



Edition: 1st Edition 2019  
 pages: 384  
 Images: 960  
 Cover: Hardcover, 21,6 x 27,9 cm  
 ISBN: 978-0-86715-796-3  
 Stock No.: 21911  
 Published: February 2019

Price 158,00 €  
 Subject to changes!

**Quintessenz Verlags-GmbH**

📍 Ifenpfad 2-4  
12107 Berlin  
Germany

📞 +49 (0) 30 / 76180-5

📠 +49 (0) 30 / 76180-680

✉ info@quintessenz.de

🌐 http://nginx/deu/de

## Book information

**Editor:** Miron, Richard J. / Zhang, Yufeng  
**Title:** Next-Generation Biomaterials for Bone & Periodontal Regeneration

**Short text:**

New and innovative biomaterials are being discovered or created in laboratories at an unprecedented rate, but many of them remain entirely foreign to practicing clinicians. This book addresses this gap in knowledge by summarizing some of the groundbreaking research performed to date on this topic and providing case examples of these biomaterials at work. The book begins with a review of the biologic background and applications of bone grafting materials utilized in dentistry. The principles of guided tissue and bone regeneration are covered in detail, including many recent advancements in barrier membrane technologies as well as use of platelet-rich fibrin and various growth factors, and many next-generation materials that will optimize future bone and periodontal regeneration are presented. The final chapter is designed to help clinicians select appropriate biomaterials for each specific regenerative protocol. Much like one implant size and shape cannot be utilized for every indication in implant dentistry, one bone grafting material, barrier membrane, or growth factor cannot maximize regenerative outcomes in all clinical situations. This textbook teaches clinicians how to utilize biomaterials in an appropriate, predictable, and evidence-based manner.

**Contents**

- Chapter 01. The Regenerative Properties of Bone Grafts: A Comparison Between Autografts, Allografts, Xenografts, and Alloplasts
- Chapter 02. Autogenous Bone: The Gold Standard for Bone Regeneration
- Chapter 03. The Use of Allografts for Bone and Periodontal Regeneration
- Chapter 04. The Use of Xenografts in Implant Dentistry and Periodontology
- Chapter 05. Next-Generation Natural Bovine Bone Mineral Grafting Material with Integrated Atelocollagen Type 1
- Chapter 06. Synthetic Bone Substitute Materials
- Chapter 07. Next-Generation Osteoinductive Synthetic Calcium Phosphates: Osopia
- Chapter 08. The Use of Autogenous Dentin Particulate Graft for Alveolar Ridge Preservation and Augmentation Following Tooth Extraction
- Chapter 09. Next-Generation Osteoconductive Resorbable Bone Adhesives: Tetranite
- Chapter 10. 3D Printing Scaffolds for Alveolar Bone Augmentation
- Chapter 11. Membranes for Guided Tissue and Bone Regeneration
- Chapter 12. Autogenous Blood-Derived Barrier Membranes: Platelet-Rich Fibrin in Regenerative Dentistry
- Chapter 13. Bone Regeneration with Bone Morphogenetic Protein 2
- Chapter 14. Enamel Matrix Derivative: Preclinical Biologic Background
- Chapter 15. Enamel Matrix Derivative: Clinical Studies
- Chapter 16. Efficacy of Recombinant Human PDGF and FGF-2 for Regenerative Dentistry
- Chapter 17. Combination Approaches for Periodontal Regeneration: Biologics, Bone Grafts, and Barrier Membranes
- Chapter 18. Next-Generation Bone Morphogenetic Protein 9: The Future of Bone Regeneration?
- Chapter 19. Osteogain: The Next Generation of Enamel Matrix Derivative
- Chapter 20. Next-Generation Wound Healing with Hyaluronic Acid
- Chapter 21. Next-Generation Ion Incorporation into Bone Grafts for Bone and Periodontal Regeneration
- Chapter 22. Next-Generation Use of Gene Therapy for Growth Factor Delivery
- Chapter 23. Clinical Recommendations and Guidelines for Selecting Biomaterials for Bone and Periodontal Regeneration

Abbreviations

**Contributors**

Alexandre-Amir Aalam • Mustafa Abd El Raouf • Sarah Al-Maawi • Nicole B. Arweiler •

Ferdinando D'Avenia • Albert Barroso Panella • Itzhak Binderman • Mark Bishara • Dieter D. Bosshardt • Michael Brown • Joost de Bruijn • Jordi Caballé Serrano • Fatiha Chandad • Joseph Choukroun • David L. Cochran • Michel Dard • James Deschner • Ferenc Döri • Bruce R. Donoff • Nikos Donos • Mariusz Duda • Meizi Eliezer • Tobias Fretwurst • Stuart Froum • Masako Fujioka-Kobayashi • Paul Fugazzotto • Shahram Ghanaati • Howard Gluckman • Andrea Grassi • Reinhard Gruber • Vincent Guillemette • Gideon Hallel • Robert Horowitz • Angel Insua • Søren Jepsen • Adrian Kasaj • George Kay • Ismael Khoully • Alina Krivitsky Aalam • Gregori Kurtzman • Ye Ling • Staale Petter Lyngstadaas • Richard J. Miron • Alberto Monje • Toshiaki Nakamura • Kathia Nelson • Carlos Nemcovsky • Dimitris Nikolidakis • Kazuyuki Noguchi • Michael A. Pikos • Benjamin Pippenger • Alan Pollack • Guilio Rasperini • Nikola Saulacic • Patrick R. Schmidlin • Anton Sculean • Yoshinori Shirakata • Alain Simonpieri • Andreas Stavropoulos • Jonathan Du Toit • Leonardo Trombelli • Hom-Lay Wang • Yulan Wang • Hudi Xu • Huipin Yuan • Homayoun H. Zadeh • Xiaoxin Zhang • Yufeng Zhang • Liwei Zheng • Giovanni Zucchelli

**Categories:** Periodontics