

## Developments in Knee and Hip Replacement Surgery

### 1) Newer / Better Materials for Joints

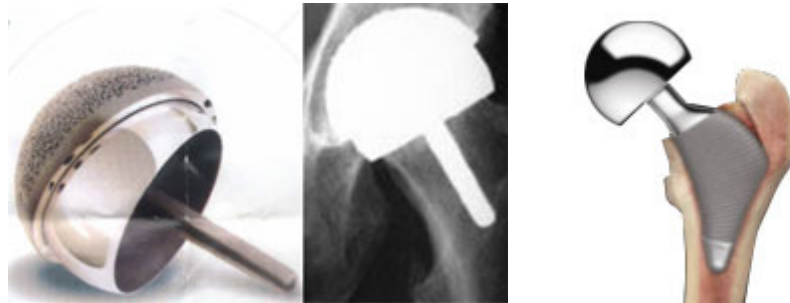


### 2) Joint Resurfacing

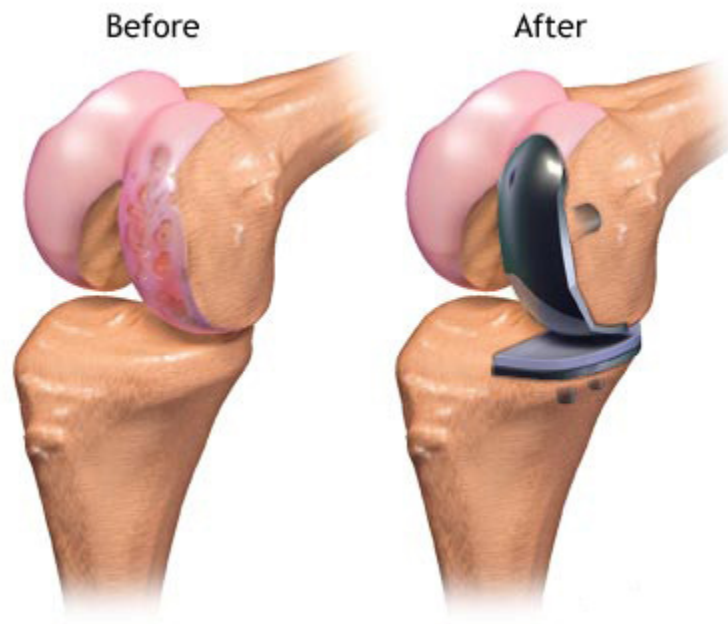
As opposed to a conventional hip replacement where the head and part of the neck of the femur (thigh bone) is removed, in resurfacing most part of the head of femur and the whole of the neck are preserved. A metallic crown is cemented on the remaining head. The acetabular socket is prepared and a thin shell of metal is impacted into it without using any cement.

This type of implant can only be used in early cases of arthritis or avascular necrosis where the head is not grossly destroyed. It cannot be used in patients with fractured

hips. The advantage with this type of surgery is that patients are able to rehabilitate faster and are able to squat and sit cross-legged.



### 3) Partial Joint Replacements



### 4) "Minimally Invasive" Hip and Knee Surgery

Total hip and knee using a smaller incision is commonly advertised. The obvious advantage is the smaller scar and decreased tissue trauma which allows faster wound healing and surgical morbidity. However the technically it makes the procedure very demanding and requires specialized equipment. Moreover there are some serious concerns about "limited visibility and access" to the operating surgeon which may lead

to components being placed in less than optimum position which can affect the eventual outcome. At the present moment it is not a universally accepted and recommended technique, but newer techniques and better equipment make it easier to perform surgery thru smaller incisions.

## 5) Computer Assisted Surgery (Computerized Navigation)

There may be improved position of the replacement components and better alignment with computer assisted surgery. The learning curve is still very high and time in surgery may be increased. Whether patients do better after having computer assisted surgery compared to traditional methods is still not proven.

