

In Clinical Practice

Taking a practical approach to clinical medicine, this series of smaller reference books is designed for the trainee physician, primary care physician, nurse practitioner and other general medical professionals to understand each topic covered. The coverage is comprehensive but concise and is designed to act as a primary reference tool for subjects across the field of medicine.

More information about this series at <http://www.springer.com/series/13483>

Mike Hayton • Chye Yew Ng
Lennard Funk • Adam Watts
Mike Walton
Editors

Sports Injuries of the Hand and Wrist

 Springer

Editors

Mike Hayton
Upper Limb Unit
Wrightington Hospital
Wigan, UK

Chye Yew Ng
Upper Limb Unit
Wrightington Hospital
Wigan, UK

Lennard Funk
Upper Limb Unit
Wrightington Hospital
Wigan, UK

Adam Watts
Upper Limb Unit
Wrightington Hospital
Wigan, UK

Mike Walton
Upper Limb Unit
Wrightington Hospital
Wigan, UK

ISSN 2199-6652
In Clinical Practice
ISBN 978-3-030-02133-7
<https://doi.org/10.1007/978-3-030-02134-4>

ISSN 2199-6660 (electronic)
ISBN 978-3-030-02134-4 (eBook)

Library of Congress Control Number: 2019930724

© Springer Nature Switzerland AG 2019

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG

The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Foreword

Injuries to athletes can be devastating, often negating the hours or even years of training.

Over the years, sports performance has become a specialty in its own right, and the management of injuries generated both in and out of the sports environment has improved immensely. Improvements in investigation and improvements in understanding of the mechanism of injury and understanding the most efficacious use of surgery and therapy have improved the quality of life of innumerable injured sports persons.

The editors have brought together a stellar constellation of experts, all of whom bring to the book their own special expertise and understanding of their area of expertise.

There is no doubt that the information, which the collective body has produced, will make a significant difference to the recognition and treatment of sports injuries in the upper limb.

Wrightington, UK

John K. Stanley

Preface

This book serves as an introduction to the management of common sports injuries of the hand and wrist. We hope this will be of use to students, therapists, physicians and surgeons who are interested in understanding the pathoanatomy and latest treatment options for these injuries. We are particularly grateful to the authors for their valuable contributions to the book.

Wigan, UK
Wigan, UK

ChyeYew Ng
Mike Hayton

Acknowledgment

We are grateful to our families (Philippa and Shi Zhuan), friends and colleagues for their patience during this project.

Contents

1 Mallet Finger Injuries	1
Loris Pegoli and Giorgio Pivato	
2 Flexor Digitorum Profundus Avulsion Injuries	15
Heather L. Baltzer and Steven L. Moran	
3 Fractures and Dislocations of the Proximal Interphalangeal Joint	35
David J. Shewring	
4 Phalangeal Fractures in the Athlete	59
James Logan and David Warwick	
5 Climber's Pulley Injuries	81
François Moutet, M. Bouyer, Denis Corcella, Alexandra Forli, and Alessandro Semere	
6 Metacarpal Fractures in the Athletes	101
Alistair R. Phillips and David G. Hargreaves	
7 Thumb Fractures	125
Mohamed Noureldin and Sanjeev Kakar	
8 Hand Injuries in the Elite Boxer	151
Mike Hayton and David Dickson	
9 Scaphoid Fractures	161
Joel V. Ferreira, Juan Marcelo Giugale, and Mark Baratz	

10	Carpal Fractures (Excluding Scaphoid)	185
	Carlos Heras-Palou	
11	Scapholunate Ligament Injury	201
	Jonathan Adamthwaite, Sina Babazadeh, and Marc Garcia-Elias	
12	Injuries to the Triangular Fibrocartilage Complex	235
	Mark Rekant	
13	Injuries to the Extensor Carpi Ulnaris and Its Investments in the Athlete	255
	Rodney J. French and Thomas J. Graham	
14	Chronic Exertional Compartment Syndrome (CECS) of the Forearm	277
	John W. K. Harrison	
	Index	289

Editors

Mike Hayton Upper Limb Unit, Wrightington Hospital, Wigan, UK

Chye Yew Ng Upper Limb Unit, Wrightington Hospital, Wigan, UK

Contributors

Jonathan Adamthwaite Department of Plastic Surgery, York Teaching Hospital NHS Foundation Trust, York, UK

Sina Babazadeh Institut Kaplan, Barcelona, Spain

Heather L. Baltzer Division of Plastic Surgery and Orthopedic Surgery, Toronto Western Hospital, Toronto, ON, Canada

Mark Baratz Hand and Upper Extremity, Department of Orthopaedic Surgery, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

M. Bouyer Clinique de Chirurgie Réparatrice de la Main et des Brûlés SOS Main Grenoble, CHU de Grenoble Hôpital A. Michalon, Grenoble, France

Denis Corcella Clinique de Chirurgie Réparatrice de la Main et des Brûlés SOS Main Grenoble, CHU de Grenoble Hôpital A. Michalon, Grenoble, France

David Dickson Department of Orthopaedics, Bradford Royal Infirmary, Bradford, UK

Joel V. Ferreira Department of Orthopaedic Surgery, UConn Health, Farmington, CT, USA

Alexandra Forli Clinique de Chirurgie Réparatrice de la Main et des Brûlés SOS Main Grenoble, CHU de Grenoble Hôpital A. Michalon, Grenoble, France

Rodney J. French Surgery of the Hand and Wrist, Division of Plastic Surgery, University of British Columbia, Vancouver, BC, Canada

Marc Garcia-Elias Institut Kaplan, Barcelona, Spain

Juan Marcelo Giugale Greater Pittsburgh Orthopaedic Associates, Pittsburgh, PA, USA

Thomas J. Graham Department of Orthopedic Surgery, NYU Langone Health, New York, NY, USA

David G. Hargreaves Department of Orthopaedics, University Hospital Southampton NHS Foundation Trust, Southampton, UK

John W. K. Harrison Department of Orthopaedics, Gateshead NHS Foundation Trust, Gateshead, UK

Carlos Heras-Palou Pulvertaft Hand Centre, Royal Derby Hospital, Derby, UK

Sanjeev Kakar Department of Orthopedic Surgery, Mayo Clinic, Rochester, MN, USA

James Logan Department of Orthopaedics, University Hospitals Southampton NHS Foundation Trust, Southampton, UK

Steven L. Moran Department of Orthopaedic Surgery, Mayo Clinic, Rochester, MN, USA

François Moutet Clinique de Chirurgie Réparatrice de la Main et des Brûlés SOS Main Grenoble, CHU de Grenoble Hôpital A. Michalon, Grenoble, France

Mohamed Noureldin Department of Orthopedic Surgery,
Mayo Clinic, Rochester, MN, USA

Loris Pegoli Hand and Reconstructive Microsurgery
Department, Humanitas University, Milan, Italy

Alistair R. Phillips Department of Orthopaedics,
University Hospital Southampton NHS Foundation Trust,
Southampton, UK

Giorgio Pivato San Pio X Clinic, Hand and Reconstructive
Microsurgery Unit, Milan, Italy

Mark Rekant Philadelphia Hand to Shoulder Center,
Department of Orthopaedic Surgery, Thomas Jefferson
University, Philadelphia, PA, USA

Alessandro Semere Clinique de Chirurgie Réparatrice de la
Main et des Brûlés SOS Main Grenoble, CHU de Grenoble
Hôpital A. Michalon, Grenoble, France

David J. Shewring Department of Trauma and Orthopaedic
Surgery, University Hospital of Wales, Cardiff, UK

David Warwick Department of Orthopaedics, University
Hospital Southampton NHS Foundation Trust,
Southampton, UK