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Dental hard tissues and bonding (2005)

Editors: G. Eliades, D. C. Watts and T. Eliades Publisher: Springer-Verlag GmbH, Heidelberg, Germany Price: €99.95; £77.00 ISBN: 3-540-23408-X

This excellent, photographically illustrated, textbook extensively reviews bonding to enamel, dentine, and cementum, and analyzes relevant adhesion mechanisms. It is intended for the use of researchers as well as clinicians. The authors' aim is to provide the reader with all the scientific and clinical data necessary to understand dental bonding.

The book is divided into eight chapters. Chapter 1 focuses on etched enamel structure and topography. Emphasis is given to the characterization of material interfaces with dental tissues *in situ*. Chapter 2 deals with bonding of resinous materials on primary enamel, while chapter 3 describes in detail the bond strength to enamel. The importance of appropriate experimental protocol design in research methods is well presented, indicating the mechanisms of adhesion of polymeric materials to dental tissues. All the variables affecting *in vitro* bond strength are well described, thus providing a comprehensive reference for clinical procedures in orthodontics, restorative dentistry, and prosthetic dentistry. Chapter 4 covers orthodontic bonding to wet enamel with water-insensitive and water-activated adhesive resins. Chapter 5 provides an in-depth analysis of bonding to dentine. Chapter 6 deals with specific *in situ* photo-polymerization and polymerization-shrinkage phenomena, evaluating important aspects of the chemistry of dental materials and also the phenomena occurring at the interface during polymerization of materials. The final chapter focuses on the composition and structure of cementum and strategies for bonding.

Overall, a beautifully presented book for practical and clinical use. Each chapter offers a detailed approach to the current theories concerning bonding to dental tissues, to provide the reader with comprehensive information on each particular clinical situation and clearly illustrate the various bonding techniques routinely needed in this area of clinical expertise.

Vittorio Cacciafesta

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