

# Arthroscopy and open surgery are equally efficacious in treating common hip problem in most patients

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Researchers at Hospital for Special Surgery have found that in comparison to open surgery, arthroscopic treatment of a common hip problem that leads to arthritis produces similar outcomes in terms of repairing structural problems in most patients. The study will be published in the July 2011 TK issue of the *American Journal of Sports Medicine*.

"For the majority of patients with more typical hip impingement, arthroscopic approaches should be just as effective at adequately restoring the mechanics as the open surgical technique," said Bryan T. Kelly, M.D., co-director of the Center for [Hip Pain](#) and Preservation ([www.hss.edu/hippain](http://www.hss.edu/hippain)) at Hospital for Special Surgery in New York.

In recent years, a hip condition known as femoro-acetabular impingement (FAI) or hip impingement has become widely recognized as the most common cause of early osteoarthritis in patients who don't have arthritis caused by dysplasia (a shallow socket). The hip is a ball-and-socket joint where the upper end of the [thigh bone](#) fits into the cup-shaped socket of the pelvis. In a healthy hip joint, the ball rotates freely in the cup, but in some people a bony bump on the upper thigh bone produces a situation where there is inadequate space for the [hip bone](#) to move freely in the socket. The result is damage to the socket rim and the cartilage that lines the bones, which can lead to hip arthritis.

This condition can be treated by structural correction of the bone through open surgery or arthroscopic surgery; doctors have been regularly using the latter technique since roughly 2003. Studies comparing arthroscopy against open surgery to treat FAI have shown that the two produce similar outcomes in terms of improving symptoms and returning athletes to their sport of choice. Studies have not, however, examined whether the two surgeries are equal when it comes to achieving structural or mechanical corrections.

To remedy this, investigators enrolled 60 [male patients](#) under 40 years of age who had symptomatic FAI. Thirty consecutive patients were treated with open surgery and 30 consecutive patients were treated with arthroscopy. X-rays were taken both before and after surgery. The researchers analyzed angles in the X-rays that determine the roundness of the femoral head, the ball of the thigh bone, and found that for the most part, both surgeries repaired sphericity similarly. They found that the two surgeries also similarly repaired the degree of separation between the sphere of the femoral head and the edge of the socket.

"The short term goal of treating FAI is symptom improvement and return to a higher level of function, but the long-term goal is to improve mechanics across the joint so that the cartilage wears at a slower rate and the health of the joint is preserved longer," said Dr. Kelly. "The ability of the procedure to do that is really based upon precise structural correction. This is the first study in patients to show that we can achieve similar mechanical correction arthroscopically." He noted that they had previously demonstrated this in a study involving cadavers.

In the current study, the researchers did find that one particular angle, called the anteroposterior (AP) alpha angle, was better repaired with open surgery. The AP alpha angle was reduced by 25.7% in the open surgery group and 16.8% in the arthroscopic procedure. This angle also involves the sphericity of the femoral head.

Dr. Kelly said that if doctors determine a patient has a large AP alpha angle, that patient might be better suited for [open surgery](#). "People who have large alpha angles on their AP on the front view X-ray are ones that you might consider alternative surgical techniques to arthroscopy," said Dr. Kelly. "That is one particular location that is hard to get to."

Not all [patients](#) with FAI need to undergo surgery. Treatment usually begins with rest, activity modifications, careful use of anti-inflammatory medications, and physical therapy. An injection of an anesthetic and steroid into the hip joint can also provide some relief. If these treatments do not work, surgical treatments are considered.

Provided by Hospital for Special Surgery

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