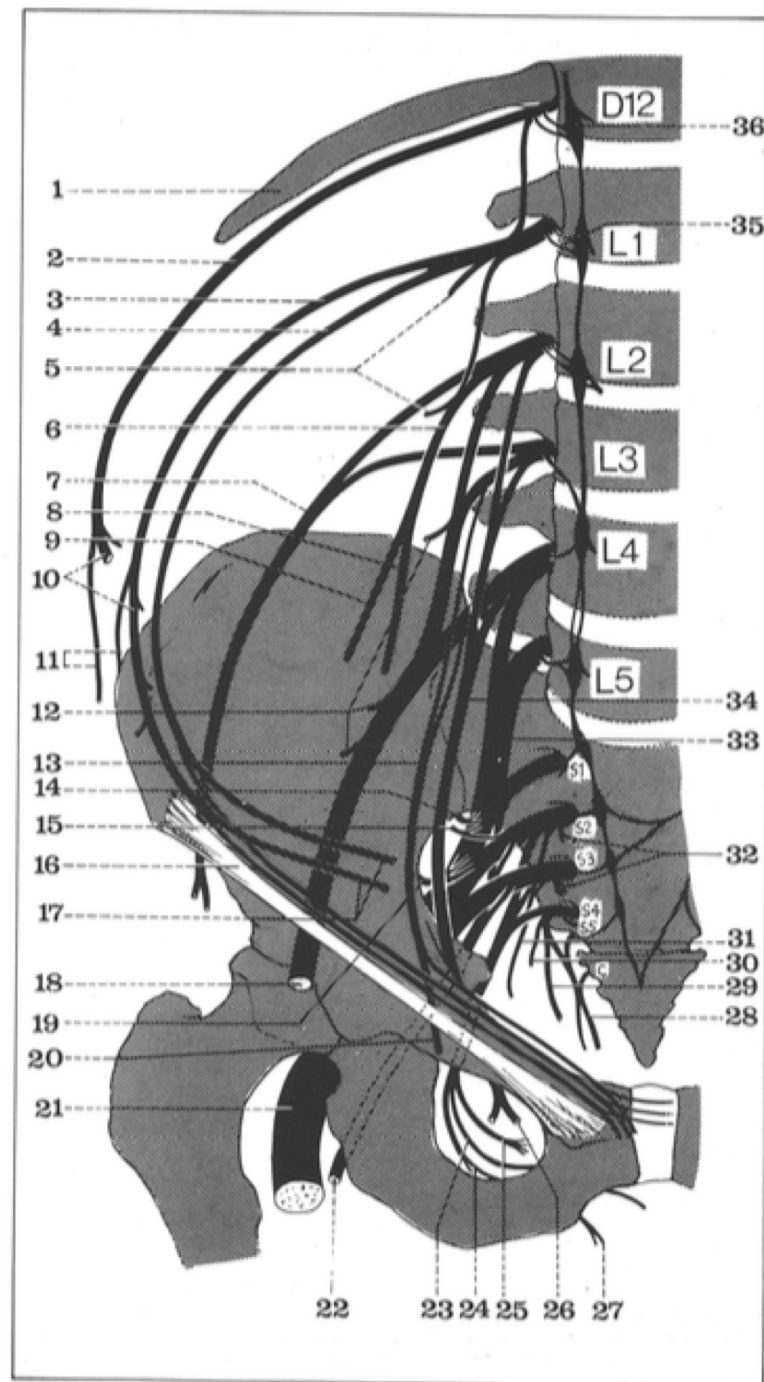
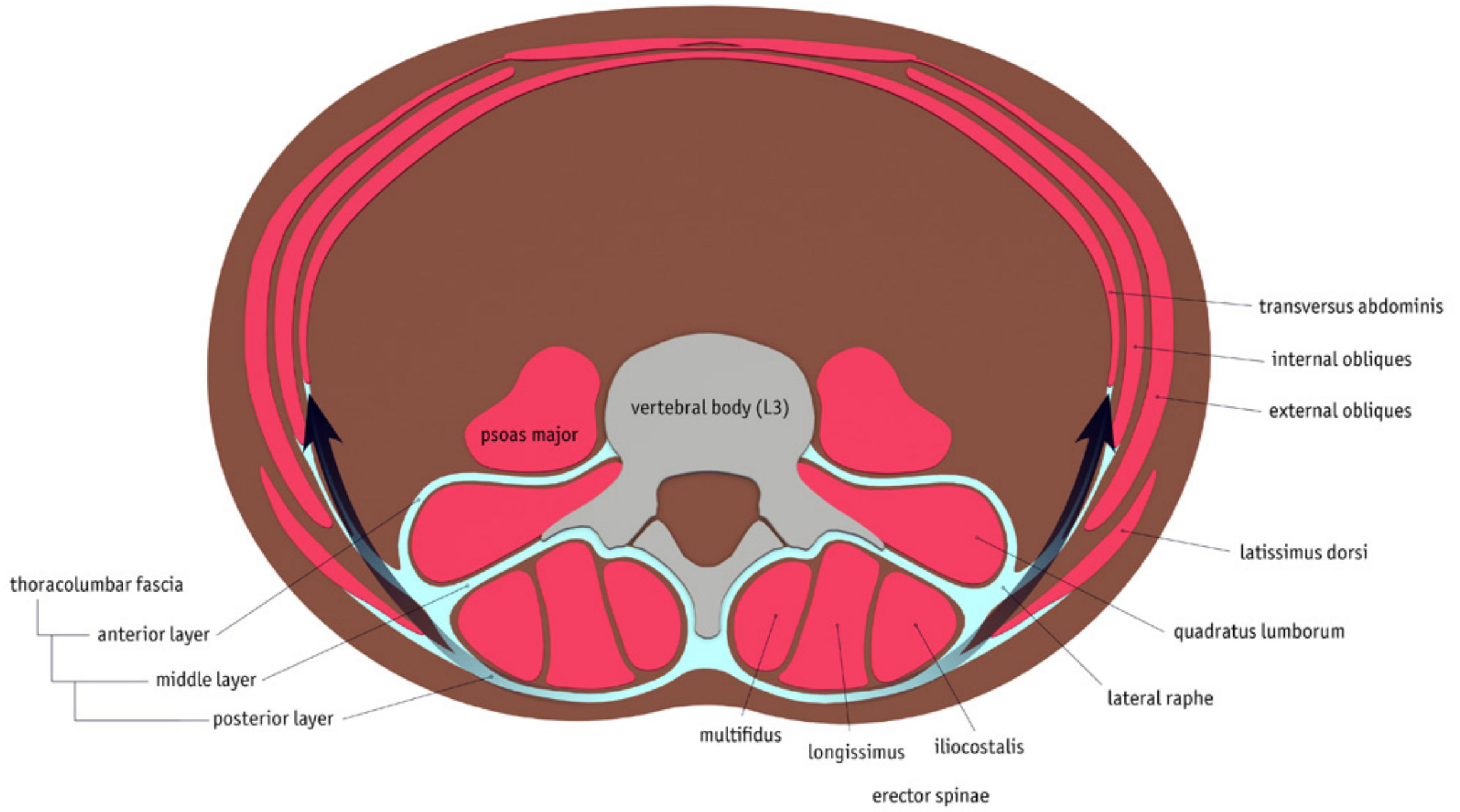


FIGURE 5

Le plexus lombaire et le plexus sacré
(d'après Netter)

1. Douzième côte.
2. Douzième nerf intercostal.
3. Nerf grand abdomino-génital.
4. Nerf petit abdomino-génital.
5. Nerfs du psoas (grand + petit).
6. Nerf génito-crural.
7. Nerf fémoro-cutané.
8. Branche génitale du génito-crural.
9. Branche crurale du génito-crural.
10. Branches antérieures.
11. Branches latérales.
12. Nerfs du grand psoas et de l'ilioaque.
13. Nerf obturateur accessoire.
14. Nerf fessier supérieur.
15. Nerf du pyramidal du bassin.
16. Arcade crurale.
17. Nerfs abdomino-génitaux.
18. Nerf crural.
19. Nerf fessier inférieur.
20. Nerf obturateur accessoire.
21. Nerf grand sciatique.
22. Nerf petit sciatique.
23. Nerf dorsal de la verge.
24. Nerf périméal.
25. Nerf hémorroïdal inférieur.
26. Nerf obturateur (branches terminales).
27. Branches scrotales.
28. Nerfs ano-coccygiens.
29. Nerf releveur de l'anus.
30. Nerf de l'ischio-coccygien.
31. Nerf perforant cutané.
32. Nerfs érecteurs.
33. Tronc lombo-sacré.
34. Nerf obturateur.
35. Rameaux communicants.
36. Ganglion sympathique.

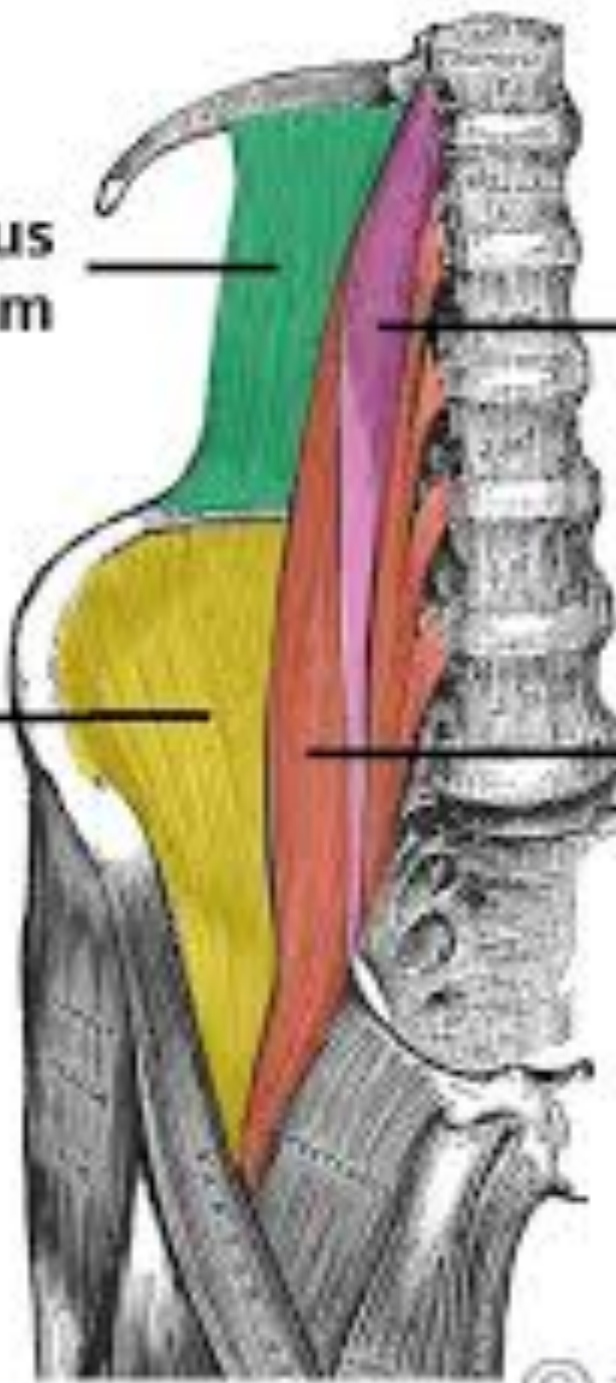


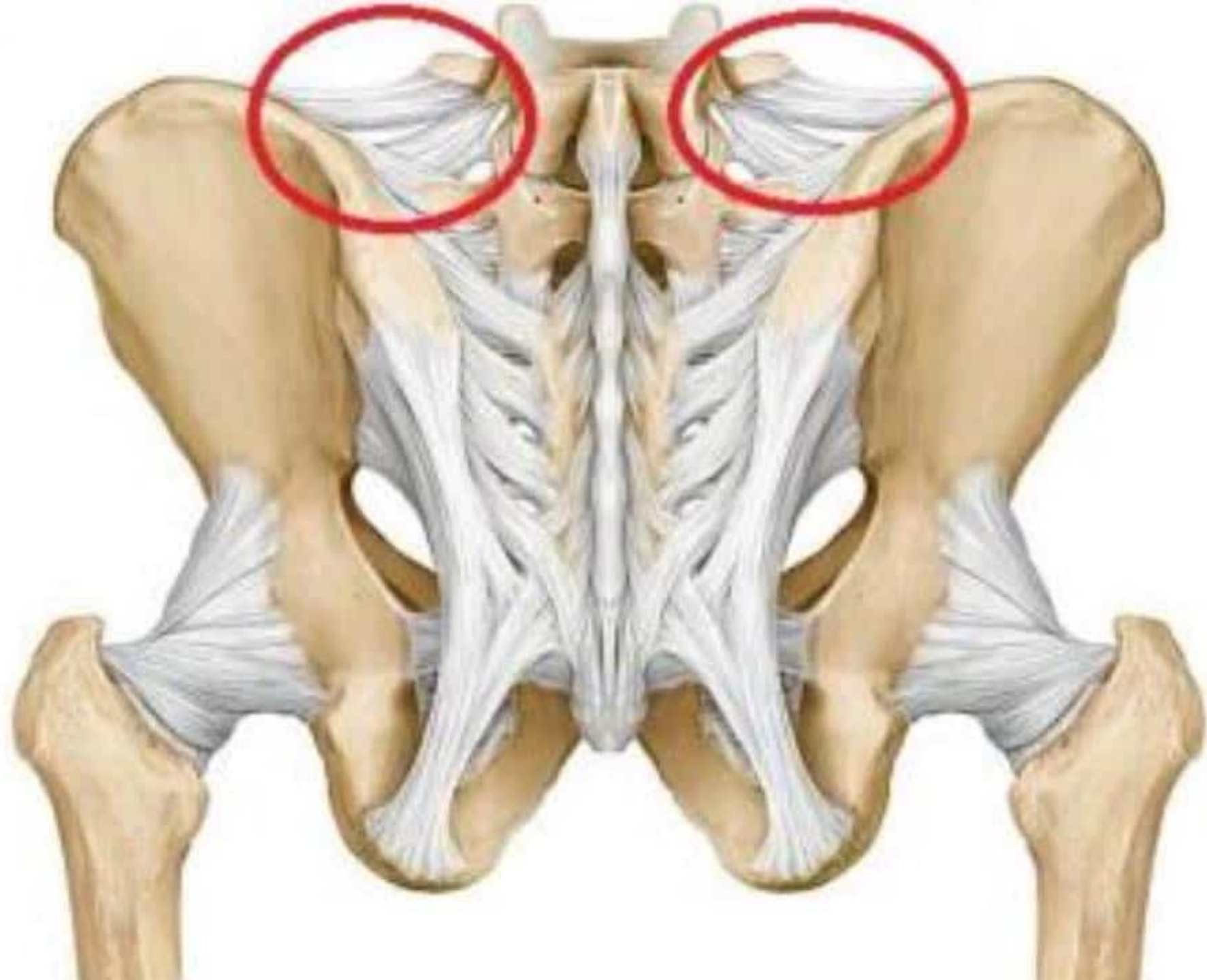
**Quadratus
lumborum**

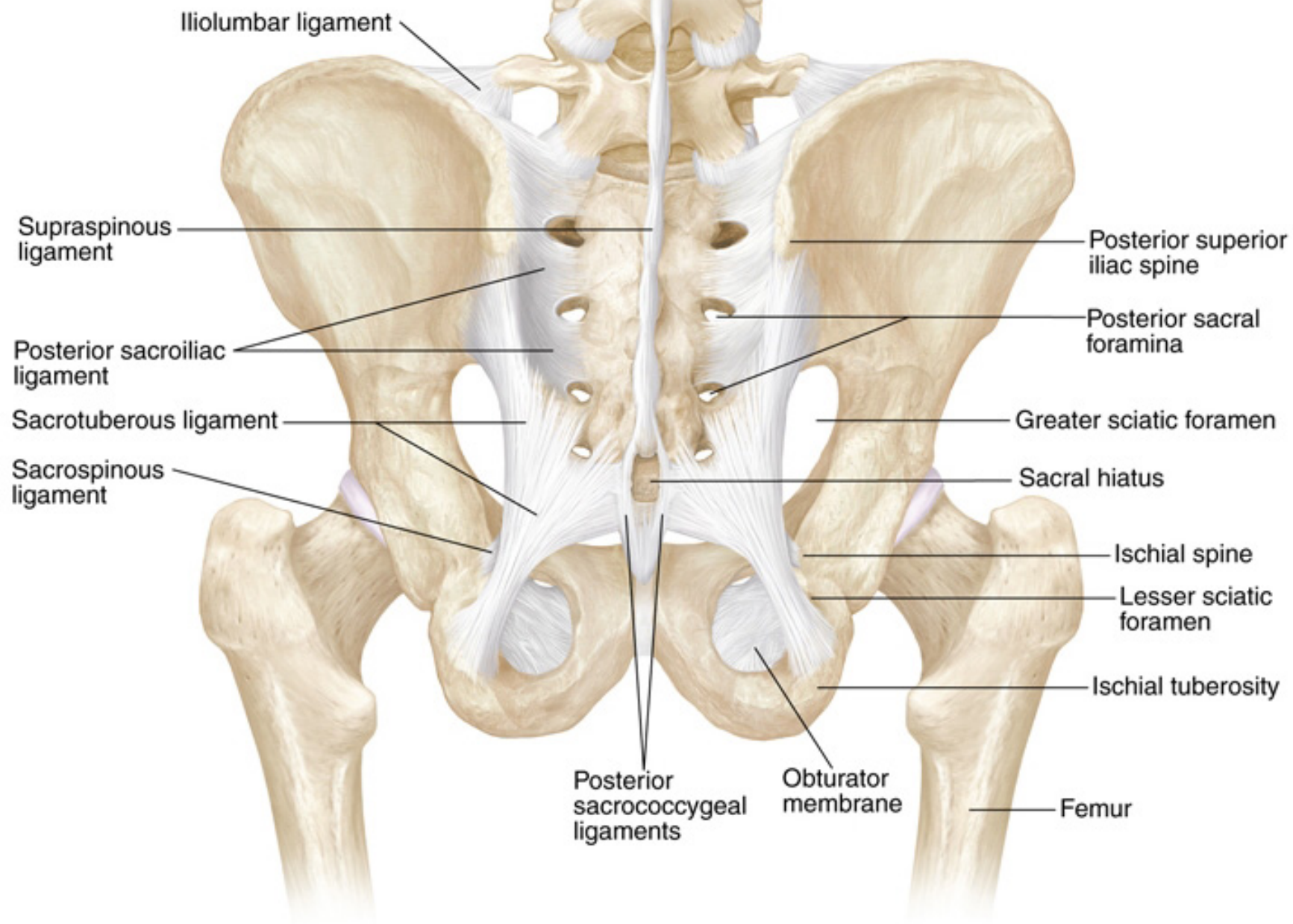
**Psoas
minor**

Iliacus

**Psoas
major**





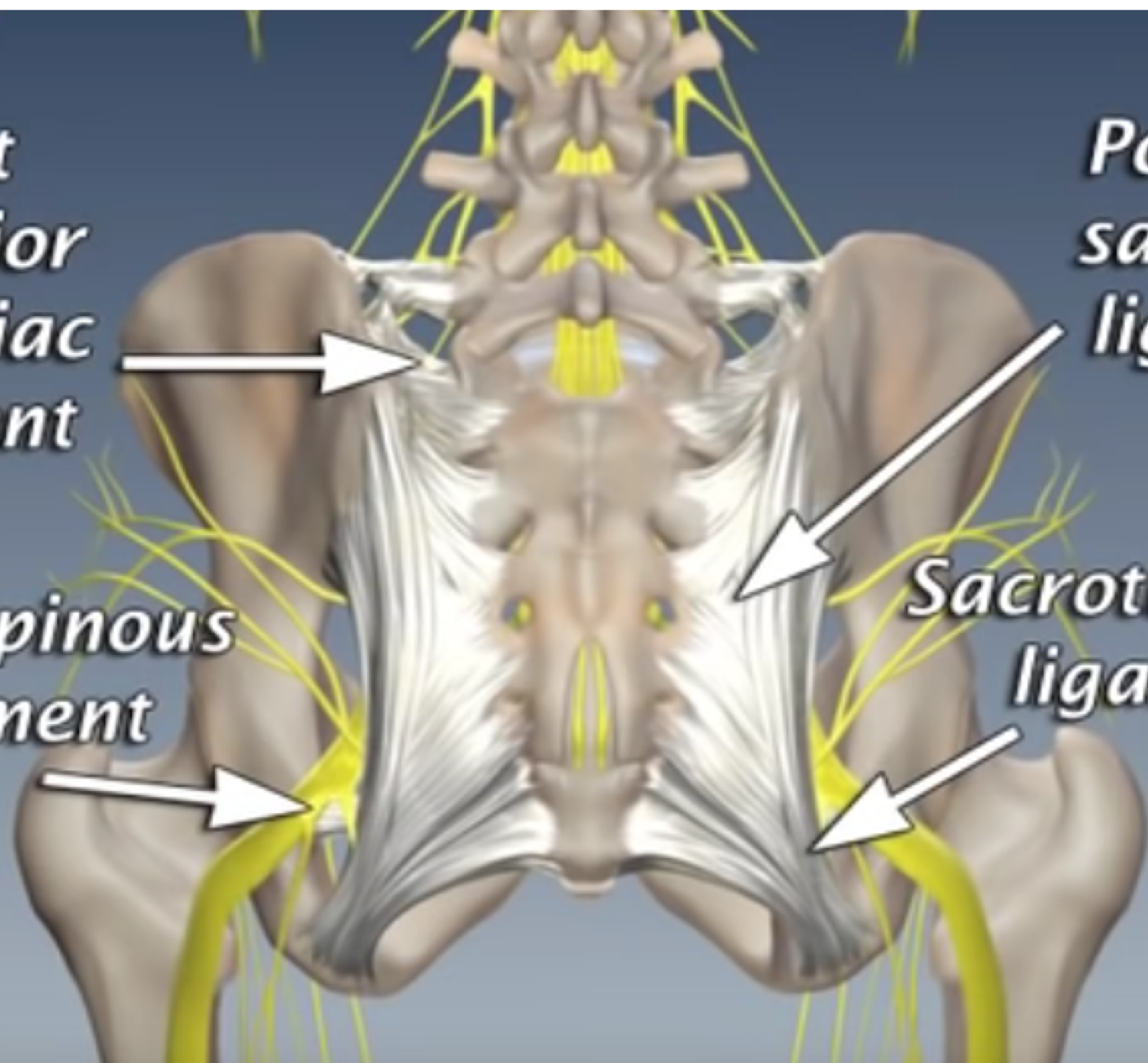


*Short
posterior
sacroiliac
ligament*

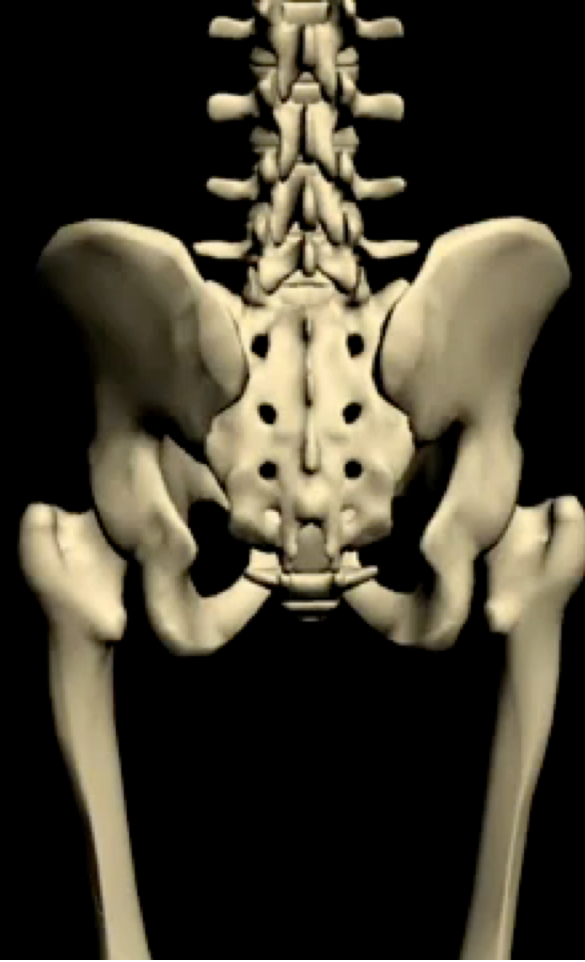
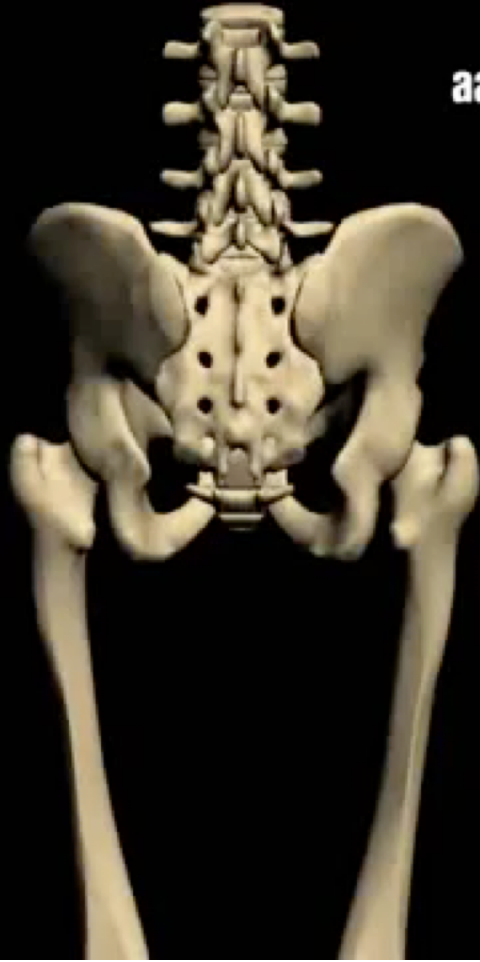
*Posterior
sacroiliac
ligament*

*Sacrospinous
ligament*

*Sacrospinous
ligament*

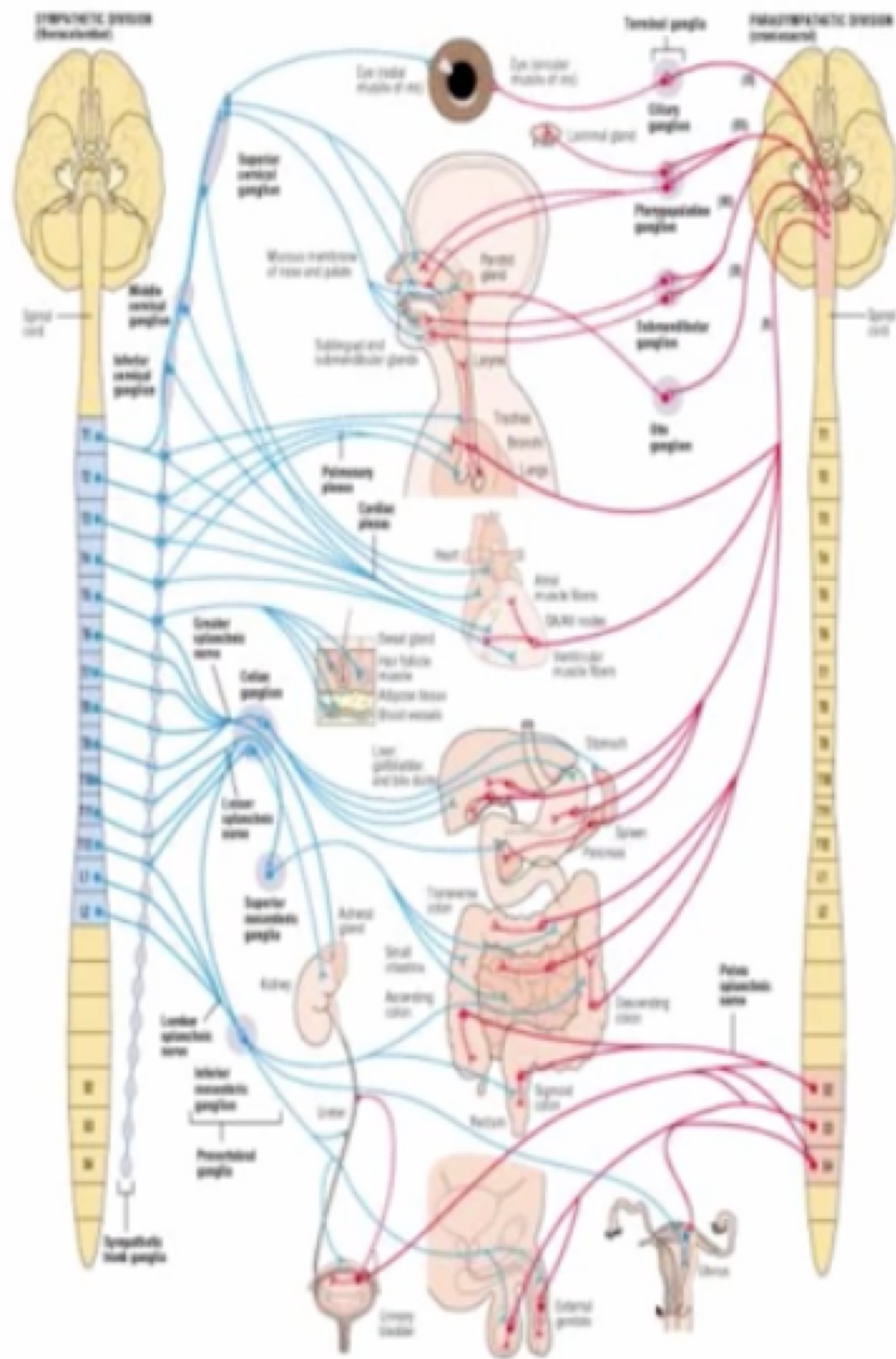


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Autonomics

- Sympathetics: T1-L2
- Parasympathetics: Cranio-Sacral
- Keep in mind
Viscerosomatic reflexes,
and somatovisceral
reflexes



Coaching Back Pain

Watch the pelvis in transition and bracing action

Q &A and Swings



Mike B. Current handicap is 30, down from 35, so making progress. Typical practice session is K Vest training to eliminate flat shoulder plane, delivery and go, and delivery pump. In the past, we have also worked on motorcycle.

Larry: Current 13 handicap. In TPI screen, he failed the 90/90, lat test, lower quarter rotation test and deep squat. His tendencies are C posture, poor backswing turn with arms lifting in backswing then hang back on downswing. Due to physical limitations, we have been working on a big hip turn in the backswing, brushing the grass, arm extension at 3:00 and a full finish. Part of his daily practice plan includes reps of windmills, delivery and go and delivery pump.







