

**8****THE HIP ABDUCTORS, ADDUCTORS,  
AND ROTATORS**

As you move during your daily life, there is probably little effort when going up and down the stairs, shifting from side to side, getting in and out of bed, or even enjoying sporting activities. The motions that we make during our various activities usually happen unconsciously, and we give little thought to the complex processes that occur in the background to enable us to perform these intricate motor programs. In this chapter, we discuss the hip and some of the muscles that control the hip. We will also discuss some pathomechanical issues that may arise if one or more of the muscles are adversely affected.

**Function of the Hip Abductors**

The pelvis is made up of 2 innominate (hip) bones as well as the sacrum and the coccyx.<sup>1</sup> On the inner side of the innominates lie the sacroiliac joints, formed between innominates and the first 3 sacral vertebrae. On the outer side of the innominates, anterior to the sacroiliac joints, are the hip joints, formed between the concave acetabula on the innominates and the heads of the femurs. With this configuration, forces and moments acting across the hip also affect the sacroiliac joint and vice versa. The hip joint is designed, unlike the shoulder, to emphasize stability over mobility, and the acetabulum is designed to be deep to hold the femoral head in tightly. Surrounding the hip joint is what is referred to as the acetabular labrum, a fibrocartilaginous ring that further deepens the hip socket. Finally, the tubular hip capsule joins the acetabulum and the femoral neck like a Chinese finger puzzle, adding to stability in the joint.<sup>2,3</sup> As we move on to the muscles of the hip, the main hip abductors consist of the tensor fascia lata, the gluteus medius, and the gluteus minimus (Figure 8-1). These are aided by the secondary abductors, gluteus maximus, piriformis, and the superior and inferior gemelli.

The main muscle within the group that produces these actions is the gluteus medius (see Figure 8-1). The abductor group is needed during functional activities like walking, especially during the end of swing to the mid-stance phase of the cycle, when they hold us upright against gravity.<sup>4</sup> The gluteus medius and the minimus are the most active abductors in the group and with the leg fixed, help to keep the trunk and pelvis level as we transition to single limb stance at the beginning of the gait cycle and through stance phase.<sup>4</sup>