



Hip Arthroscopy by the Lateral Approach

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Hip arthroscopy performed with patients positioned on their sides is designed to help visualize the hip joint and maneuver instruments in obese patients and to enter the hip joint in patients with spurs on the anterolateral aspect of the acetabulum. The patient is placed on his/her side with the hip for surgery on top. The leg is placed in traction and a well-padded perineal post is applied for counter traction. An image intensifier is placed around the hip to aid in directing the instruments into the hip joint. Traction is necessary to reach the depths of the hip joint. After traction is applied, 2 portals are made over the greater trochanter and one directly anterior. To help in maintaining the portals and in maneuvering the arthroscope and instruments, a capsulotomy is performed at each portal sight. To visualize the intracapsular area around the femoral neck, traction is released and the hip flexed. An additional, ancillary portal may be required to reach the intracapsular portion around the femoral neck. This portal is made anterior and distal to the first direct anterior portal. We found this approach to be highly effective in all cases. A regular traction table requires adjustments of the perineal and traction posts to apply traction on legs in patients on their sides. Special traction devices make the set up easier. The lateral approach to the hip for arthroscopy provides a safe and consistent way of entering, visualizing and performing surgical procedures in the hip.

Oper Tech Orthop 15:218-224 © 2005 Elsevier Inc. All rights reserved.

KEYWORDS hip arthroscopy, lateral approach, maneuver instruments

Hip arthroscopy performed on patients placed in the lateral position has proven to be reliable and safe.¹ The fat drops away from the operative site when patients are placed on their sides, and the portals provide a direct entry into the hip joint. The posterior portal in particular allows the surgeon to gain access easily to the joint when a large spur blocks the other portals of entrance.

Operative Room Setup

The patient is on his or her side on an operating table. The foot is connected to the traction device. A padded post is placed in the perineum for counter traction. An image intensifier (fluoroscope) is positioned around the hip for antero-posterior views. After all the portals are completed, the image intensifier can be moved out of the way to give the surgeon more room to work. The surgeon stands in front of the patient. The video monitor, image intensifier screen, and power and fluid pump equipment are to the rear of the patient so the

surgeon can view the video screen and the various LED readings comfortably. The nurse stands on the side and a little in back of the surgeon.

Hip arthroscopy, whether performed in the lateral or supine position, requires extra-long and curved instruments. Curved shavers and graspers should be available to reach underneath the circular femoral head to gain access to the corners and depths of the hip joint. Electrothermal or laser devices also are useful for reaching and cutting pathology that is either obstructed by the curve of the acetabulum or deep and in the corners of the joint. Special traction devices are now available, but a fracture table can be used just as effectively (Fig. 1).² No matter what traction device is used, the safety factors to prevent neuropraxia of the sciatic and pudendal nerves must be followed.

Technique

The patient under general anesthesia is placed in the lateral decubitus position with the hip to be treated on top. The foot and leg is strapped into the distraction device, which places the hip in abduction (Fig. 2). The hip is then positioned in slight abduction, flexion, and external rotation to relax the capsule. If there is a hip flexion or adduction contracture,

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Figure 1 A regular fracture table set up for hip arthroscopy. The foot posts are repositioned to accommodate the leg with the patient on his/her side. (Reprinted with permission from Glick.³) (Color version of figure is available online.)

then the hip must be left in that position to distract the hip adequately with a safe amount of traction. The perineal post placed between the legs is pushed upward against the medial portion of the thigh on the involved leg. This produces slight upward distraction and will keep the post away from the branch of the pudendal nerve that crosses over the ischium. Two portals are made over the greater trochanter, and one directly anterior (Fig. 3). Additional anterior portals can be made to visualize and perform procedures around the femoral neck. We find that just working in the depths of the hip joint, most procedures can be performed through the 2 lateral paritrochanteric portals while using an extra-long spinal needle in the direct anterior position for fluid outflow. The extra-long spinal needles are inserted into the skin at the

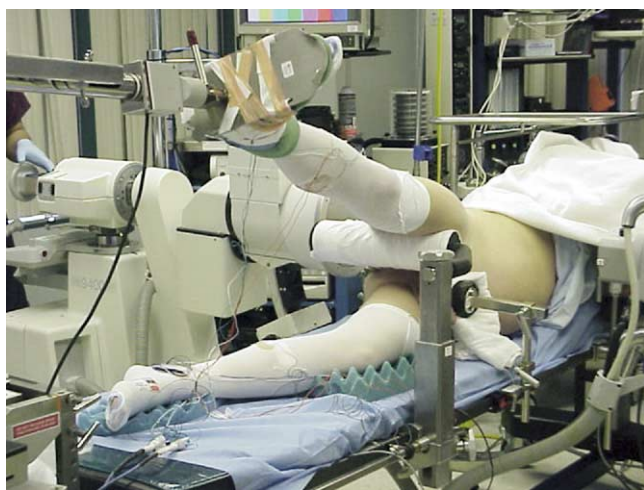


Figure 2 The right leg of a patient positioned in the foot piece of a traction device. The leg is positioned in slight flexion, abduction and external rotation to relax the hip capsule. The perineal post is positioned upward against the medial side of the thigh so that it applies slight upward distraction and does not rest against the branch of the pudendal nerve that crosses over the ischium. (Reprinted with permission from Glick.¹⁰) (Color version of figure is available online.)

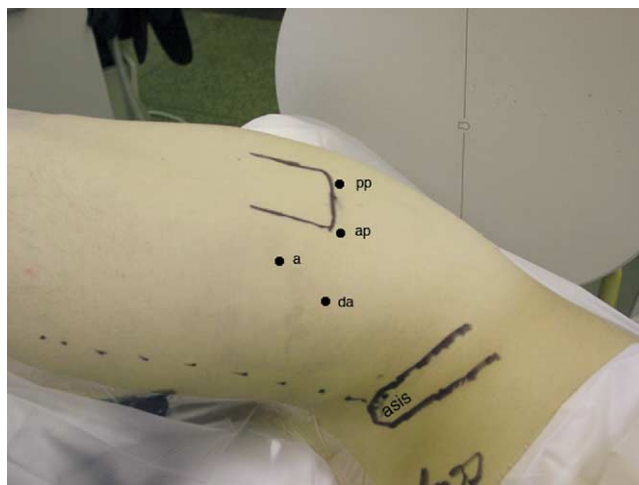


Figure 3 The direct lateral approach. The right hip is viewed from the front. The iliac crest and the greater trochanter are marked on the skin. The small circles mark the portal sights. The circles from anterior below to posterior above represent the direct anterior portal, an accessory portal, the portal at the anterior edge of the greater trochanter and the portal at the posterior edge of the greater trochanter, respectively. The dotted line represents the medial most margin where no incisions should be made because of the femoral artery and nerve that lie below it. gt, greater trochanter; asis, anterior superior iliac spine; da, direct anterior portal; a, accessory portal; ap, anterior paratrochanteric portal; pp, posterior paratrochanteric portal. (Color version of figure is available online.)

planned portal sites to ensure accurate placement of the incisions. Important arteries and nerves are safely away from the insertion sites. Branches of the lateral femoral cutaneous nerve are near, but not dangerously close to the direct anterior portal. We use a pump to introduce fluid into the hip joint through the arthroscope sheath. The pump pressure should be kept between 50 and 70 mm Hg to prevent excessive fluid extravasation.

Before the patient is prepped and draped, mark the landmarks with a marking pen. The landmarks consist of the anterior–superior iliac spine and the greater trochanter (Fig. 3). The anterior–superior iliac spine is marked out as a reminder that the neurovascular bundle lies medial to it. After drawing the landmarks, perform the maneuvers that will have to be made to visualize the various areas of the hip during the actual procedure. Apply traction at this time to determine the amount that will be needed to distract the hip for safe entrance. The distraction is visualized on the image intensifier screen. If excessive traction does not distract the hip, do not be concerned because during the actual procedure, after air is injected into the hip, the suction seal will break and the hip will distract sufficiently to insert the arthroscope and arthroscopic instruments safely. Also, make sure all body parts are properly padded, especially around the perineal post. Finally, as will have to be done to view the periphery of the hip, position the hip into flexion to make sure that the leg does not rub against parts of the traction device.

Next, sterilely prep and drape the hip. The image intensi-

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