

Evidence-based Implant Dentistry and Systemic Conditions

Fawad Javed and Georgios Romanos



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This edition first published 2018
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Registered Office

John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, USA

Editorial Office

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Library of Congress Cataloging-in-Publication Data

Names: Javed, Fawad, 1976– author. | Romanos, Georgios, author.

Title: Evidence-based implant dentistry and systemic conditions / by Fawad Javed,
Georgios E. Romanos.

Description: Hoboken, NJ : John Wiley & Sons, Inc., [2018] | Includes bibliographical
references and index. |

Identifiers: LCCN 2018014591 (print) | LCCN 2018014780 (ebook) | ISBN 9781119212256 (pdf) |
ISBN 9781119212263 (epub) | ISBN 9781119212249 (hardback)

Subjects: | MESH: Dental Implants | Evidence-Based Dentistry | Risk Factors

Classification: LCC RK667.I45 (ebook) | LCC RK667.I45 (print) | NLM WU 640 | DDC 617.6/93–dc23

LC record available at <https://lccn.loc.gov/2018014591>

Cover Design: Wiley

Cover Image: (top row images) © Dittmar May;

(middle and bottom row images) © Georgios E. Romanos

Set in 10/12pt Warnock by SPi Global, Pondicherry, India

"I dedicate this book to my beloved wife, Dr. Hameeda Bashir Ahmed, and children, Sara Fawad and Rayan Fawad, for their endless love and support."

Fawad Javed

"To the love of my life, my partner in life adventures, my wife, Enisa, and our sweet little girl, our best creation, Stella Romanos."

Georgios E. Romanos

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Preface

The use of dental implants for the oral rehabilitation of partially and completely edentulous individuals is increasing. With advancements in modern implant dentistry, the use of dental implants is not restricted to medically healthy individuals. Studies have reported that dental implants can osseointegrate and remain esthetically and functionally stable for prolonged durations in medically compromised patients (such as patients with acquired immune deficiency syndrome and diabetes mellitus) in a manner similar to systemically healthy individuals.

The fundamental theme of this book, *Evidence-based Implant Dentistry and Systemic Conditions*, is to base the oral rehabilitation of complete and partial anodontia using dental implants in patients with systemic diseases. In this book, each chapter is dedicated to a specific medical condition and its impact on the success and survival of dental implants. Pathophysiology of systemic diseases and their impact on osseointegration and bone loss around dental implants is discussed. Moreover, besides systemic conditions, this book describes how oral diseases such as history of periodontitis and oral cancer may affect the success and survival of dental implants, as well as the influence of habits (such as tobacco smoking and smokeless tobacco) on the outcome of dental implant therapy. In addition, several clinical and radiographic illustrations have been provided in the chapters to detail related concepts.

All chapters have been inked after a careful review of original and review articles published in indexed medical and dental journals. Every chapter is carefully blended to be consistent in aims/objectives to provide a foreseeable outcome.

From a clinical standpoint, this book is expected to provide an overview of the expected outcome of dental implant therapy in medically challenged patients; however, it also opens doors for further research in implant dentistry. In this regard, this book can be beneficial for students, postgraduate residents, clinicians, and researchers in dental and medical sciences.

1

Introduction

For centuries, dental practitioners have relied on partial dentures, complete dentures, and fixed prosthesis (such as bridges) for the replacement of missing teeth. Dental implants have revolutionized modern clinical practice and are a contemporary substitute to such traditional fixed and removable dental prosthesis. It is well known that dental implants can osseointegrate and remain functionally and aesthetically stable over long durations in patients with missing teeth. Studies have reported high success and survival rates of dental implants in systemically healthy individuals; however, dental implant therapy has also been reported to be successful among patients with systemic disorders, such as diabetes mellitus and acquired immune deficiency syndrome (AIDS).

This book provides essential information on the osseointegration and survival of dental implants in medically challenged patients. In this book, we compiled studies from indexed databases (including PubMed, MEDLINE, ISI web of knowledge, Scopus, and EMBASE) with reference to their impact on the survival and success of dental implants. These studies have formulated into individual chapters focusing on specific focused questions and data has been presented using a systematic review approach. The content of this book is centered on evidence-based dental implant therapy among patients with systemic diseases. Moreover, each chapter discusses the outcomes of the respective studies and recommendations for future research are also presented.

2

Evidence-Based Grading of Studies

This book follows an *evidence-based grading* approach in order to make judgments about quality of evidence and strength of the study/studies included in each chapter. This approach will give researchers, clinicians, and students a clear overview of the level of scientific evidence relating to each chapter. This grading system is based on the methodology adopted across studies.

Level of Evidence Grade

- A Evidence from randomized controlled trials
 - B Evidence from at least one randomized controlled trial
 - C Evidence from at least one well designed case-control study
 - D Evidence from at least one well-designed clinical study that was not randomized
 - E No evidence
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