

## PERIACETABULAR OSTEOTOMY (PAO)

All information here is general in nature and needs to be tailored to your circumstances

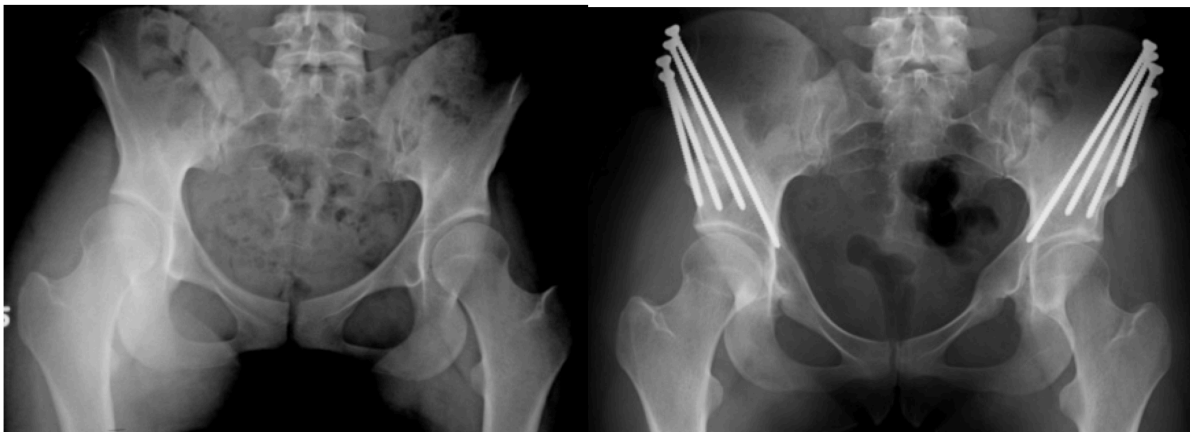
### Overview

PAO surgery is a hip preservation surgery performed to correct a deformity in the acetabulum (hip socket) such as acetabular dysplasia. If this condition remains untreated, secondary arthritis commonly develops. Therefore, in order to relieve symptoms and improve the prognosis of the hip, this surgery is done to correct the bony anatomy and help normalize the load across the joint. "Periacetabular" means around the acetabulum (hip socket). "Osteotomy" means to cut bone. Therefore, periacetabular osteotomy means to cut the bone around the acetabulum and reposition the hip socket. The PAO is a very effective procedure for the treatment of symptomatic acetabular dysplasia.

Mr Slattery is trained in a minimally invasive form of periacetabular osteotomy using a groin crease incision. An incision is made across the front of the hip joint to allow exposure of the hip and surrounding pelvis. Then specialised instruments are used with X-ray vision to perform controlled cuts of the pelvis and free the acetabulum from the pelvis. The acetabulum is repositioned and fixed in the new position with three or four screws after further checks with X-ray. This is a highly specialised procedure which is done by only a few surgeons worldwide. It was pioneered in Switzerland with Prof. Ganz, which is where Dr Slattery undertook sub-specialist fellowship training to learn the art of this procedure.



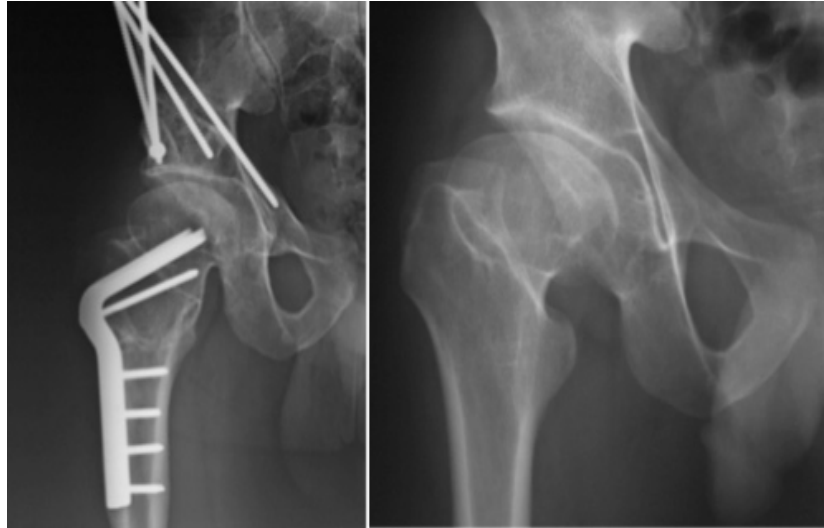
A pelvic model is shown and demonstrates the bony cuts and repositioning of the acetabulum. The gaps between the repositioned bone fill in with new bone, just like the healing of a fracture.



X-rays of a young female with bilateral hip dysplasia are shown (left). She had PAOs done to both hips and has an excellent result in both hips(right).

Many patients with hip dysplasia (shallow socket) have other problems within the joint (cartilage tears) and/or may have a deformity of the femoral head (ball) of femur bone. Commonly, these other problems are treated during the PAO procedure.

Occasionally there is also a deformity of the femur that must be corrected at the time of surgery by a proximal femoral osteotomy (PFO). This involves cutting and repositioning the upper portion of the femur (thigh) bone. If this is needed, a second incision is made on the outside of the hip and the femur is repositioned and fixed with a rod, or a metal plate and screws.



Preoperative x-rays of a 19yr male with deformity of both the hip socket and femur secondary to Perthes Disease (right). 4yrs after surgery with the osteotomies of both the acetabulum and femur, this patient has no hip pain and an excellent result from surgery (left).

The hospitalization time is two to four days and full recovery takes four to six months. The majority of patients experience major relief of pain and become quite active after recovery from surgery. While the PAO is an extremely effective hip preservation procedure, it may not create a completely normal hip. Even if the PAO is effective in adolescence or early adulthood, some patients are likely to require a total hip replacement surgery later in life.

### **Recovery**

After a PAO, patients are usually on crutches for four weeks with “touch weight bearing.” A continuous passive motion (CPM) machine is used to assist joint healing and maintain hip mobility. Weight bearing is increased gradually as tolerated at four weeks, and anticipate unassisted walking at six to eight weeks. Strengthening exercises and nonimpact activities (cycling, swimming, elliptical) are also progressed at four weeks. For athletes, jogging starts three months after surgery and return to full sport is allowed at four months. The total recovery time from PAO surgery is from 6-12months.

### **Risks and Complications**

PAO Surgery is very complex, and it can have significant complications. Dr Slattery employs numerous techniques throughout the procedure to minimize surgical risks, but complications can still occur. Risks specific to PAO surgery include:

- Nerve Damage: permanent nerve injuries are very rare following PAO, some patients may have numbness down the outside of their thigh due to stretching of the nerves to the skin, this usually recovers in 3-6months. There is a very small risk to the large femoral and sciatic nerves during PAO, which can leave permanent sensory loss to the leg.
- Bleeding: as the pelvic bone has to be cut numerous times, there can be significant blood loss from this operation. Dr Slattery routinely uses blood salvage techniques to minimize the use of blood transfusions post operatively.
- Fracture: as Dr Slattery uses a minimally invasive PAO technique with X-ray guidance there is a small risk of fracture, which is normally detected at the time of the operation
- Non Union: this occurs when the cut bones do not heal together, this is very rare following PAO
- Infection

## **FAQs**

### **When can I walk after a PAO?**

Partial weight-bearing and walking with crutches is allowed immediately after a PAO. We get all patients mobilising Day 1 after their operation on crutches.

### **When can I drive after a PAO?**

You should not drive for at least 48 hours after an anaesthetic. After 48 hours, your ability to drive will depend on the side you had your operation, left or right, the type of vehicle you drive, manual or automatic and what type of pain relief you are taking. It is generally reasonable to drive when you are confident with walking and can fully weight-bear on your affected side. The usual recommendation is 4 weeks.

### **When can I work after an anterior total hip replacement?**

Your return to work will vary depending on the type of work you are engaged in. Most people can return to office work within 2 weeks. More strenuous manual work, may require you to take 6-12 weeks before returning to full duties.

### **When can I play sports after a PAO?**

Low impact activities, such as cycling and swimming, can be commenced from week 6. High impact activities, such as running, or excessive twisting such as during tennis or golf, are best avoided for 12 weeks after surgery.

### **How long will I take to heal after a PAO?**

The wounds take 7-10 days to heal. Most patients improve dramatically in the first 6 weeks. Occasionally, there are periods where the hip may become sore and then settle again. This is part of the normal healing process. Continued improvements may be gained up to 1 year post-surgery.

### **How much pain will I experience after a PAO?**

Most patients will have some discomfort after surgery. A local anaesthetic is injected around the wound during the procedure and a local anaesthetic catheter is placed in the wound after the procedure to minimise any pain you may experience. We will carefully monitor your post-operative course and aim to keep you as comfortable as possible throughout.