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978-1-107-68546-8 - Orthopaedic Biomechanics Made Easy
Sheraz S. Malik and Shahbaz S. Malik
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Orthopaedic Biomechanics Made Easy

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To our parents Muhammad S. Malik and Shahnaz Akhtar
for their prayers and blessings, and showing us the value
of education whether being taught or teaching others, and
to our brother, Shahzad S. Malik, for being there for us.
Sheraz S. Malik

Also to my wife Nadia, for her endless patience.
Shahbaz S. Malik

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Sheraz S. Malik and Shahbaz S. Malik
Frontmatter
[More information](#)

CONTENTS

Contributors [page ix]
Preface [xi]
Acknowledgements [xii]

Part I: Orthopaedic biomaterials and their properties

1. Introduction to orthopaedic biomechanics [2]
Introduction to orthopaedic biomechanics [2]
Force [4]
Moment of a force [6]
Static analysis [8]
Static analysis applied to the musculoskeletal system [10]
Simple machine [12]
Simple machines in the musculoskeletal system [14]
Stress and strain [16]
Stress-strain curve [18]
Mechanical properties [20]
Viscoelastic properties of materials [22]

2. Orthopaedic biomaterials and their properties [24]
Structure and properties of materials [24]
Metals [26]
Alloys [28]
Metals in orthopaedics [30]
Ceramics [32]
Ceramics in orthopaedics [34]
Polymers [36]
Polymers in orthopaedics [38]
Composites [40]
Composites in orthopaedics [42]
Bone I [44]
Bone II [46]

Part II: Engineering theory applied to orthopaedics

3. Modes of loading in the musculoskeletal system [50]
Introduction [50]
Compression and tension [52]
Bending I [54]
Bending II [56]

Torsion [58]
Material and geometric properties of long bones [60]

4. Biomechanics of fracture [62]
Fundamentals of fracture [62]
Mechanism of bone fracture [64]
Patterns of bone fractures I [66]
Patterns of bone fractures II [68]
Patterns of bone fractures III [70]
Stress raisers [72]
Corrosion [74]
Biological process of bone fracture healing [76]
Biomechanical process of bone fracture healing [78]

5. Biotribology [80]
Introduction to biotribology [80]
Friction [82]
Wear [84]
Lubrication I [86]
Lubrication II [88]
Lubrication of synovial joints [90]
Lubrication of prosthetic joints [92]

Part III: Clinical biomechanics

6. Biomechanics of the hip and total hip replacement [96]
Axes of the lower limbs [96]
Hip joint reaction force I [98]
Hip joint reaction force II [100]
Total hip replacement: cemented fixation [102]
Total hip replacement: cementless fixation [104]
Total hip replacement: design and alignment of components [106]
Total hip replacement: femoral head size [108]
Total hip replacement: bearing surfaces [110]

7. Biomechanics of the knee and total knee replacement [112]
Knee: functional anatomy I [112]
Knee: functional anatomy II [114]
Knee: flexion-extension arc [116]

CONTENTS

Knee joint reaction force	[118]	
Total knee replacement: design of components I	[120]	
Total knee replacement: design of components II	[122]	
Total knee replacement: alignment of components	[124]	
8. Biomechanics of the shoulder	[126]	
Shoulder: functional anatomy I	[126]	
Shoulder: functional anatomy II	[128]	
Shoulder joint reaction force	[130]	
Shoulder replacement	[132]	
Reversed shoulder replacement	[134]	
9. Biomechanics of the elbow	[136]	
Elbow: functional anatomy	[136]	
Stabilisers of the elbow	[138]	
Elbow joint reaction force	[140]	
10. Biomechanics of the spine	[142]	
Biomechanics of spinal components I	[142]	
Biomechanics of spinal components II	[144]	
Stability of the spinal column	[146]	
The loads acting on the spinal column	[148]	
11. Biomechanics of the ankle and foot	[150]	
The ankle joint	[150]	
Total ankle replacement	[152]	
Three rockers of normal gait	[154]	
The foot	[156]	
12. Biomechanics of fracture fixation	[158]	
Introduction to fracture fixation	[158]	
Cast	[164]	
Wires	[166]	
Surgical screw I	[168]	
Surgical screw II	[170]	
Plate fixation I	[172]	
Plate fixation II	[174]	
Intramedullary nail I	[176]	
Intramedullary nail II	[178]	
External fixation I	[180]	
External fixation II	[182]	
External fixation III	[184]	
13. Trauma meeting: case-based discussions	[186]	
Mechanics of trauma meeting	[186]	
Fractures of the middle third of clavicle	[188]	
Fractures of the proximal humerus	[190]	
Fractures of the mid-shaft of humerus	[192]	
Intra-articular fractures of distal humerus	[194]	
Distal radius fractures	[196]	
Intertrochanteric fractures of the proximal femur	[198]	
Fractures of distal third of tibia	[200]	
Pilon fractures	[202]	
Ankle fractures	[204]	
Index	[207]	

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This type of surgery demands training in mechanical techniques, which, though elementary in practical engineering, are as yet unknown in the training of a surgeon.

Sir John Charnley

Everything should be made as simple as possible, but no simpler.

Albert Einstein

PREFACE

Orthopaedic Biomechanics Made Easy introduces you to the fundamental biomechanical principles in orthopaedics, and shows you how these relate to the clinical practice. The book seeks to fulfil two objectives:

- To bring together important biomechanical concepts relevant to surgical practice.
- To make these ideas simple and easy to learn.

Our efforts have been about taking you back to the first principles, and making them more interesting and fun to learn. We have avoided point-by-point references for this reason, as we feel that this might affect the reading experience.

To help you explore the subject, the book is signposted into three parts: Orthopaedic biomaterials and their properties; Engineering theory applied to orthopaedics; and, Clinical biomechanics. Each concept is introduced and explained in a discrete double-page spread. Consecutive sections are usually related and follow a common theme. Naturally, some ideas are more difficult than others, and we expect you to skip over them initially and to come back to them after covering the simpler topics. You do not need to deal with advanced maths to understand the presented biomechanical principles. Mathematical explanations are provided in some sections only to demonstrate how a particular biomechanical fact is derived. You may skip over the mathematical workings without missing out on the learning points.

We hope this book helps to make your clinical practice easier and more rewarding.

Sheraz S. Malik
Shahbaz S. Malik

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