

Contents

In this revision, I have attempted to fine tune the chapters for increased consistency and clarity while maintaining the successful presentation approach the late Dr. Clem Thompson established from 1961 through 1989. I first used this book as an undergraduate and later in my teachings over the years. Having developed great respect for this text and Dr. Thompson's style, it is my intention to continue to preserve the effectiveness of this time-honored text, while adding material pertinent to the profession's working with today's ever-growing physically active population. Hopefully, I have maintained a clear, concise, and simple presentation method supplemented with applicable information gained through my research and career experiences.

This text, now in its 64th year, has undergone many revisions over the years. My goal continues to be making the material as applicable as possible to physical activity and to make it more understandable and easier to use for the student and professional. While reading this text, I challenge kinesiology students and professionals to immediately apply the content to physical activities with which they are individually familiar. I hope that the reader will simultaneously palpate his or her own moving joints and contracting muscles to gain application. Concurrently, I encourage students to palpate the joints and muscles of fellow students to gain a better appreciation of the wide range of normal anatomy and, when possible, appreciate the variation from normal found in injured and pathological musculoskeletal anatomy. Additionally, with the tremendous growth of information and media available via the Internet and other technological means, I encourage careful and continuous exploration of these resources. These resources should be helpful, but must be reviewed with a critical eye, as all information should be

Audience

This text is designed for students in an undergraduate structural kinesiology course after complet-

Preface, v

- 1 Foundations of Structural Kinesiology, 1
- 2 Neuromuscular Fundamentals, 35
- 3 Basic Biomechanical Factors and Concepts, 69
- 4 The Shoulder Girdle, 87
- 5 The Shoulder Joint, 109
- 6 The Elbow and Radioulnar Joints, 141
- 7 The Wrist and Hand Joints, 167
- 8 Muscular Analysis of Upper-Extremity Exercises, 205
- 9 The Hip Joint and Pelvic Girdle, 227
- 10 The Knee Joint, 271
- 11 The Ankle and Foot Joints, 291
- 12 The Trunk and Spinal Column, 327
- 13 Muscular Analysis of Trunk and Lower-Extremity Exercises, 361

Appendix, 375

Glossary, 385

Illustration credits, 393

Index, 395