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More than thirty years has elapsed since the publication of the first edition of this textbook in 1972. At that time, table clinics were being held, where the theme of treatment was to extract traumatized teeth at the time of injury, and then the problem was solved. Since then, the biology of acute dental trauma has been elucidated through clinical and experimental research and in subsequent editions of this book used as the guiding light in defining treatment strategy.

A disturbing finding from several recent studies is that acute treatment of dental injuries can sometimes lead to inferior healing. This naturally leads to a rethinking of strategy for treatment of the injured patient. Until now, accepted treatment has been to reposition traumatically displaced teeth or bone fragments into an anatomically correct position. However, this procedure itself may further damage already traumatized tissues. This might explain the negative effect of many forceful reductions, as after luxation injuries, particularly upon periodontal healing. Likewise, the idea that an exposed pulp is a diseased and infected pulp which requires immediate or delayed extirpation has not been substantiated in real life. On the contrary, given the right healing conditions, exposed pulp is a survivor. Similarly, root fractured incisors are often removed due to a lack of understanding of the healing capacity of the pulp and periodontium and their respective roles in the healing process.

Previously, acute dental trauma was considered an event encompassing certain treatment problems that could be adequately resolved by proper endodontic, surgical or orthodontic intervention. However, recent new research has altered this view. Now we know that most healing complications following trauma are related to pre-injury or injury factors, and that treatment should be very specific and restricted in order to optimize healing. This edition is devoted to a biologic approach in understanding the nature of trauma and subsequent healing events and how these events can be assisted by treatment interventions.

The study and understanding of healing in hard and soft tissues after trauma is probably one of the most serious challenges facing the dental profession. That this task presently rests with only a handful of researchers is out of proportion with the fact that perhaps half of the world’s population today has suffered oral or dental trauma – a paradox that dental trauma is dentistry’s stepchild.

In the decade that has elapsed since the third edition of this textbook, the impact of dental implants has been felt. In the wake of esthetically and functionally successful implant therapy, there is a growing tendency towards the approach of: ‘If in doubt, take it out’ and replace with a dental implant. This mind-set has seriously colored many professionals’ perception of conservative therapy, be it active observation or interceptive endodontic therapy. Moreover, it has led to an explosion in the cost of treatment following dental trauma. For the sake of completeness, the chapter on dental implants has therefore been expanded with respect to primary biologic principles, with particular emphasis on problems related to the use of implants following dental trauma. In this regard, it should be borne in mind that trauma patients are most often young patients in whom the placement of an implant is contraindicated because it interferes with growth and development of the jaw. Furthermore, the fact that many families in the world today may live on a few dollars a day brings the cost–benefit aspect of treatment into focus. In such a world, sophisticated treatment modalities that are now available may only be realistic for very few. And then what? This reality is also described.

The enormous impact of a traumatic event on the mental health of the patient has long been ignored. In some situations, the loss of a tooth or parts of teeth may result in a difficult psychological situation, which so far has been completely underplayed and neglected in dental traumatology. This void is addressed in this new edition by a chapter on the psychological impact of dental trauma on the patient. Moreover, a traumatic event, whether crown fracture or tooth loss, usually results in severe esthetic problems. A further chapter is now devoted specifically to esthetic rehabilitation of the traumatized patient.

In this edition, an evidence-based approach to treatment has been chosen. This implies that any treatment procedure