

# Study finds 'dual mobility' hip replacement implant reduces risk of dislocation

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Dr. Westrich is director of research of the Adult Reconstruction and Joint Replacement Service at Hospital for Special Surgery. Credit: Hospital for Special Surgery

Hip replacement surgery is highly successful in relieving pain, restoring mobility and improving quality of life. More than 330,000 procedures are performed each year in the United States, and that number is

expected to almost double by the year 2030.

As with all surgical procedures, the possibility of a complication exists, and dislocation is the most common problem. The risk of dislocation is higher in [patients](#) who have had a second hip replacement, known as revision [surgery](#). Some people need a revision surgery many years after their first hip replacement when the original [implant](#) wears out. Hip instability after joint replacement is another reason a patient might need a revision surgery.

Research conducted by Dr. Geoffrey Westrich and colleagues at Hospital for Special Surgery and other joint replacement centers indicates that a newer type of artificial hip known as a "modular dual mobility" implant could be a good option for patients who need a revision surgery. Their study was presented at the annual meeting of the American Association of Hip and Knee Surgeons in Dallas this month.

"Although the concept of dual mobility was originally developed in France in the 1970s, the technology is relatively new in the United States," says Dr. Westrich, director of research of the Adult Reconstruction and Joint Replacement Service at HSS. "Our study found that the newer technology with modular dual mobility components offered increased stability, lowering the risk of dislocation, without compromising hip range of motion in patients having a revision surgery."

"Dual mobility" refers to the bearing surface of the implant—where the joint surfaces come together to support one's body weight. A hip replacement implant is a ball-in-socket mechanism, designed to simulate a human hip joint. Typical components include a stem that inserts into the femur (thigh bone), a ball that replaces the round head of the thigh bone, and a shell that lines the hip socket.

Modular dual mobility implants provide an additional bearing surface

compared to a traditional implant. With the dual mobility hip, a large polyethylene plastic head fits inside a polished metal hip socket component, and an additional smaller metal or ceramic head is snap-fit within the polyethylene head.

"Currently, there are few large-scale outcome studies on the modular dual mobility device in revision hip replacement," Dr. Westrich noted. "We set out to determine the rate of dislocation and the need for another surgery following revision hip replacement using this implant and report on the functional outcomes."

The study included 370 patients who underwent revision [hip replacement](#) with the dual mobility implant between April 2011 and April 2017. The average patient age at the time of surgery was 65.8 years. Clinical, radiographic and patient reported-outcome information was collected.

To be included in the final report, patients needed to be seen for follow-up for at least two years after their surgery, and the average follow-up was 3.3 years. "At the latest follow-up, we found that surgery with the dual mobility implant resulted in a very low rate of instability for the revision patients, namely 2.9 percent, with good functional improvement and a low rate of reoperation," Dr. Westrich noted. "While longer-term follow-up is needed to fully assess the newer device, in our study there was clearly a benefit provided by the dual mobility implant in the first few years following revision surgery."

Provided by Hospital for Special Surgery

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