

Appendix 2

The Trapdoor Technique

The trapdoor technique²⁹ can be performed through either a posterolateral approach (Gibson¹² and Rue et al⁵⁰) or through an anterior approach (Smith-Peterson⁵⁴ and Rue et al⁵⁰). However, the following description will focus on the posterolateral approach. The patient is placed in a lateral decubitus position. The incision is made from the posterior superior spine of the ileum to the greater trochanter and is then further extended parallel to the femur shaft. After dividing the subcutaneous fat tissue, the gluteofemoral fascia becomes visible. The next step is to cut the fascia, define the border of the gluteus maximus muscle, and retract it backwards. With a dissected view of the gluteal region, the muscles attached to the greater trochanter are incised. When the muscle insertions are detached and retracted, the joint capsule is completely exposed. Next, the capsule is incised superiorly from its upper attachment at the acetabulum rim to its distal attachment at the femoral neck, followed by dislocation of the femoral head by flexing the thigh and rotating it laterally. The cartilage is now thoroughly inspected and palpated to determine the area of segmental collapse. The collapsed segment is sharply incised $\frac{3}{4}$ of the way around its border and hinged back on the remaining $\frac{1}{4}$ of its cartilaginous border. A curette and a 6-mm mushroom-tipped burr are utilized to remove necrotic bone until viable bone is exposed at the base of the newly created cavity. Strut grafts are used and cancellous bone chips are packed tightly into the defect. The cancellous bone chips are packed to a level that ensures the cartilaginous flap will seat slightly above the normal articular cartilage. This is done because subsidence can be expected from further

compaction by the acetabular roof. The osteochondral flap is replaced, the capsular incision repaired, and the hip reduced.