



Third Edition

*DePalma's*

# THE MANAGEMENT OF FRACTURES AND DISLOCATIONS

an atlas

VOLUME 1

JOHN F. CONNOLLY, M.D., F.A.C.S.

Professor and Chairman  
Department of Orthopedic Surgery  
and Rehabilitation, The University of  
Nebraska Medical Center, Omaha, Nebraska  
and Chief of Orthopedic Surgery  
Omaha Veterans' Administration Hospital,  
Omaha, Nebraska

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# PREFACE

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The original concept for *Management of Fractures and Dislocations* was the brainchild of Mr. John L. Dusseau, then Vice President and Editor-in-Chief, and of Mr. Robert Rowan, former Executive Vice President of W. B. Saunders Company. They recognized the teaching effectiveness of the fracture clinics that have been held annually at the American Medical Association Meeting. They also realized that such an approach to the teaching of fracture management might effectively be duplicated in an atlas-textbook and exercised the good judgment of asking Dr. Anthony DePalma, who was then Professor of Orthopaedic Surgery at Jefferson Medical College, to write the text. The result proved to be a valuable and ready reference and a guide past the pitfalls of fracture management for many physicians, including myself. The text has served well the young physician seeking to learn standard methods as well as newer techniques of fracture management. It has also proved to be a challenge for the experienced surgeon who wishes to continue to learn and improve, in that it documents and demonstrates better ways. I have been extremely pleased to be asked to write the Third Edition of the text and have tried to follow carefully the format and thoroughness of the first two editions.

This edition represents my efforts to present techniques of managing fractures and dislocations that work best for me. It is presented in the same manner as I would offer my ideas to residents and students. It is not to be considered an all-inclusive survey of the literature or a complete review of different methods. I have added bibliographies at the end of each chapter to provide the reader with a more complete guide to the techniques described. The references are also included to support statements in the text that might be regarded as controversial but nevertheless must be made. The text is didactic and I offer no apologies for this; however, the reader should keep this in mind. He should also remember that not all the possible ways of treating fractures or dislocations have been presented, only the techniques that are most effective in my experience.

A recurring dilemma in managing fractures and dislocations is the choice between operative and nonoperative treatments. It may seem obvious but nevertheless must be reiterated in this modern technologic age that when results can be anticipated to be equal with either closed or open treatment, the closed method is advocated. Certain surgeons experienced in various operative methods may occasionally improve on the usual results from surgery. The majority of us, however, are most con-

sistently of benefit to our patients when we skillfully apply effective closed treatment. We still serve our patients better as physicians helping them to avoid surgery than as surgeons convincing them that we must operate.

All texts such as this one are merely guides, not bibles. All fracture texts quickly become outdated but the basic principles tend to prevail. When possible in this guide through the pitfalls of fracture management, I have emphasized and pointed out what I consider to be basic concepts. However, even basic concepts change and every textbook is subject to revision. It has been my pleasure and my education to revise this one.

JOHN F. CONNOLLY

*Omaha, Nebraska*  
*November, 1980*

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I want to acknowledge my sincere appreciation for all the many skilled people at W. B. Saunders Company and at the University of Nebraska who have helped me so generously.

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Steve McCoy, who has contributed more than 2,000 new illustrations to this edition, deserves considerable credit for the three years he has been a willing and capable co-worker. Finally to Liz Tretter, our Administrative Assistant, I owe and acknowledge my deep gratitude for her consistently accurate and effective help and support in the numerous manuscript revisions, reviews and retypings.

To these and to so many other skilled people who have given freely of their time and advice goes my sincere thank you.

JOHN F. CONNOLLY, M.D., F.A.C.S.

A series of audiovisual programs covering particular pitfalls in fracture management are available in slide tape and videocassette format. The topics covered and based on the content of this book are:

1. General Principles, Part I
2. General Principles, Part II
3. Pitfalls of Epiphyseal and Physeal Fractures
4. Pitfalls of Fractures and Dislocations of the Cervical Spine
5. Pitfalls of Fractures and Dislocations of the Thoracic and Lumbar Spine
6. Pitfalls of Fractures and Dislocations of the Pelvis
7. Pitfalls of Fractures and Dislocations of the Clavicle and Shoulder Girdle
8. Pitfalls of Subluxations and Dislocations of the Shoulder
9. Pitfalls of Humeral Fractures
10. Pitfalls of Elbow Fractures and Dislocations
11. Pitfalls of Forearm Fractures
12. Pitfalls of Fractures in the Region of the Wrist
13. Pitfalls of Fractures, Dislocations, and Other Injuries to the Metacarpals and Phalanges
14. Pitfalls of Dislocations and Fracture Dislocations of the Hip
15. Pitfalls of Femoral Fractures
16. Pitfalls of Injuries to the Soft Tissues and Bone Elements of the Knee
17. Pitfalls of Tibia Fractures
18. Pitfalls of Ankle Injuries
19. Pitfalls of Foot Injuries
20. Pitfalls of Pathologic Fractures

Further information on the audiovisual instructional programs is available from: Media Librarian, Biomedical Communications Center, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, NE 68105.

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# PRINCIPLES



# DEFINITIONS AND CAUSES

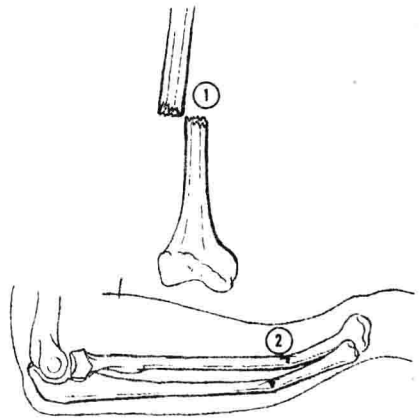
## *Fracture*

### DEFINITION

A fracture is a complete or incomplete break in the continuity of a bone.

1. Complete break in the continuity of the shaft of the femur.

2. Greenstick fracture, or incomplete break in the continuity of the shaft of the radius and the ulna.



### *Factors Responsible for Fractures*

A. Direct violence applied to the bone also damages surrounding soft tissue.

1. A tapping force applied to the tibia produces an oblique fracture.
2. A crushing injury results in a fragmented fracture of the tibia and fibula.
3. A penetrating direct injury from a high-velocity gunshot blast destroys bone and soft tissue.

