

**Book Review**



## Essentials of Regenerative Medicine in Interventional Pain Management

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Print and eBook

Pricing:

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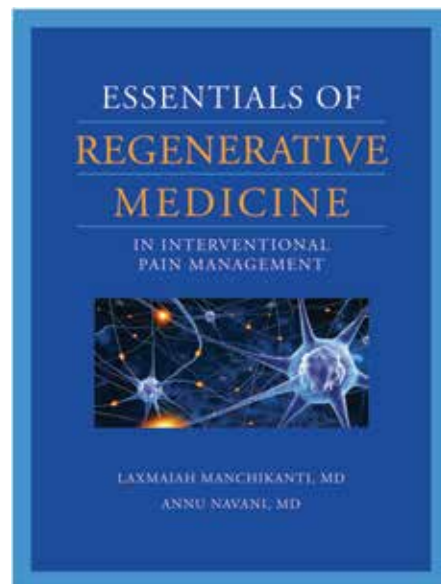
**T**here has been a growing need for a multidisciplinary textbook on the field of regenerative medicine that is focused specifically on the medical specialty of interventional pain management (IPM). This challenge has been met admirably by the new comprehensive text, *Essentials of Regenerative Medicine in Interventional Pain Management*, edited by Manchikanti, Navani, and Alturi, and published by ASIPP Publishing in 2019. Although regenerative medicine is an emerging specialty, there is a substantial body of evidence supporting its use in the current practice of IPM, which makes this textbook particularly timely.

As noted in the preface to this first edition, the goal of the text is “to provide an evidence-based approach to application of principles of regenerative medicine in managing chronic pain of spinal, neurological, and musculoskeletal origins.” The editors and 62 authors have assembled a well-researched compendium on the topic that will serve as a primer on regenerative medicine, and a technical guide to the performance of interventional procedures that target common chronic pain problems with biologics.

The text is organized into 6 sections, with 35 chapters, and more than 350 figures and 50 tables.

### **PART I: BASIC CONSIDERATIONS**

Fourteen chapters provide a detailed background on fundamental topics, including the evolution of regenerative medicine, principles of evidence-based medicine, composition and preparation of platelet rich plasma, mesenchymal stem cells, and bone marrow concentrate. Adipose cells, nonautologous biologics, and exosomes are also reviewed. Detailed discussions are provided for



prolotherapy, fluoroscopy, ultrasound, and the role of antithrombotic therapy in regenerative medicine.

### **PART II: REGENERATIVE MEDICINE IN MUSCULOSKELETAL PATHOLOGY**

Six chapters are devoted to musculoskeletal applications of regenerative medicine for chronic pain, including the shoulder joint, elbow joint, hip, knee osteoarthritis and ligaments, knee cartilage and subchondral bone disorders, and the ankle and foot. Detailed images and figures illustrate the relevant anatomy and provide an approach to administering therapy.

### **PART III: REGENERATIVE MEDICINE IN THE SPINE**

Nine chapters describe IPM techniques for degenerative disc disease, epidural applications, spinal facet joints, sacroiliac joints and ligaments, low back pain, and chronic pelvic pain.

### **PART IV: MISCELLANEOUS APPLICATIONS**

Two chapters examine emerging applications of regenerative medicine for interstitial cystitis and neurologic disorders.

### **PART V: REGULATORY AND ETHICAL ASPECTS**

Three chapters are devoted to regulatory and ethical considerations of regenerative medicine. As an emerging specialty, it is important that this text addresses these issues.

### **PART VI: PRACTICE MANAGEMENT**

The final chapter summarizes risk management, including informed consent, patient risk factors, contraindications and risks associated with the injections. These are important considerations for the current practice of regenerative medicine.

The tables and images are of high quality and amplify the text. Each chapter on the specific interventions provides a review of the literature regarding the therapeutic outcomes that have been reported with the commonly used biologics, particularly platelet rich plasma and mesenchymal stem cells. The textbook provides a review on their properties and preparation, and possible mechanisms of action, including discussions of

factors such as fibrin, platelet derived growth factor, vascular endothelial growth factor, fibroblast growth factor, transforming growth factor, interleukins, and leukocytes. Importantly, all chapters provide extensive, up-to-date lists of key references, which provides the clinician a useful guide to current literature.

Imaging is the basis of IPM and is critical to the use of biologic therapies. This textbook expands on previous IPM text books by the American Society of Interventional Pain Physicians by including representative diagnostic ultrasound and magnetic resonance imaging for various disorders, which are necessary to plan injections with biologics. The figures provide a useful reminder of relevant anatomy for the various therapeutic interventions. The chapters on epidural, facet, and sacroiliac joint injections are particularly detailed, and provide excellent reviews on injection techniques for IPM in addition to special considerations involved in the injections of platelet rich plasma and mesenchymal stem cells. Indeed, the text is a good review of anatomy relevant to IPM, including spine and musculoskeletal anatomy.

*Essentials of Regenerative Medicine in Interventional Pain Management* is an excellent text that achieves its stated goals and will be a valuable reference for interventional pain physicians.

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