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AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS

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Dick van der Jagt, MBBch, FCS(SA) Orth, Lipalo Mokete, MBBch, FCS(SA) Orth,
and Jurek Pietrzak, MBBch, FCS(SA) Orth—Johannesburg, South Africa
Charalampos G. Zalavras, MD, Jay R. Lieberman, MD—Los Angeles, California

Orthopaedic Advances

- 71** Recent Advances in Posterior Meniscal Root Repair Techniques
Robert F. LaPrade, MD, PhD, Christopher M. LaPrade, and Evan W. James—Vail,
Colorado

Posterior root avulsions of the medial and lateral menisci may lead to osteoarthritis. Transtibial pullout repair and suture anchor repair restore the native structure and function of the meniscal root attachment. These techniques allow for meniscal preservation and anatomic reduction of the meniscal roots, with the goal of preventing the development and progression of osteoarthritis. Despite a lack of consensus as to which is the superior technique, both repair techniques are increasingly used in clinical practice.

Review Articles

- 77** Evaluation and Management of Pediatric Proximal Humerus Fractures

Charles A. Popkin, MD, William N. Levine, MD, Christopher S. Ahmad, MD—New York, New York

Because the proximal humeral growth plate is responsible for up to 80% of the growth of the humerus, the remodeling of these fractures in children is tremendous. Most of these injuries can be treated with a sling or hanging arm cast, although management considerations should be taken in the context of Little League shoulder, lesser tuberosity avulsion fractures, fracture-dislocations, birth fractures, and fractures associated with cysts. Most pediatric patients with proximal humerus fractures have favorable results.

- 87** Calcium Deposits in the Hand and Wrist

Valdet Nikci, MD, and Christopher Dumas, MD—Somerset, New Jersey

Calcium deposition disease in the form of acute calcific periarthritis of the hand and wrist is an uncommon entity that may be confused with more common crystalline or inflammatory arthropathies and with infection. It is important to include this disease process in the differential diagnosis of patients with acutely painful, focal inflammation of the hand or wrist. Because of its self-limiting nature, nonsurgical management is often sufficient; however, accurate diagnosis can avoid unnecessary intervention.

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- 95** Extensor Mechanism Disruption After Total Knee Arthroplasty
Michael D. Bates, MD, and Bryan D. Springer, MD—Charlotte, North Carolina
Although extensor mechanism disruption is a rare complication of total knee arthroplasty, it rivals infection as the most devastating outcome. The variety of management options available highlights the lack of consistently satisfactory results from any single treatment method. Primary repair has resulted in consistently poor outcomes. Reconstruction using allograft presently remains the most studied technique. The importance of appropriate surgical technique and maximal allograft tensioning when attempting reconstruction cannot be overemphasized.
- 107** Perioperative Implications of End-stage Renal Disease in Orthopaedic Surgery
Julian O. Carlo, MD—Birmingham, Alabama
Phinit Phisitkul, MD, Kantima Phisitkul, MD, Sundara Reddy, MBBS, FRCA, and Annunziato Amendola, MD—Iowa City, Iowa
Orthopaedic surgery in patients with end-stage renal disease is associated with at least a twofold risk of complications and mortality compared with those without end-stage renal disease, including cardiovascular, metabolic, hematologic, and infectious complications. Surgeons should be familiar with pertinent issues in preoperative evaluation and postoperative management of these patients and understand the risks of surgery to better inform patients and family. Careful coordination with consulting specialists can minimize the risk of adverse events.
- Instructional Course Lectures**
- 119** The Need for Structural Allograft Biomechanical Guidelines
Satoshi Kawaguchi, MD—Houston, Texas
Robert A. Hart, MD—Portland, Oregon
Unlike artificial implants, no biomechanical performance standards for structural allograft bone are currently in place. We undertook basic biomechanical evaluation of one source of allograft, the femoral ring, and ascertained that the minimum and maximum cortical wall thicknesses of femoral ring allograft were most strongly correlated with the axial compressive load to failure of the graft. Cortical wall thickness may be a useful screening tool for compressive resistance expected from fresh cortical bone allograft.

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126 External Fixation of Tibial Fractures

Nirmal Tejwani, MD—New York, New York
David Polonet, MD—Neptune, New Jersey
Philip R. Wolinsky, MD—Sacramento, California

The use of external fixation for tibia fractures varies from a simple fracture-spanning frame to complex reconstructive frames, including those used to manage bone defects and nonunion. The appropriate and judicious use of external fixation is an important adjunct in the management of tibial fractures, especially in the setting of periarticular injuries. These fixators also may be useful for salvage of open and/or infected fractures unsuitable for internal fixation.

AAOS Clinical Practice Guideline Summary

131 Management of Hip Fractures in the Elderly

Karl C. Roberts, MD—Grand Rapids, Michigan
W. Timothy Brox, MD—Fresno, California
David S. Jevsevar, MD, MBA—Hanover, New Hampshire
Kaitlyn Sevarino—Rosemont, Illinois

The guideline contains twenty-five recommendations, including both diagnosis and treatment. Strong evidence supports regional analgesia to improve preoperative pain control, similar outcomes for general or spinal anesthesia, arthroplasty for patients with unstable femoral neck fractures, the use of a cephalomedullary device in patients with subtrochanteric or reverse obliquity fractures, a blood transfusion threshold of no higher than 8 g/dL in asymptomatic postoperative patients, and intensive physical therapy postdischarge, among other recommendations.

Case Study

138 AAOS Clinical Practice Guideline: Management of Hip Fractures in the Elderly

Karl C. Roberts, MD—Grand Rapids, Michigan
W. Timothy Brox, MD—Fresno, California

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Levels of evidence given for references are as follows: level I, high-quality randomized controlled trial, systematic review of level I trials, or high-quality prospective study; level II, lesser-quality randomized controlled trial, prospective comparative study, systematic review of level II studies, or retrospective study; level III, case-control study or retrospective comparative study; level IV, case series; and level V, expert opinion.