
Endodontic Prognosis

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Editors

Endodontic Prognosis

Clinical Guide for Optimal Treatment
Outcome

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*To my family, friends, and mentors for their
love, support, and encouragement.*

Nadia Chugal

Foreword

It is indeed a privilege to write this foreword for an Endodontics book with prognosis as its main emphasis. While all practitioners aspire to achieve the highest levels of success of treatment, the definition of this success and the factors that affect it receive very little attention among clinicians. Complicating this matter is that, with the exception of resolution of pain or purulent drainage, true and complete endodontic success is not demonstrable clinically until a long period has passed after treatment, typically measured in years. The difficulty in establishing an effective follow-up program for all patients, especially that they are typically asymptomatic, has led many practitioners to rely only on surrogate measures of success like the quality of the obturation and the resolutions of symptoms. While there are some population-based data in the literature to support reliance on these parameters, they clearly provide an incomplete assessment of prognosis.

As one reflects on this book's working definition of endodontics, as the prevention and/or elimination of apical periodontitis, it is reasonable to reconsider whether this is still consistent with recent information as noted in the relevant chapters. For example, the word "prevention" is used in a discipline in which home care is not thought to affect the outcome of treatment. The intent likely arose from the need to diagnose irreversible pathosis more vigilantly, in order to perform the endodontic treatment at this stage, and avoid pathogenesis of apical periodontitis. However, recent advances in vital pulp therapy leads one to question whether the priority is still to remove the vital inflamed pulp at all costs to assure the goal of preventing apical periodontitis. The growing interest in pulp and dentin regeneration, the advent of more biocompatible reparative materials, and the presence of good outcome studies on vital pulp therapy make one reflect more on this classic definition of endodontic therapy.

This book also provides an excellent discussion in several chapters of the radiographic detection of emergent and residual disease, as it has evolved in the last 60 years or so. Today, tools like CBCT allow us to visualize this disease earlier in the diagnostic process, and for a longer period after treatment. Therefore, there is more of an overlap in the pulpitis/apical periodontitis spectrum of diagnosis, and perhaps a longer period when teeth with apical radiolucencies may be considered healing. There are even questions as to whether teeth with long-standing small

radiolucencies, and no other abnormalities, should be retreated or subjected to root end surgery. There is more realization that complete bone regeneration may not be achievable in many of these asymptomatic cases, the way it is not achievable in cases with marginal periodontitis.

Postoperative factors that affect the prognosis are also of particular interest. The profession has in the last decade transitioned from relying on bench-top laboratory studies to clinical outcome studies in making many clinical decisions that are related to coronal leakage. The question remains as to who controls the prognosis to a larger extent: is it the practitioner that did the endodontic therapy or the one who restored the tooth?

Finally, this book eloquently addresses the emerging concept of personalized endodontics, in which the prognosis may be affected by a combination of the unique and complex microbiota that causes the disease, together with the systemic health of the patient, as well as genetic and epigenetic variability among patients. This area promises to provide us in future more detailed predictors for outcomes, which can help the provider with treatment planning and help the patient with decision making.

Ashraf F. Fouad, DDS, MS

Preface

This book distinguishes itself from endodontic textbooks because it is the first textbook completely focused on the prognosis of endodontic treatments. Our goal for this book was to make recent results at the forefront of endodontics accessible for clinical practice.

The book is intended to serve as a clinical guide to help practitioners in their clinical decision-making process and ultimately improve endodontic treatment outcomes.

The goal of endodontic treatment is to prevent and/or eliminate apical periodontitis, a disease entity occurring as a result of microbiologic challenge to the pulp and periradicular tissues. Like many other human diseases, endodontic treatment outcomes are profoundly affected by a multitude of prognostic factors. These determinants of treatment success or failure can exert their effect preoperatively, intraoperatively, and postoperatively. Therefore, it is important for the clinician to be familiar with the favorable predictors of outcome as well as prognostic risk factors. This knowledge is essential to effectively circumvent and manage risks in order to achieve the desired treatment result.

We first outlined the theme of every chapter that we considered important for the book. We then invited experts in their respective areas to write on the specific topics. These topics include both basic and clinical sciences and cover several key aspects of endodontic prognosis. The multidisciplinary authorship by highly respected clinicians and scientists reflects the multifactorial nature of endodontic outcome.

Outcome assessment of endodontic therapy has evolved from Strindberg's stringent criteria that emphasized the absence of clinical symptoms/signs and restoration of normal structure of the periapical tissues to newer patient-centered criteria focusing on the absence of clinical symptoms/signs and survivability and functionality of endodontically treated teeth even with the presence of small and stable periapical lesions. However, as pulpal and periapical pathosis is a disease, a tooth with a persistent inflammatory periapical lesion after treatment, regardless of its size, should be considered as unsuccessful elimination of the disease. Therefore, complete elimination of the disease still remains the ultimate goal of root canal treatment.

We hope that the readers will enjoy this book and benefit from it, as much as we have enjoyed spending our time and energy working on it.

Nadia Chugal
Louis M. Lin

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