

PERIACETABULAR OSTEOTOMY FOR HIP DYSPLASIA

The hip joint is formed by the round femoral head fitting perfectly in the socket or acetabulum (figure 1). The hip has finished most of its growth when the child is only 8 years of age. However, not all hips turn out perfect.

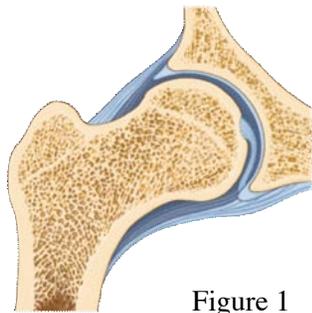


Figure 1

If the hip is not formed perfectly, then the condition is called hip dysplasia. In most cases the problem is that the socket did not form properly and does not completely cover the top of the femoral head (figure 2).

This condition may then cause the hip to shift out of the socket or subluxate (figure 3). A hip that has a shallow socket and a subluxed femoral head will experience premature wear and early onset of osteoarthritis. The upper end of the femur may also contribute to the

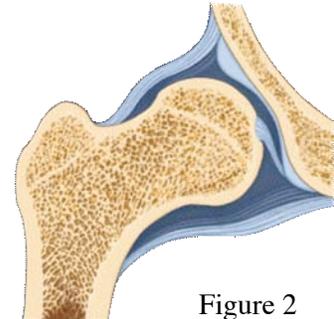


Figure 2

abnormal growth of the socket. If the upper end of the femur does not fit properly then the bone may need to be cut and rotated into a more normal bony alignment

When the patient has finished growing and is diagnosed with hip dysplasia, the orthopedic surgeon will order a battery of tests to determine if the hip can be treated surgically. The X-rays will evaluate the bone quality, presence of osteoarthritis, the amount that the hip moves out of the socket when standing and the amount that it moves deeper into the socket when lying down. The MRI will measure the amount of fluid in the hip as well as the condition of the cartilage and the “o-ring” or labrum. The CAT scan is used preoperatively by the surgeon to aid in determining the type of cuts in the bone that will be required to reshape the acetabulum or femur.

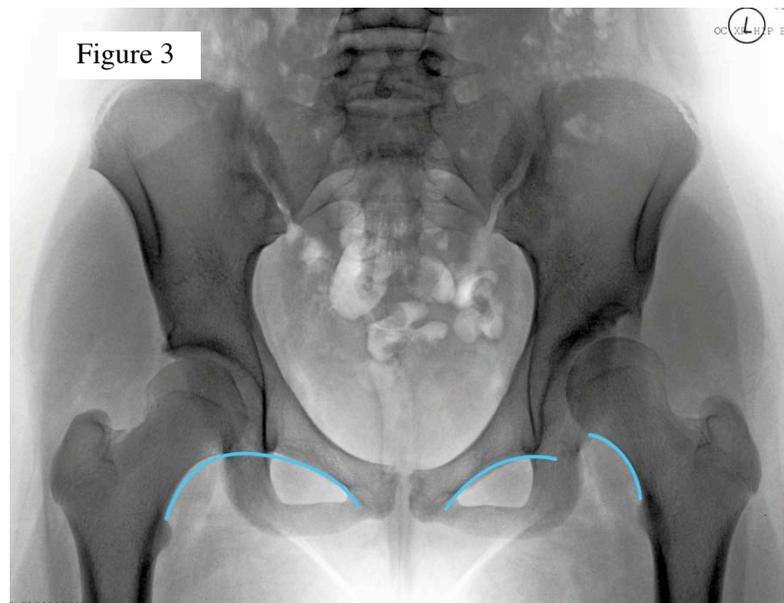


Figure 3

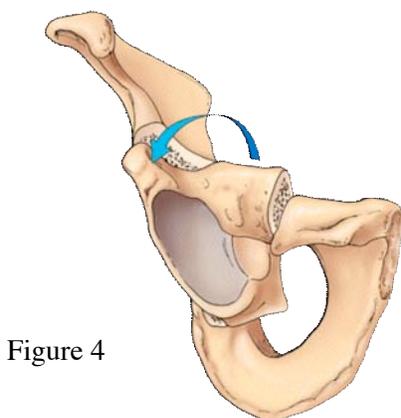


Figure 4

The Periacetabular osteotomy (PAO) that is recommended will begin with reshaping or rotating the acetabulum with several bony cuts of the pelvis bone (figure 4). The acetabulum is then rotated into a more normal alignment. Bone screws are used to secure the bones and may be left permanently (figure 5). Other procedures may be added such as lengthening of a hip tendon, repair of the internal o-ring of the hip socket, or femoral osteotomy. The surgery will require blood transfusions to be administered to the patient and predonation of blood products will be discussed. Other potential risks of surgery may include infection, incomplete healing, and injury to blood vessels or nerves. The postoperative course will include 3-4 weeks of non weight bearing on the side that had the surgery. Once there is healing on the x-ray, weight bearing will increase and physical

therapy will begin. A limp due to fatigue in the muscles may last for months.

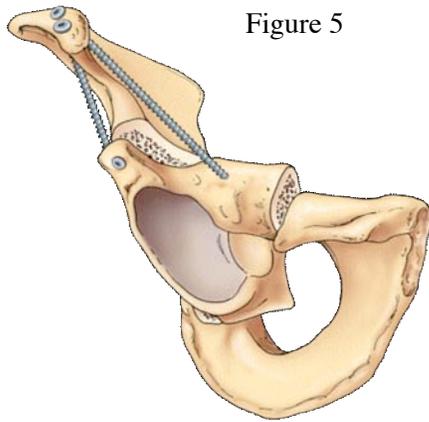


Figure 5

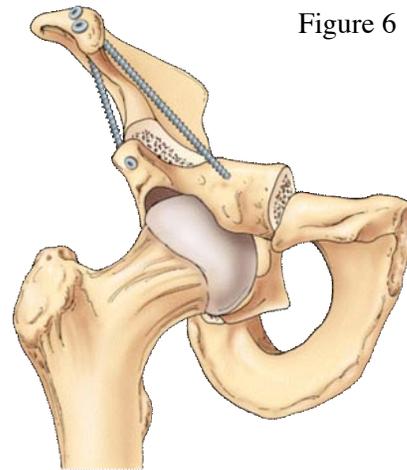


Figure 6

The goal of surgery is to stop or delay the deterioration in the function of the hip due to the hip dysplasia. Improved bony and cartilage alignment will allow the hip to function in a more normal manner (Figures 7 & 8)

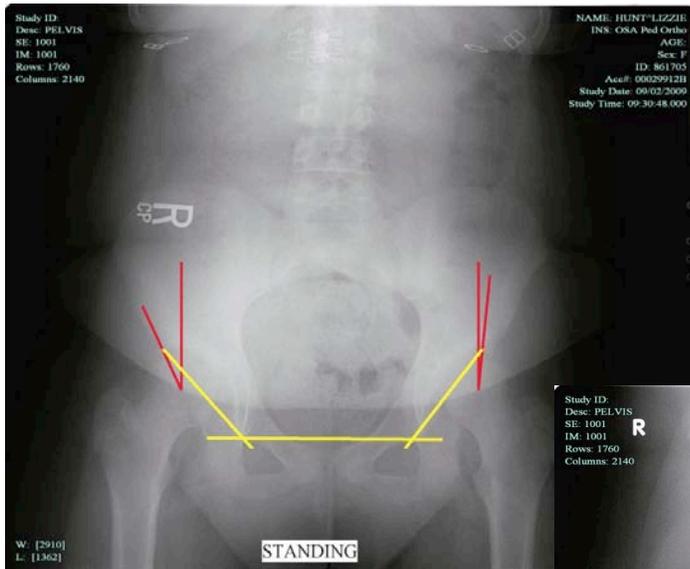


Figure 7

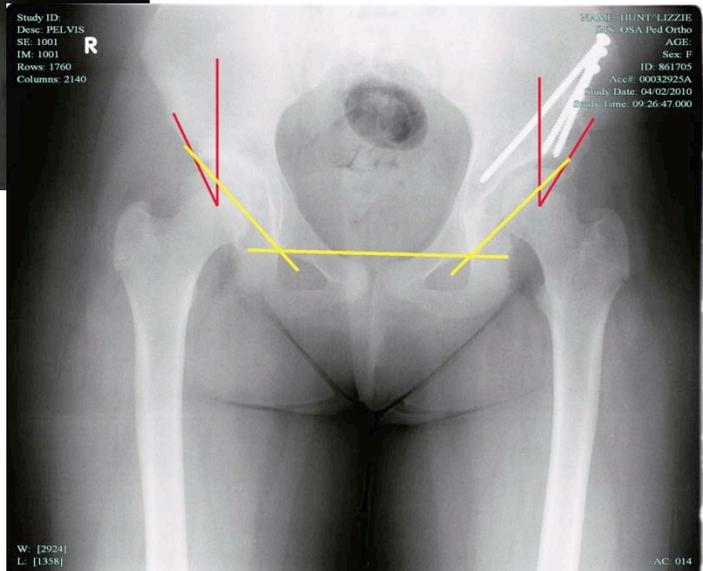


Figure 8