

CASE STUDY

01/07/2015

With kind consent from the patient.

Background

Very pleasant lady, Pauline 62 yoa, endomorphic, 88 kg, 161.7 cm, UK 7 feet. Presented with 24/12 history of chronic lumbosacral pain, bilateral sciatica radiating down the whole length of both legs L>R. If that was not enough her worse symptom was right lateral thigh severe shooting pain, tingling, numbness at times. Pauline was emotionally drained by this debilitating pain and had been on painkillers for two years. She could not walk more than a few meters before having to stop in severe pain and could not maintain a normal active life. She has a history of LBP.

MY DIAGNOSIS:

- Lateral femoral cutaneous nerve impingement as it passes through the inguinal ligament.
- Bilateral sciatic nerve impingement (either via piriformis syndrome or lumbar disc bulge compression).
- Lumbosacral dysfunction as a result of the sacral obliquity and pelvic torsion.
- Global dysfunction & emotional upset from the injuries (which can exacerbate the spinal & pelvic condition).

ARRIVAL NUMBERS: (Innominate orientation & pelvic torsion on arrival to the clinic).

Right 7° +ve, Left -1° = 8° pelvic torsion.

Pauline was assessment using the PET protocol. She visually looked high on the left sacral base and iliac crest. This turned out to be a structural asymmetry for two reasons. Firstly, the arrival pelvic torsion reduced to symmetry with a right foot-raise platform of 8mm. Secondly, even with a left -1° innominate orientation (PI ilium) on arrival, the sacral base and iliac crest were higher than the right, even in this adaptive state. Knowing that a PI ilium drops and internally rotates the acetabulum (see Clarence Gonstead's work), the LLI has to be structural, by the very fact that in an adapted state it is lower than it should be. This tells us that the pelvic torsion is compensatory and not a subluxation i.e. you would use a raise on the former to reduce the pelvic torsion, but not on the latter, which would require a manipulative approach.

RESULTS OF THE PET PROTOCOL:

Static functional trial 9 mm assessment board.

Under Right =

Left 7° +ve, Right 6° +ve = 1° pelvic torsion.

Under Left =

Left 0° , Right 14° +ve = 14° pelvic torsion.

Dynamic functional trial 9 mm in-shoe raise (6 mm at RF 3 mm at FF).

Under Right =

Left 9° +ve, Right 9° +ve = 0° pelvic torsion.
Under Left =
Left 0°, Right 10° +ve = 10° pelvic torsion.

Bilateral innominate range (SIJ ROM at its most distal point) = 8°

WHAT DOES THE PET PROTOCOL TELL US:

- That the LLI is a structural difference.
- That innominate range is excessive (8° is excessive for a female).
- That pelvic torsion reduces to 'normative' value with a right foot-raise platform. Gait patterns & pain levels also improved.
- That pelvic torsion and pain levels increased with a left foot-raise platform. Gait patterns looked worse also.
- That Pauline's adaption for the LLI to stabilise the CoM was on the left side (which helps you to understand the injury pattern), which the PET calls a 'Single Femoral Pathway PI Ilium, Long Side'.

TREATMENT & MANAGEMENT:

- Orthoses:
 - Polypropylene (3 mm semi-flexible).
 - 5 mm right heel raise & 3 mm extended into the forefoot.
 - Full length top cover
 - 2° rearfoot varus on both.
- Physiotherapy with the excellent Mat Hawkes arranged to gently encourage form closure and confidence.
- Chiropractor to assess spinal health with the excellent Nick Morgan.
- Review 1 week to make sure she is 'safe' to use orthoses medium to long-term.
- Footwear advice
- Weight management.

For me this is what biomechanics is all about and why I enjoy it so much. Pauline offered to do a testimonial for us. Here is what she had to say.