

Epitomes

Important Advances in Clinical Medicine

Orthopedics

The Council on Scientific Affairs of the California Medical Association presents the following inventory of items of progress in orthopedics. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome, and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist busy practitioners, students, researchers, and scholars to stay abreast of these items of progress in orthopedics that have recently achieved a substantial degree of authoritative acceptance, whether in their own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Orthopedics of the California Medical Association, and the summaries were prepared under its direction.

Reprint requests to Division of Scientific and Educational Activities,
California Medical Association, PO Box 7690, San Francisco, CA 94120-7690

Painful Snapping Hip in Young Adults

YOUNG ADULTS with hip pain whose radiographs are normal may have one of three snapping-hip syndromes that can be treated with gratifying results. These syndromes should be differentiated from a painless deep "pop" that occurs with normal hip motion and has no clinical importance. The snapping-hip syndromes occur most often in the age group 15 through 40 years and are slightly more common in women.

The most common cause of a snapping hip is the iliotibial band snapping over the greater trochanter. This lateral snapping may be associated with trochanteric bursitis or with increased varus of the hip. It is a common cause of hip pain in ballet dancers. It may occur as a complication of total hip replacement or following an operation involving the iliotibial band at the knee.

Affected patients often say that they can "dislocate their hip." The snapping of the tendon over the greater trochanter can often be shown voluntarily by patients while standing or lying on their side. Passive internal and external rotation of the abducted limb in the side-lying position usually demonstrates the snapping. The snapping can be eliminated by walking with the limb externally rotated.

When symptomatic, this condition should be treated by stretching the iliotibial band, administering oral nonsteroidal anti-inflammatory medication, administering steroids locally, and expectant management. Surgical lengthening of the iliotibial band is occasionally indicated if symptoms are unrelieved by nonoperative management.

Another cause of a snapping hip is the psoas tendon snapping over the iliopectineal eminence of the pelvic brim as it proceeds to its insertion on the lesser trochanter. Provocative activities include walking, running, and vari-

ous sports. It may occur after a hip operation that distorts normal anatomy.

Patients report a painful anterior snapping sensation. Snapping occurs with voluntary motion of the hip and usually during extension of the flexed hip at about 30 degrees of flexion. It is decreased by internal and increased by external rotation of the hip. Tenderness is associated with the snapping, just distal to the antero-superior spine and medial to the sartorius muscle.

Contrast agents can be administered along the psoas tendon to allow demonstration of the snapping tendon ("psoasgram"). Voluntary movement of the limb under fluoroscopy will allow the tendon to be viewed as it moves suddenly, coinciding with the painful snap.

As with snapping of the iliotibial band, this condition should be treated by stretching the psoas tendon and giving oral nonsteroidal anti-inflammatory medications. If symptoms are persistent, surgical lengthening of the psoas tendon may be indicated.

Snapping of the hip may also be caused by injuries of the acetabular labrum, the triangular fibrocartilaginous structure that circles the acetabulum. Labral tears occur in young patients with acetabular dysplasia or other hip disease and in young adults following twisting and flexing activities. The painful pop or snap is most often anterior, but may be posterior, and is often accompanied by a sudden weakness of the leg. The results of the physical examination are often normal, but the painful click can sometimes be demonstrated by maximum flexion or extension.

Intra-articular administration of analgesics to the hip will relieve the pain and assist in establishing the diagnosis. A computed tomographic arthrogram is the most cost-effective study in patients with persistent symptoms unrelieved by conservative management, but it will not always show a lesion of the labrum.

Arthrotomy and excision or reattachment of the torn

labrum are occasionally indicated in patients with persistent symptoms that have not responded to expectant and symptomatic management.

RODNEY K. BEALS, MD
Portland, Oregon

REFERENCES

- Brignall CG, Stainsby GD: The snapping hip—Treatment by Z-plasty. *J Bone Joint Surg (Br)* 1991; 73:253-254
- Harrison MHM, Clarke N: Internal derangement of the hip. *J Bone Joint Surg (Br)* 1991; 73(suppl 1):86-87
- Jacobson T, Allen WC: Surgical correction of the snapping iliopsoas tendon. *Am J Sports Med* 1990; 18:470-474
- Satku K, Chia J, Kumar VP: Snapping hip: An unusual cause. *J Bone Joint Surg (Br)* 1990; 72:150-151

Meniscal Repair

ONCE THOUGHT to be relatively unimportant, healthy functioning menisci are now known to be essential in preventing degenerative changes in the knee. The menisci decrease stress on the articular cartilage by increasing joint congruity, thereby enlarging the load-bearing surface of the joint. The meniscus also improves lubrication and decreases shear stress on the articular cartilage.

Meniscal tears with subsequent meniscectomy have been shown to lead to degenerative arthritis in the knee. Because of the importance of the meniscus in protecting the joint, attempts are now made to repair it and preserve its function whenever possible.

The meniscal tears most suitable for repair are peripheral tears in the more vascular portion of the meniscus. More central tears, degenerative tears, and radial tears, because of the relative avascularity, are not suitable for repair.

An arthroscopic technique is usually used for meniscal repair. The peripheral side of the tear and adjacent synovium are debrided to promote a vascular response and improve healing. Special instruments have been developed to allow suturing during arthroscopy. Small posterior extracapsular incisions and the placement of protective retractors are required to prevent unintentional injury to the posterior neurovascular structures.

The healing rate after meniscal repair, documented by second-look arthroscopy, is from 70% to 90%. Follow-up magnetic resonance imaging may show persistent signal changes in repaired menisci and has not been reliable in determining if a meniscus has healed after repair. Tears in the more vascular peripheral portion of the meniscus are more likely to heal. Meniscal repairs in unstable knees are less likely to heal due to the increased stress on the repair. Ligament reconstruction at the time of meniscal repair is generally recommended in unstable knees.

Postoperative treatment and rehabilitation required after meniscal repair are evolving and are somewhat controversial. Most surgeons feel that some period of restricted activity (six weeks on crutches, no sports for four to six months) is desirable to prevent excessive stress on the healing meniscus. But patients usually return to full activity within three to four weeks after a partial meniscectomy. In a young athlete, this may mean the difference between missing a few games and missing an entire sea-

son. Although meniscal repair is thought to be superior to partial meniscectomy in preventing degenerative arthritis, the procedure is too new for long-term follow-up data to be available. Current indications for meniscal repair include peripheral tears associated with ligamentous injury and isolated peripheral tears in a patient willing to comply with the postoperative restrictions. Contraindications include small peripheral tears less than 1 cm in length, as well as degenerative and radial tears.

MARK R. COLVILLE, MD
Portland, Oregon

REFERENCES

- Busenkell GL, Lee CS: Arthroscopic meniscal repair: A posterior cannulated technique. *Arthroscopy* 1992; 8:247-253
- Cannon WD Jr, Vittori JM: The incidence of healing in arthroscopic meniscal repairs in anterior cruciate ligament-reconstructed knees versus stable knees. *Am J Sports Med* 1992; 20:176-181
- Covall DJ, Wasilewski SA: Roentgenographic changes after arthroscopic meniscectomy: Five-year follow-up in patients more than 45 years old. *Arthroscopy* 1992; 8:242-246
- Henning CE, Lynch MA, Yearout KM, Vequist SW, Stallbaumer RJ, Decker KA: Arthroscopic meniscal repair using an exogenous fibrin clot. *Clin Orthop* 1990; 252:64-72

Male Adolescent Idiopathic Scoliosis

ALTHOUGH SEVERAL STUDIES of the natural history of patients with idiopathic scoliosis have been reported, little is known about male adolescents with scoliosis. About 20% of cases of idiopathic scoliosis occur in boys. As boys are also undergoing school screening and therefore being referred for evaluation, it is helpful to physicians to know the risk of progression for a given curve in a male patient.

In the largest study of boys with idiopathic scoliosis, 32% had a curve increase by 10 degrees or more. Several factors related to curve progression were no different in male than in female patients. The curves most likely to progress were in younger boys with immature skeletons. Children who presented with larger curves were also more likely to worsen. Boys presenting with scoliosis measuring 30 degrees or more showed a tendency toward curve progression regardless of age.

The major difference between female and male adolescent idiopathic scoliosis is that curve progression stops in girls when they reach skeletal maturity. Girls with idiopathic scoliosis stabilize after reaching Risser stage 4 (a radiographic measure of skeletal maturity wherein the iliac apophysis is fully ossified but not fused). Boys with Risser stage 4 may continue to have curve progression. This is related to their prolonged phase of vertebral growth that persists after early adolescence.

The treatment of scoliosis in boys is similar to that in girls. A careful neurologic assessment should be done to look for other causes of the scoliosis, such as neuromuscular disease. Bracing is prescribed for progressive curves and curves presenting at 25 to 30 degrees or more. Compliance with brace wear is poor in adolescent boys. Weaning from the brace should be delayed in boys until all growth has ceased, which is usually later than the radiographic appearance of maturity.