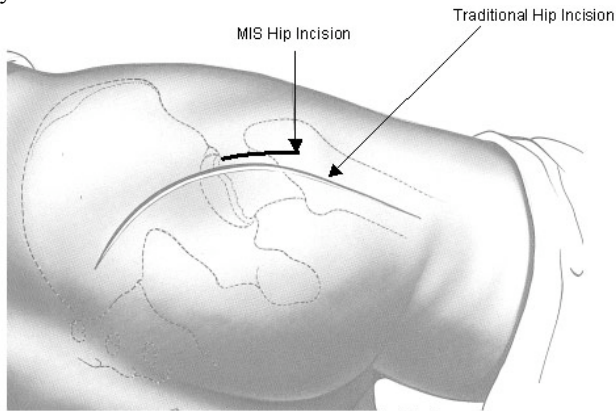


## Computer Assisted Minimally Invasive Hip Replacement

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Hip replacement surgery started as early as the 1960s. Since then, they have come a long way. Minimally Invasive Surgery (MIS) for the hip is a new technique that has been developed within the past 6 years.



Normally, hip replacement surgery is performed with a large 8-10 inch incision on the side of the hip. With MIS, the incision is 2-3 inches in length. The incision size depends on the size of the femur head. The surgery is aided by the Computer Assisted Surgery.



Computer Assisted Surgery (CAS) had its first product produced in 2004. It's a computer device that helps align the implant when being inserted in surgery. CAS is like a GPS system for the anatomy of your body. It uses the computer system, an infrared camera, and software to make the patients anatomy of their hip show up on the monitor. This helps the surgeon by creating a view that doesn't have anything in the way like when in surgery.

People who are eligible for this surgery are if you have good bone structure, normal hips, never had hip surgery before and weight less than 200 lbs.

Hip replacement surgery replaces the hip joint. The surgery procedure is as follows. First step after making the incision is to dislocate the femur. The next step is to cut off and remove the femur head by cutting through the neck of the bone. After, they use a reamer to saw down the acetabulum (where the femur head used to fit in) to prepare for the prosthetic cup. That is inserted and a plastic liner is inserted and acts like the cartilage. Now a rectangular hole is chiseled out of the femur to make place for the stem prostheses. A ball is placed on the stem prostheses that acts like the femur head that used to be there. They test these out before putting in the actual prostheses. They make sure that the legs are both the same length and the leg has normal hip movement. After they put in the real prostheses and sew up the incision. This is all guided by the CAS and would be pretty much impossible to do with a small incision without it.



The advantages of performing a minimally invasive surgery instead of the traditional hip replacement surgery are that it's minimally invasive, quicker recovery and less pain after surgery. The estimated hospital and recovery time is cut in half. All of these happen because there is less cutting of tissues and a smaller incision site.

### References:

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