

# PREFACE



This issue of *Orthopedic Clinics of North America* is devoted mostly to pathologic conditions of bone, with topics ranging from heterotopic ossification after trauma to oncologic lesions in the upper and lower extremity, as well as those presenting in children. Other topics included are knee arthritis and surgical site infections.

In the upper extremity, the treatment of tumors in the hand and wrist, proximal humerus, and scapula is presented. Giant cell tumor of the distal radius is the topic of discussion in an article by Hess and colleagues. Treatment of this tumor remains challenging because of its high propensity for recurrence and other complications. Often obtaining wide margins to decrease the possibility of local recurrence comes at the expense of optimal wrist function. For primary benign and malignant tumors, the proximal humerus is the most common location. Arguello and colleagues review surgical management options and long-term outcomes, noting improved results after treatment with reverse total shoulder replacement. Unfortunately, endoprosthesis use is not always a possibility for all tumor locations. For scapular tumors, limited outcome data preclude their routine use after resection, although limb salvage surgery is possible in most patients. Scapular tumors require large bone resection, but according to Houdek and colleagues, the brachial plexus and axillary vessels are only infrequently involved, and negative margins are attainable. The best outcomes have been noted in patients with glenoid preservation.

In the lower extremity, Tobey and colleagues discuss the use of joint replacement for the management of bone tumors in the proximal femur. With increased life expectancy, limb-salvage constructions are necessary, with the goals of pain control, early mobilization, shorter recovery, and in primary tumors, cure. Risks, complications, and treatment failures are discussed. When tumors progress to fracture, different fixation strategies are necessary because of impaired bone healing from disease and adjuvant therapies and the higher rates of complications. The fixation principles for pathologic fractures are covered in an article by Masada and colleagues. Concerning fixation and implants, formation of lesions also has

been reported after total joint arthroplasty. The exact cause remains unknown, but implant wear, micromotion, and stress shielding are suspected sources. Hur and colleagues describe periprosthetic bone cyst formation after total ankle arthroplasty that can lead to treatment failure. Debridement, grafting, or even revision total ankle arthroplasty may be necessary for large, symptomatic cysts.

Regardless of the anatomic location of tumors, the treatment approach depends on the type of tumor, the risk of progression, symptoms, and stage of, or progression to, malignancy. The same principles are followed in pediatric patients as in adults. Gonzalez and colleagues provide an excellent review of benign bone tumors in children, covering the types of neoplasms, diagnostics, and treatment, which usually is expectant or minimally invasive at first and based on the tumor type, aggressiveness, and likelihood of recurrence.

A common pathologic process after trauma or surgery is heterotopic ossification, which is extra-osseous bone formation in the muscles, soft tissues, and even vascular walls. Some lesions are quite small and clinically insignificant, but others progress to restrict motion and even ankylosis. Lawand and colleagues note that symptoms usually begin 1 to 2 weeks after the inciting event and include erythema, swelling, pain, loss of motion, and joint tenderness. Their article provides an overview of the pathophysiology, epidemiology, prophylaxis, and treatment of postoperative heterotopic ossification.

Another topic of pathology for which a cure remains elusive is osteoarthritis. Many treatment modalities exist to alleviate pain and slow progress, but often joint replacement remains the only end-stage option. Ioria and colleagues developed a digital platform for patients to self-manage their knee arthritis. The program allows patients to self-evaluate and stage their arthritis, characterizing disease severity and risk of progression. The program then directs them to appropriate information and tools to manage their disease. The authors report that 92% of the patients had some improvement during their 6-week pilot program.

Surgical site infection remains an important topic of concern for all surgical disciplines. Infection is still a significant cause of morbidity and mortality after surgery. In a meta-analysis and systematic review, Chen and Mont provide the latest information of surgical site infection in total hip arthroplasty, examining the utility of chlorhexidine cloth use for prevention. They found an almost universal benefit and reduction in infection rate in total hip arthroplasty with the use of ready-to-use chlorhexidine cloths after surgery.

I believe this issue will provide our readers with essential information and updates on pathologic conditions of bone and would like to thank the

authors for their in-depth reviews on these important topics.

Frederick M. Azar, MD  
University of Tennessee Health Science Center  
Campbell Clinic Department of Orthopaedic  
Surgery and Biomedical Engineering  
Memphis, Tennessee 38104, USA

Campbell Clinic Foundation  
1211 Union Avenue, Suite 510  
Memphis, TN 38104.

*E-mail address:*  
[fazar@campbellclinic.com](mailto:fazar@campbellclinic.com)