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69 Osteonecrosis of the Femoral Head: Evaluation and Treatment
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Orthopaedic Advances
71 Recent Advances in Posterior Meniscal Root Repair Techniques
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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

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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.

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 Poloneti, 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. Jevesvar, 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 postoperative 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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In the references section of each article, references printed in bold type are those published within the past 5 years.

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.