In presenting the historical milestones in the development of modern surgery of the hip joint, two questions first must be answered: (1) What conditions most frequently require surgery? (2) What surgery is most often performed? The etiologies of hip conditions are traumatic, congenital, developmental, and infectious, in that order. Infections, both pyogenic and tuberculous, frequent before the days of antibiotic therapy, now are seldom seen except where adequate medical care is lacking. In adults the traumatic conditions, such as fracture of the neck of the femur and dislocation of the hip, are the most common. However, in the elderly, an osteoarthritis requiring surgery is more frequently observed than in past years. In children congenital dislocation, acetabular dysplasia, and slipping of the upper femoral epiphysis are the types of conditions most often requiring surgery.

A complete history of the development of all types of hip surgery would be inappropriate for a short historical chapter of this type; thus, as the title indicates, only the important milestones in the development of the most frequent surgery now employed will be given, while other procedures which the author considers most significant in reaching these milestones will be mentioned.

As to the surgery most often performed, the author presents the following ten groupings:

1. Upper femoral osteotomy
2. Pin and plate fixation of fractures
3. Reconstruction operation
4. Arthroplasty
5. Hip replacement, partial or complete
6. Shelf operation and pelvic osteotomy
7. Cheilotomy and acetabuloplasty
8. Hip resection
9. Arthrodesis
10. Surgical approaches and soft-tissue operations.

Upper Femoral Osteotomy

The beginning of major surgery of the hip in America was in the year 1826, when John Rhea Barton,15 of Philadelphia (Fig. 1–1), performed a femoral osteotomy between the greater and lesser trochanters (Fig. 1–2) to secure motion in an ankylosed hip. The operation was on a sailor with a hip joint ankylosed in adduction, internal rotation, and flexion due to an old fracture with an infection. The operation resulted in a pseudarthrosis, and the procedure took seven minutes. After the sixth week there was active motion which remained for six years, and then all motion was lost. The patient died of pulmonary tuberculosis ten years after the operation; however, he carried on his work as a trunkmaker until his death. This operation is considered by some to have been the first successful arthroplasty.

In 1822 Anthony White,180 of London, performed a femoral osteotomy between the greater and lesser trochanters (Fig. 1–2) to secure motion in an ankylosed hip. The operation was on a sailor with a hip joint ankylosed in adduction, internal rotation, and flexion due to an old fracture with an infection. The operation resulted in a pseudarthrosis, and the procedure took seven minutes. After the sixth week there was active motion which remained for six years, and then all motion was lost. The patient died of pulmonary tuberculosis ten years after the operation; however, he carried on his work as a trunkmaker until his death. This operation is considered by some to have been the first successful arthroplasty.

In 1835 Bouvier,20 of Paris, performed the first subtrochanteric osteotomy for the treatment of congenital dislocation of the hip, while in 1854 Langenbeck,91 in Germany, introduced subcutaneous osteotomy of the
femur, which was followed with similar operations in England by Brodhurst in 1865 and William Adams in 1869. In 1863 Sayre reported (Fig. 1–3) an osteotomy for ankylosis of the hip by removing a block of bone which, he stated, was a modification of the first osteotomy performed by Dr. Rhea Barton. The title of his paper was “A New Method for Artificial Hip Joint in Bony Ankylosis,” indicative of an arthroplasty. In 1872 Gant, who became well known for the subtrochanteric osteotomy which bore his name, reported his first operation. Displacement osteotomies for osteoarthritis of the hip and ununited fracture of the neck of the femur were popularized by McMurray in 1936, with his report on an oblique displacement osteotomy (Fig. 1–5). In 1944 Leadbetter described a cervical axial displacement osteotomy (Fig. 1–6) in which an osteotomy was done in the same axial line of the neck at the junction of the middle and inner thirds and the base of the greater trochanter; the lower neck and femoral shaft were displaced medially beneath the head of a point within the lower acetabular rim, in many ways similar to the McMurray osteotomy.