Boney entrapments of the sciatic nerve should be considered as a source of entrapment. Hip flexion with external rotation can cause greater trochanteric impingement up on the ischium. Ischiofemoral impingement as an etiology of posterior hip pain has recently been reported, and is described as a narrowing of the ischiofemoral space and an abnormal quadratus femoris muscle MR signal intensity. The ischiofemoral space is defined as the smallest distance between the lateral cortex of the ischial tuberosity and medial cortex of the lesser trochanter. The quadratus femoris space is defined as the smallest space for passage of the quadratus femoris muscle defined by the superolateral surface of the hamstring tendons and the posteromedial surface of the iliopsoas tendon or lesser trochanter. Normal ischiofemoral space has been reported to be 17 mm or greater and normal quadratus femoral space is 8 mm or greater. Patients presenting with pain lateral to the level of the ischium with persistence in pain in sitting or with ambulation, consideration should be given for the possibility of ischiofemoral impingement. The clinical presentation of patients with ischiofemoral impingement can be confused with deep gluteal syndrome, however there are aspects distinctly different from DGS pain and must be recognized. Ischiofemoral impingement patients have pain with terminal hip extension at the posterolateral ischial region and will grab the source of impingement lateral to the ischium. Gait evaluation will reveal that the patient can walk with a short stride length quite adequately. However, if asked to extend the stride length
toward terminal hip extension the pain is exacerbated and replicated. This is particularly evident in athletes who may be able to jog but not be able to increase pace. Note that not only the impingement is involved but there may also be sciatic component at the level of the ischial tunnel. The radiographic criteria from even simple AP radiograph may demonstrate the diminished space at the ischiofemoral level and one can consider further assessment on an MRI. Surgical treatment for ischiofemoral impingement has included complete resection of the lesser trochanter and partial resection or simple quadratus femoris resection of this region and early 2-year results are promising.

_Edoscopic Technique_

The endoscopic technique for partial resection of the lesser trochanter: Patient is positioned supine on a traction table (without applying traction), in 20° of contralateral tilt and with the affected limb in internal rotation. A 70° high definition long arthroscope with adjustable and lengthening cannulas is utilized. Three portals include: anterolateral, posterolateral and auxiliary posterolateral, which is positioned 3cm posterior and 3cm superior to the greater trochanter. The main surgical steps are: peritrochanteric inspection and bursectomy; identification of quadratus femoris muscle and sciatic nerve; palpation of the lesser trochanter with a blunt probe under fluoroscopic control. Access to the lesser trochanter is achieved via a small window in the quadratus femoris muscle between the medial circumflex femoral artery (proximal) and first perforating femoral artery (distal). Osteoplasty of the posterior 1/3 of the lesser trochanter is then carried out, aiming for an ischiofemoral space of at least 17 mm and leaving non-impingement bone and most of iliopsoas insertion intact. Confirm ischiofemoral space decompression with intraoperative
endoscopy and fluoroscopy. Several intraoperative dynamic tests are necessary during lesser trochanter osteoplasty in order to avoid under or over resection.

In an assessment of 5 cases with 2-year outcomes, the mean modified Harris Hip Score increased from 51.3 points (range, 34.1 to 73.7 points) preoperatively to 94.2 points (range, 78.1 to 100 points) at the final follow-up (P < 0.003). The mean visual analog scale score for pain decreased from 6.6 (range, 6 to 7.3) before surgery to 1 (range, 0 to 4) at the final follow-up (P < 0.001). The mean duration to return to sport after surgery was 4.4 months (range, 1 to 7 months). No complication was observed. The endoscopic treatment of IFI was effective at 2 years in 5 patients with consistent clinical and imaging diagnostic findings.

References

5. Hatem, MA, Palmer IJ, Martin HD. Diagnosis and 2-year outcomes of endoscopic treatment for ischiofemoral impingement. Arthroscopy. 2014 (Accepted, in production).