

Difficulties in walking affect a number of people with arachnoiditis. A few become wheelchair bound.

The dynamics of walking are complex and beyond the scope of this article.

I will merely outline some of the commoner causes of walking difficulty seen in arachnoiditis patients.

Broadly speaking, there are 2 types of deficit: 'primary errors' and useful 'substitutions'; i.e. the latter is a compensatory change in gait.

Gait deficits include:

- Impaired range of motion (usually joint damage)
- Impaired muscle activity: weakness, spasticity, disorders of timing
- Pain
- Sensation loss

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These problems cause:

- Instability
- Reduced ability to move
- Increased cost in terms of energy expended
- Need to compensate
- Joint strain
- Muscle overuse
- Fatigue

Types of gait disorder:

- Spastic gait: if there is marked increase in muscle tone, then a 'scissor' gait occurs.
- Foot drop gait: (see below) : usually foot drop is compensated for by lifting the leg higher (flexing at the hip and knees) to prevent the toes from hitting the floor
- 'Trendelenberg gait': weakness of the hip girdle muscles; the pelvis cannot be kept level when one foot is picked up, instead tilting to the side of the elevated leg, producing a pronounced pelvic rocking on walking. If trunk movements are used to overcome hip weakness, abnormal pelvic movement may be seen. Often there is also weakness of the paraspinal muscles and thus an exaggerated lumbar lordosis (inwards curve).
- Non-neurological causes: musculoskeletal disorders of lumbar spine, hips, knees, ankles and feet.
- Gait may be adjusted to avoid pain ('*antalgic gait*')
- Sensory ataxia: severe loss of position sense; elicited during clinical examination via the Romberg test; with the eyes open the patient can stand (may be unsteady), but with the eyes closed, tend to teeter and fall. Gait shows tendency to lift the legs higher than normal and lower them with unmodulated force. This sort of problem may manifest as unsteadiness in the dark.
- Loss of equilibrium: dizziness/vertigo (see above)

There are, of course, a number of other causes of gait abnormalities but they are not directly relevant to this article.

Gait analysis is helpful in determining whether abnormalities are due to a primary error (e.g. spastic gait) or substitution (e.g. foot drop gait).

'Treatment is indicated when the compensations are inadequate or when they produce penalties in energy cost, joint strain, or muscle overuse.' ([\[1\]](#))

Treatment involves appropriate physiotherapy/walking aids.

[\[1\]](#) Perry J 1990 Pathological Gait. Instructional Course Lectures, 39, 325