Hip Resurfacing Arthroplasty – for the young patient with a worn out hip

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Although total hip replacement (THR) might be considered the most successful orthopaedic procedure of the 20th century, in people younger than 50, survival of THR implants drops steeply to 80% after 10 years. Patients with significant disability and advanced symptoms are unhappy to "put up with it", give up an active lifestyle and take stronger medication until they are "old enough". This advice is given due to the perceived difficulties of repeated revision surgery. A Hip Resurfacing Arthroplasty (HRA) is a viable option for those likely to outlive a conventional THR. These patients are generally fit and active and a HRA can return most to a normal lifestyle.

■ *An example of HRA prosthesis*

HRA aims to preserve as much bone stock as possible, in particular on the femoral side, to provide better options for possible further surgery.

A HRA uses a metal-on-metal bearing surface. These low wear surfaces have been used for many years in Europe where it has been demonstrated that metal-on-metal technology is durable, viable and safe.

Advantages of HRA

- Greatly reduced risk of dislocation, allowing a normal lifestyle.
- Preservation of the femoral head and canal for the future.
- Weight bearing forces are transferred in a natural way, preserving bone density.
- Low metal-on-metal wear rate with projected long implant life.

Patient selection

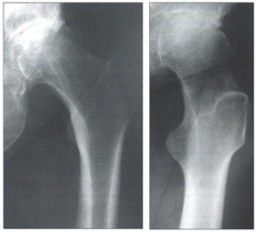
Patients suitable for hip resurfacing include those with:

- Primary and secondary osteoarthritis,
- Post-traumatic osteoarthritis,
- Avascular necrosis of the femoral head (if quality and quantity of remaining bone is adequate),
- Inflammatory arthritis (if remaining bone quality is reasonable),
- High risk of instability (e.g. due to neuromuscular disease), and
- Deformity of the proximal femur and/or previous internal fixation.

Contraindications to HRA

Some patients are not suitable for HRA, the main contraindications being:

- Insufficient acetabular or femoral bone stock,
- Osteoporosis (many females >50 years and males >60 years), and
- Known metal allergy



■ *These films are of a 47 year old male with end stage degenerative disease adversely impacting on every aspect of his life.*

Rehabilitation

The major difference in rehabilitation between HRA and THR is that "there are no rules".

Patients are encouraged to weight bear fully and to place their hips through a full range of motion as quickly as possible. They should achieve a full squat by 4 weeks post surgery. Standard "hip precautions" are ignored.

Patients are allowed to return to all sport progressively until by six months they have no restrictions.

Alternative solutions

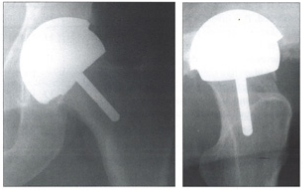
The historical procedures of arthrodesis or excision arthroplasty have a very limited place in the 21st Century. There are other surgical alternatives for the young patient requiring relief of hip pain, all of which require lifelong restrictions in order to reduce the risk of dislocation of the prosthesis.

They can be summarised as:

- Ceramic-on-ceramic bearing. This has the advantage of low wear rates as do metal-on-metal bearings
- Metal-on-metal bearings with conventional sized head and acetabular sockets. This prosthesis may use conventional femoral stems or alternative stems that accommodate proximal femoral anatomical variations (e.g. severe CDH and severe deformities of the femoral neck post trauma).
- A "standard" metal-on-polyethylene or ceramic-on-polyethylene solutions can be employed either at the time the patient's symptoms demand it, or the patient can be "encouraged" to wait until the surgeon deems it appropriate to proceed.

In summary

The new generation metal-on-metal hip resurfacing arthroplasties offer bone preservation, return to full activity/lifestyle and are well tolerated by the young patient. Hip Resurfacing Arthroplasty (HRA) is not appropriate for every patient or every surgeon.



■ *Post operative films of the patient showing the HRA in situ.*

■ *The patient at five weeks post HRA. Note the range of motion (and the smile).*