

SECOND EDITION
英文影印版

BROWNER ▼ JUPITER ▼ LEVINE ▼ TRAFTON

第 2 版

骨 创 伤

SKELETAL TRAUMA

Fractures ▼ Dislocations ▼ Ligamentous Injuries

(下 册)

VOLUME TWO



科学出版社 ★ Harcourt Asia ★ W.B.Saunders

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VOLUME TWO



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The Editors Dedicate the Second Edition to Their Families

Barbara Thea Browner

Jeremy Todd Browner

Nicole Shannan Browner

In memory of Mona Alexander Browner

In appreciation of my father's support and encouragement

Irwin Eric Browner

Beryl Stephanie Abrams Jupiter

Stacy Deborah Jupiter

Benjamin Scott Jupiter

In memory of Miriam and Samuel Jupiter

Barbara Portnoy Levine

Dana Ari Levine

Alissa Leigh Levine

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In appreciation of my parents' support and encouragement

Felice P. Levine and Leon Levine, M.D.

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In memory of Virginia Grier Trafton and Willis A. Trafton, Jr.

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Biology of Soft Tissue Injuries

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Compartment Syndromes

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Fractures of the Diaphyseal Humerus

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Tibial Plateau Fractures

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Fractures of the Tibial Pilon

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Pathologic Fractures—Metabolic Bone Disease

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Injuries of the Cervicocranium

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Physical Impairment Ratings for Fractures

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Gunshot Wounds to the Musculoskeletal System

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Femoral Shaft Fractures

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Nonoperative Treatment of the Spine: External Immobilization

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Principles of External Fixation

Gregory A. Zych, D.O.

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Principles of Nonoperative Fracture Treatment

Foreword

Every busy, practicing orthopaedic surgeon needs textbooks that will help him or her solve immediate problems at hand. The second edition of *Skeletal Trauma: Fractures, Dislocations, Ligamentous Injuries* meets that need as editors Bruce D. Browner, Jesse B. Jupiter, Alan M. Levine, and Peter G. Trafton have focused the text on the day-to-day needs of orthopaedic surgeons treating trauma. They have retained the strongest chapters and authors from the first edition and have added new authors who are nationally and internationally recognized as experts in their area of special interest. More importantly, they are surgeons involved in the day-to-day practice of orthopaedic trauma, providing the readers with practical advice based on substantial experience.

The first edition was distinguished by its contemporary approach to the treatment of fractures, dislocations, and associated soft tissue trauma. The second edition retains that contemporary approach, providing the surgeon with problem-oriented chapters that are practical; extensive use of algorithms, tables, and figures permits the surgeon to quickly gain the knowledge necessary to solve immediate problems. Most importantly, there is sufficient focus on the technical aspects of surgery that the orthopaedist can depend on being led through the surgical treatment in a logical, stepwise, easy-to-understand approach. This textbook not only provides solid, comprehensive education in orthopaedic trauma with appropriate references but also tells you how to do it.

Since the first edition was published in 1992, the United States has experienced an explosive expansion in managed health care. In the most highly penetrated, hypercompetitive markets, such as Sacramento, California, and Minneapolis, Minnesota, nearly 90% of all patients are in some type of managed health care plan. This has had significant impact on patterns of practice and the need for ready reference works such as *Skeletal Trauma*. Managed health care restricts the mobility of patients,

and in many cases requires that all of a patient's care take place within a given network of physicians, clinics, and hospitals. This is particularly true if the health care plan is capitated. The result of this is that many community-based orthopaedic surgeons find they are taking much more trauma calls and must care for a wide range of traumatic injuries that in prior times were referred to city/county facilities, trauma centers, or academic medical centers. In the past, trauma care was seen as an undesirable part of orthopaedic practice, as it demanded much nighttime and weekend work, disrupted office hours and elective surgery schedules, and was difficult to be prepared for because of its urgent nature. Equally as important from the standpoint of influencing health care provider behavior, trauma victim's care was often uncompensated. On the other hand, in this world of managed health care, compensation for routine and elective surgery has declined so much that compensation for trauma care is now attractive, particularly in view of the fact that many other sources may be available to pay for trauma care, such as automobile insurance and industrial accident insurance. As a result, provider networks are now finding that trauma care can be economically rewarding and is very expensive to pay for when provided out-of-network. Therefore, they are requiring the providers in their network to provide comprehensive trauma care for their enrollees. For orthopaedic surgeons finding themselves in this situation, there will be an ever-increasing need in the future to be better educated in trauma care and to have a readily available, practical and useful reference on the care of trauma. *Skeletal Trauma* meets that need.

As in all fields of medicine, the care of general trauma and fractures and dislocations has changed significantly since the first edition. The editors and contributors bring to the reader 5 new chapters and 53 previously existing, but now extensively rewritten, chapters providing current, cutting-edge material. There have been many

interesting controversies in intramedullary nailing over the past 3 to 4 years. The authors provide updates on the current status of reamed and nonreamed intramedullary nailing for long bone fractures and address current practice and controversies. There have been significant advances in the treatment of intraarticular and periarticular fractures with particular emphasis on avoiding complications by utilizing percutaneous fixation techniques and external fixation, often in interesting, innovative combinations. Complex fractures of the tibial plafond, often known as pilon fractures, provide unique challenges that are recognized in their own chapter, separated from routine ankle fractures. There is expanded coverage of injuries of the spine. Reflecting contemporary knowledge, a new chapter on the enhancement of skeletal repair

emphasizes many of the new advances that have been made in physical and molecular biologic and cellular approaches to enhancing bone repair. Last, in recognition of the impact of managed health care, a chapter on the evaluation of outcomes provides the reader with tools that will be of increasing importance in our medical economic environment as the necessity for proving the efficacy of the way we treat patients will be required for the survival of our practices and health care systems.

This second edition of *Skeletal Trauma* is custom-written to fit the needs of our times and is a valuable reference work and practical guide to trauma treatment for orthopaedic surgeons and other traumatologists involved in the management of musculoskeletal injuries.

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Preface

The first edition of *Skeletal Trauma: Fractures, Dislocations, Ligamentous Injuries* was written between 1988 and 1991. This represented a unique window for the creation of this text, coinciding with the increased recognition of the special needs of trauma victims. By the mid 1980s, more than 500 regional trauma centers had been established throughout the United States and Canada. Since the mid-1980s, the volume and acuity of blunt trauma and associated musculoskeletal injuries reached a high-water mark. The editors and contributing authors for *Skeletal Trauma* had been on the front lines working in the major trauma centers throughout this period. They helped to develop a new operative approach to the treatment of these injuries that stressed early skeletal fixation and rapid mobilization. The incomparable first-hand experience that they gained helped shape their contributions to the text. Since the early 1990s, the widespread adoption of child restraint and seat belt legislation and successful initiatives to control driving under the influence have significantly lowered incidence of motor vehicle accidents. Improvements in automotive design, such as airbags and side rails, continue to reduce the incidence and severity of blunt trauma and complex musculoskeletal injuries. Although there has been an alarming increase in injuries and deaths owing to gunshots in our major cities, penetrating trauma does not result in the multiplicity and complexity of skeletal injuries that trauma from vehicular accidents does. In addition, the managed care contracting practices have resulted in the dispersion of trauma patients to community hospitals, often reducing the number of injuries seen in trauma

centers. In retrospect, the 1980s provided a unique opportunity for the creation of this text.

The excellent manuscripts provided by our contributing authors and the beautiful illustrations created by the artists were assembled into an outstanding three-color text by the W.B. Saunders production department. In the year of its publication, 1992, it won first prize in medical sciences from the Association of American Publishers as the best new medical book. The text has been widely embraced by orthopaedic and trauma surgeons throughout the world for its clarity and its utility. They have consistently expressed their appreciation of our approach, which stressed the discussion of problem-focused clinical judgment and proven surgical techniques. The textbook has been regarded by surgeons in training and practicing physicians to be a practical resource that can help guide them through the management of the musculoskeletal injuries with which they are confronted. We have retained and strengthened this basic philosophy and organization in the second edition. We have added new chapters to cover important subjects that were not addressed adequately in the first edition. We are grateful to our contributing authors, who have approached their tasks with the highest level of scholarship and attention to detail. They have made an extensive effort to seek constructive criticism from the readers of the first edition, and have used it to enhance the treatment of these subjects in the second edition. We are confident that the second edition of *Skeletal Trauma* exceeds the high level of quality established by the first and that it will meet our readers' needs as they care for injured patients.

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