Preface

In the last 20 years, the subspecialty of cartilage repair has gradually emerged in the field of orthopaedics. It offers options where none previously existed. In the early 1990s, not uncommonly, knee arthroscopies were performed on young patients who were unable to remain active because of joint pain, swelling, and mechanical symptoms that resulted from their articular cartilage disease. As residents, we remember feeling helpless when postoperatively these patients were told to live with their disease because no reliable treatments were available. The only option—besides the eventual knee arthroplasty that many of these patients would predictably undergo in the future—was debridement and lavage or marrow stimulation. The situation was even more complex because patients experienced a combination of pathology including articular cartilage defects, meniscal deficiency, ligament disruption, and malalignment. Thus, any biologic solution used as an alternative to arthroplasty would, by necessity, be multifactorial. This complimentary approach would seek to maximize the treatment outcome.

Articular cartilage defects are unlike traditional orthopaedic pathology, in which surgeons are accustomed to evaluating, treating, and predicting a likely outcome. In the case of articular cartilage disease, very little is known about its cause and incidence—and even less about the natural history of the incidental defect in an otherwise healthy knee. But because articular cartilage defects can and do cause pain and disability in some patients, many of us remain committed to critical investigation of the basic science and clinical results of the existing and emerging technology. Unlike solutions used to treat traditional orthopaedic pathology, the solutions for treating articular cartilage disease and meniscal deficiency have a relatively short track record, are resource intense, and may require a prolonged period of time before the patient actually has demonstrable relief of pain and increased function. These factors create an especially difficult, but warranted, approach to the management of articular cartilage disease and meniscal deficiency.

Few subspecialties are held to the standards that are intrinsic to the field of cartilage repair. Clearly, the concerted efforts of the basic scientists and clinicians who cross multiple disciplines will lead to an evidence-based approach to the decision making required to manage this patient population. Although successful clinical outcomes can be anticipated in the majority of patients who are appropriately indicated for cartilage repair procedures, we must continue to indicate our patients wisely. Remembering that not all articular cartilage defects will become symptomatic and that not all meniscectomized knees will become arthritic is of primary importance. Furthermore, those who are appropriately indicated may only be provided a greater number of pain-free years, and the natural history of the underlying disease process and inevitable outcome may not always be avoidable. Thus, because our success is primarily predicated upon a reduction in the patient's symptoms and increases in function, we should avoid treating solely for the purpose of eliminating the need for knee arthroplasty in the future. It is critical to avoid choosing treatment options early in the disease process that can potentially burn bridges for the implementation of future options, or even worse, create new problems for patients who were otherwise minimally symptomatic. At this juncture, our judgment is guided by our experience and emerging peer-reviewed clinical outcomes.

René Descartes taught that "our eyes do not see what our minds do not know." I think that this is especially true of articular cartilage and meniscal pathology. Although we have become comfortable attributing a patient's symptoms to specific pathoanatomy, it is imperative that we avoid the temptation to think linearly about a patient's problem. In other words, the mere existence of an articular defect or a post-meniscectomized state is not always synonymous with a symptomatic state. Knee pain has many causes, both known and unknown. Ascribing a patient's symptoms to an incidentally discovered defect that may have no clinical relevance can lead to the eventual implementation of an inap-

propriate treatment option. We often tell patients that articular cartilage defects are a bit like real estate—location counts. For example, an 18-year-old woman without swelling or mechanical symptoms who has a known defect of the posterior medial femoral condyle but who only complains of anterior knee pain going up and down stairs has patellofemoral pain treatable with appropriate physical therapy until proven otherwise. Because the available technology used to treat these patients is perceptively seductive to patients and physicians alike, we have an unprecedented obligation to implement these technologies both responsibly and ethically.

As orthopaedic surgeons, we traditionally focus on techniques and the "how to" rather than when to implement a solution that is likely to match or exceed our patient's expectations. Despite volumes of clinical and basic science research literature, more questions than answers remain. Adoption of a single technique is based upon the composite influence of what we know, what we think we know, and what we have little knowledge about. How do we fill these voids? How do we make the best decisions with our patients? With so much technology and so much difficulty arriving at a consensus regarding the indications for these procedures, it is imperative that an up-to-date composite body of work be available as a practical guide to manage these lesions.

Articular Cartilage Lesions: A Practical Guide to Assessment and Treatment reflects our commitment to fill the current void in the management of articular cartilage disease and meniscal deficiency. We have asked experts to contribute to this book with a very specific mission in mind: to help you develop an evidence-based decision-making framework to be used as a practical guide for the assessment and management of patients with articular cartilage lesions and meniscal deficiency. Because clinical outcomes are rapidly appearing in the literature, and new technology is emerging at a feverish pace, we mandated that this project be completed in an expedited manner. To maximize the quality and accuracy of the contents herein, the entire project was completed within eighteen months.

The book is divided into three logical parts. Part I, Background and Patient Assessment, provides a framework to understand the underlying pathoanatomy, evaluate the prospective patient, consider nonoperative or palliative management, and offer a potential treatment algorithm. Part II, Surgical Techniques, includes a concise compendium of every available treatment option with a step-by-step approach to each technique ranging from arthroscopy and debridement through unicondylar arthroplasty. Part III, Case Studies, highlights the decision-making process through case-based learning. Nearly 40 illustrated cases have been completely prepared with preoperative planning and postoperative outcomes. They include virtually every permutation and combination of cartilage repair currently in clinical use.

Articular Cartilage Lesions: A Practical Guide to Assessment and Treatment is timely, comprehensive, and up to date. We would like to thank the contributing authors who have put forth enormous effort to help create what we believe will remain a primary reference for orthopaedic surgeons, fellows, residents, basic scientists and any clinician committed to implementing sound judgment, excellence in surgical technique and perioperative management of the patient with articular cartilage disease and meniscal deficiency. We would also like to thank Rob Albano, Peter Bak, and Barbara Chernow for helping to assure that this project was completed on time and with excellence from the time the cover is opened until the final case is presented.

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Genzyme Biosurgery is proud to have collaborated with Springer-Verlag to support the publication of this book. We are committed to improving patient care through education, research and advancing the field of cartilage repair. We applaud the efforts of the books' contributors and believe this text will be a valuable reference for clinicians seeking expert guidance in this emerging field.

Genzyme Biosurgery
A division of Genzyme Corporation
Cambridge, MA

http://www.springer.com/978-0-387-95540-7

Articular Cartilage Lesions
A Practical Guide to Assessment and Treatment
Cole, B.J.; Malek, M.M. (Eds.)
2004, XIII, 336 p. 1175 illus., 904 illus. in color.,
Hardcover
ISBN: 978-0-387-95540-7