
Foreword

Since the early beginning of orthodontics, clinicians have progressively produced modifications and enhancements to improve force delivery of the appliances and clinician's efficiency. Major advances since the last century included the development by Dr. Angle of the Edgewise appliance, the introduction of enamel direct and indirect bonding techniques, the advent of the Preadjusted Straight Wire appliances and the development of fully customized Lingual Appliances (IBraces or Incognito). In the last 10 years, self-ligating appliances have captured the imagination of many clinicians and are increasing in popularity. Those brackets have been developed to overcome the limitations of stainless steel and elastomeric ligatures in terms of ergonomics, efficiency, plastic deformation, discoloration, plaque accumulation, and friction.

A self-ligating bracket is a ligature-less system with a mechanical device built in to close off the edgewise slot. Secure engagement may be produced by a built-in clip mechanism replacing the stainless steel or elastomeric ligature. Both active and passive self-ligating brackets have been manufactured, referring to the bracket/archwire interaction. The active type has a spring clip that presses against the archwire. In the passive type, the clip or rigid door does not actively press against the archwire.

Active self-ligating appliances may allow better torque control with undersize archwires than can be achieved with passive appliances; a spring clip might also enhance the potential for bucco-lingual alignment. The resistance to sliding is thought to be lower for passive appliances, however, which may improve the aligning capability of these systems. Self-ligating systems outperform conventional brackets in the in-vitro situation, producing considerably less friction within the appliance systems, but this effect is less marked in-vivo. Clinical data documenting the efficiency of rotational correction and space closure with self-ligating systems remain limited. Use of self-ligating brackets results in a marginal reduction in chairtime required for appliance manipulation. Also, there is limited, retrospective evidence pointing to reduced overall treatment time with fewer scheduled appointments with the use of self-ligating systems.

While many clinicians recommend selected self-ligating appliances to facilitate expansion in non-extraction treatment, there are no published long-term follow-up studies on the stability of this approach.

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Preface

Self-ligating brackets—in recent years these words have taken on almost unbelievable magic powers. It is now almost impossible to envisage orthodontic treatment without such brackets. Keywords supporting this idea are: greater user comfort; better differentiation from competitors; more marketing possibilities, economical, shorter chair times, easy-to-use, patient comfort, perfect for your patients, and so on. The conclusion is: everything works easier and quicker. Sometimes the phrase “intelligent system” is used. Somewhat exaggerated, it seems as if the bracket at last can inform the tooth who is now in charge of moving from the false to the correct position. And the tooth? It follows the new brackets obediently, friction-free, and at a breathtaking pace.

By putting this rather ironic text at the front of a specialist book, the authors attempt to make it clear that they are attempting to replace suggestive remarks with facts and to be critical about advertising slogans. All the authors have been working with self-ligating brackets for a long time and will be presenting their investigations and experiences accordingly in this book.

Sometimes it may seem that self-ligating (SL) brackets are a recent invention. This is not the case. The first experiments with brackets that fixed the wire into the slot date back to the 1930s. The era of modern SL brackets began with Speed Brackets around 1980. For almost two further decades the SL brackets existed in the background. The growing number of systems and concepts from recent years is difficult to explain. The explosive growth in popularity became quite uncontrolled, and this book will try to clear the undergrowth as it were.

There have been many publications on this topic during recent years. A lot of experience has been gained regarding friction and treatment times as well as the require-

ments for clinical use and treatment possibilities. The aim of the authors is to summarize existing knowledge and to complement it with their own experiences and study results, in order to provide readers with an overview of SL brackets that is as comprehensive as can be. Following a chapter on the history of SL brackets, the first part of the book presents aspects dealing with material and techniques, including the evaluation of selected systems. The second part of the book is dedicated to clinical practice. Here also the authors have tried to demonstrate the complexity of the topic from the first to the final treatment steps. Statements are illustrated using numerous case studies. The conclusion drawn from this section could be: SL brackets are and will remain interesting tools, if they are properly used. They are just one of the many therapeutic choices in the hands of a doctor, and not a “magic pill.”

This book is intended to be both a guide and a compendium, teaching beginners how to use this method, helping advanced users to detect sources of errors, and encouraging readers to go in a new, creative direction.

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