

Common Gait Deviations Observed During Swing Circumducted gait is a swing phase deviation in which hip abduction is combined with a wide arc of pelvic rotation, most often occurring as a compensatory pattern when there is a relatively longer swing limb compared with the stance limb. Circumduction and abduction create a significant energy cost penalty, increasing lateral displacement of the center of gravity. A severe leg length discrepancy can result in an exaggerated pelvic tilt from the contralateral stance leg, which obligates the swing limb to an increased abduction position. It is possible for a contracture of the contralateral adductors to create this deviation by pulling the pelvis toward the contralateral femur and demanding a compensatory ipsilateral abducted position relative to the pelvis. Circumduction can be observed as a lateral arc of the foot in the transverse plane that begins at the end of P_{Sw} and ends at IC on the same limb. This action is most likely to happen when there is limited motion or impaired motor control affecting ankle dorsiflexion, knee flexion, or hip flexion. A plantar flexion contracture at the foot or a stiff knee or hip joint can necessitate a circumduction pattern during swing in an effort to achieve toe and foot clearance. The arc reaches the apex of its lateral movement at M_{Sw}. This combination of abduction and pelvic rotation is a compensatory strategy to advance the limb. The typical pattern is a mixture of a wide base of support with the foot abnormally outset and may include an ipsilateral pelvic drop.