

Orthoses / Bracing

People with a history of polio often have strong and usually negative feelings about the use of orthoses. Therefore, prescription or modification of such a device becomes a challenge for the health professional. Many individuals discarded their orthoses and have relied on compensatory movements for walking. For those in which the use of an orthosis for walking was essential, the device became a part of their body image, and the patient is often reluctant to change. As a result, these individuals may continue to use the style of orthosis originally prescribed at the time of their initial illness. Although orthoses have changed considerably over the years and are now stronger and lighter, many post-polio individuals have continued to wear older style orthoses. With many of these people reporting increased pain and difficulties with ambulation, orthoses may need to be reviewed to assess their current fit and appropriateness. Individuals who may not have used orthoses in the past or those who may have discarded their orthoses may need to be reviewed for possible prescription of such a device.

There are a number of reasons why a patient may be prescribed an orthoses. These include:

- Reduce the energy requirement of walking by compensating for muscle weakness;
- Assist with balance;
- Improve positioning and stability of a joint to reduce pain;
- Equalise weight distribution – restoring weight bearing on the weaker leg and decreasing the work load of the stronger leg; and
- Reduce risk of falls and potential fractures.

THE LATE EFFECTS OF POLIO

Common biomechanical deficits requiring orthotic management include:

- Inadequate dorsiflexion in swing – secondary to weakness of ankle dorsiflexors. May be treated with an ankle foot orthosis (AFO);
- Dorsiflexion collapse in stance;
- Genu recurvatum (knee hyperextension) – usually caused by weakness of the quadriceps. Person often locks the knee when mobilising to improve stability of the lower extremity. Often can be managed with an AFO, knee orthosis or in patients with more severe weakness, a knee ankle foot orthosis (KAFO) may be required;
- Genu valgum (valgus deformity of the knee); and
- Mediolateral ankle instability.

Referral to an orthotist with a thorough understanding of this patient group is desirable to ensure that an appropriate, well fitting orthosis is prescribed.