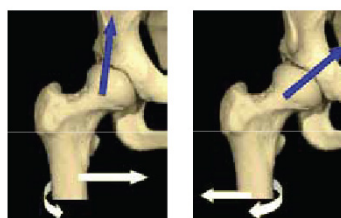


## HIP STABILIZATION

The most visible benefits of the SWASH® are improvements in sitting and standing posture and stability, and for the ambulatory user, improvement in gait. The benefits can be immediate and are often dramatic. Continued improvements may be seen after the wearer has become acclimatized to the orthosis.

Given the visible benefits, perhaps the most important benefit the SWASH® offers is its influence on hip stability. The very nature of high adductor tone places dislocating forces on the hips. The internal rotation and adduction forces leave hips at risk. Data shows that ambulatory children with CP have a 30% incidence, and non-ambulatory children have a 60% incidence of hip subluxation requiring medical intervention.

Excessive adduction with internal rotation causes a posterior dislocating force, which is opposed by the SWASH® variable abduction brace. Although this may be expected to reduce the risk of hip dislocation, ongoing studies to document this benefit have not yet been completed.



ADduction  
Internal Rotation  
Unstable Alignment

ABduction  
External Rotation  
Better Alignment

This case example offers some insight into the effects of SWASH® to help prevent hip displacement over an extended period of time.



In this before fitting x-ray, pelvic obliquity and (R) hip subluxation are readily evident. The acetabulum is shallow and does not cover the femoral head.



At year two post fitting shows further improvement of the femoral head within the acetabulum.



One year post fitting shows improvement in pelvic angle and hip subluxation. Approximately 80% of the femoral head is now covered.



Three years post fitting shows normal pelvic angles and closer to normal hip development.