

TABLE OF CONTENTS

| | |
|---|----|
| Preface | 12 |
| Foreword | 14 |
| PART 1: GENERAL PRINCIPLES AND GUIDELINES FOR SHOULDER REHABILITATION | 16 |
| Chapter 1: Labelling Shoulder Pain: A Dilemma... | 18 |
| Chapter 2: The Clinical Examination of the Shoulder | 30 |
| 2.1 Background | 32 |
| 2.2 Clinical Examination Strategy | 33 |
| 2.2.1 History | 33 |
| 2.2.2 Observation and Pre-Examination Palpation | 35 |
| 2.2.3 Basic Clinical Exam (BCE) and Tissue Specific Palpation | 36 |
| 2.2.4 Additional Testing: Diagnostic Tests, Symptom Provocation and Symptom Reduction Tests, Tissue Flexibility and Failure Tests | 38 |
| 2.2.4.1 SA or Internal/Glenohumeral Conflict: Symptom Provocation and Symptom Reduction Tests | 43 |
| 2.2.4.2 Rotator Cuff Tests | 46 |
| 2.2.4.3 Scapular Involvement Tests | 48 |
| 2.2.4.4 Instability Tests: Laxity Tests | 49 |
| 2.2.4.5 Biceps Pathology and SLAP Lesion Tests | 51 |
| 2.2.4.6 Clinical Evaluation of GIRD | 53 |
| 2.2.5 Kinetic Chain Screening | 53 |
| 2.2.6 Screening for Neurovascular Pathology | 55 |
| 2.3 Discussion | 58 |
| 2.4 Summary | 60 |

| | |
|--|-----|
| Chapter 3: Open and Closed Kinetic Chain Exercises | 64 |
| 3.1 Background | 66 |
| 3.1.1 Open Kinetic Chain Exercises | 66 |
| 3.1.2 Closed Kinetic Chain Exercises | 68 |
| 3.1.3 Towards a New Terminology? | 69 |
| 3.2 Treatment Strategy | 73 |
| 3.3 Discussion | 79 |
| 3.4 Summary | 81 |
| Chapter 4: The Role of the Kinetic Chain in Shoulder Rehabilitation | 84 |
| 4.1 Background | 86 |
| 4.2 Kinetic Chain Implementation in Shoulder Rehabilitation | 88 |
| 4.3 Discussion | 97 |
| 4.4 Summary | 99 |
| Chapter 5: The Role of Tissue Irritability, Central Sensitization, And Psychosocial Factors in the Clinical Reasoning Process | 102 |
| 5.1 Tissue Irritability | 104 |
| 5.2 Central Sensitization and Psychosocial Factors | 108 |
| 5.3 Summary | 111 |
| Chapter 6: Exercise Prescription Based on Electromyographic Activity in the Targeted Muscles | 114 |
| 6.1 Rotator Cuff Rehabilitation | 118 |
| 6.1.1 Background | 118 |
| 6.1.2 Treatment Strategy | 118 |
| 6.1.3 Discussion | 134 |
| 6.1.4 Summary | 135 |
| 6.2 Scapula Rehabilitation | 136 |
| 6.2.1 Background | 136 |
| 6.2.2 Treatment Strategy | 137 |
| 6.2.3 Discussion | 144 |
| 6.2.4 Summary | 145 |

| | |
|--|-----|
| PART 2: REHABILITATION OF COMMON SHOULDER DISORDERS | 150 |
| Chapter 7: Rehabilitation of Rotator Cuff Disorders | 152 |
| 7.1 Rotator Cuff Tendinopathy | 155 |
| 7.1.1 Background | 155 |
| 7.1.2 Treatment Strategy | 156 |
| 7.1.3 Discussion | 160 |
| 7.1.4 Summary | 162 |
| 7.2 Rotator Cuff Tears | 163 |
| 7.2.1 Background | 163 |
| 7.2.2 Treatment Strategy | 165 |
| 7.2.2.1 Closed-Chain Exercise Program in Progression | 166 |
| 7.2.2.2 Open Chain Exercises in Progression | 168 |
| 7.2.2.3 General Exercise Instructions | 170 |
| 7.2.2.4 Other Interventions | 171 |
| 7.2.3 Discussion | 171 |
| 7.2.4 Summary | 175 |
| Chapter 8: Rehabilitation of Shoulder Instability | 182 |
| 8.1 TUBS – Traumatic Unidirectional Bankart Surgery | 186 |
| 8.1.1 Background | 186 |
| 8.1.2 Treatment Strategy | 187 |
| 8.1.3 Discussion | 189 |
| 8.1.4 Summary | 191 |
| 8.2 AMBRI – Atraumatic Multidirectional Bilateral Rehabilitation Inferior .. | 192 |
| 8.2.1 Background | 192 |
| 8.2.2 Treatment Strategy | 193 |
| 8.2.3 Discussion | 197 |
| 8.2.4 Summary | 198 |

| | | |
|---|---|------------|
| 8.3 | AIOS – Acquired Instability Overuse Syndrome | 199 |
| 8.3.1 | Background | 199 |
| 8.3.2 | Treatment Strategy | 200 |
| 8.3.3 | Discussion | 201 |
| 8.3.4 | Summary | 202 |
| Chapter 9: Rehabilitation of Biceps Related Pathology and Slap-Lesions ... | | 206 |
| 9.1 | Background | 208 |
| 9.2 | Treatment Strategy | 210 |
| 9.3 | Discussion | 221 |
| 9.4 | Summary | 222 |
| Chapter 10: Rehabilitation of Shoulder Range of Motion | | 224 |
| 10.1 | GIRD – Glenohumeral Internal Rotation Deficit | 226 |
| 10.1.1 | Background | 226 |
| 10.1.2 | Treatment Strategy | 227 |
| 10.1.3 | Discussion | 233 |
| 10.1.4 | Summary | 234 |
| 10.2 | Frozen Shoulder | 235 |
| 10.2.1 | Background | 235 |
| 10.2.2 | Treatment Strategy | 237 |
| 10.2.2.1 | Pain > Stiffness (High Irritability) | 237 |
| 10.2.2.2 | Stiffness > Pain (Low Irritability) | 239 |
| 10.2.3 | Discussion | 244 |
| 10.2.4 | Summary | 246 |
| Chapter 11: Rehabilitation of Dysfunction of the Scapula | | 250 |
| 11.1 | Background | 252 |
| 11.2 | Treatment Strategy | 257 |
| 11.2.1 | Rehabilitation of Flexibility Deficits | 258 |
| 11.2.2 | Rehabilitation of Muscle Performance Deficits | 260 |
| 11.2.3 | Guidelines Classified for the 3 Main Types of Scapular Dysfunction | 266 |

| | |
|---|------------|
| 11.3 Discussion | 271 |
| 11.4 Summary | 273 |
| 11.4.1 General | 273 |
| 11.4.2 Guidelines With Respect to the Type of Scapular Dysfunction ... | 274 |
| 11.4.3 Guidelines With Respect to Muscle Recruitment Patterns | 275 |
| PART 3: THE OVERHEAD ATHLETE'S SHOULDER | 280 |
| Chapter 12: Screening and Assessment of the Sporting Shoulder | 282 |
| 12.1 Background | 284 |
| 12.2 Assessment Tools and Procedures | 285 |
| 12.2.1 Range of Motion (ROM) Into External (ER) and Internal (IR) Rotation | 285 |
| 12.2.2 Shoulder strength into ER and IR | 286 |
| 12.2.3 Inclination of the Scapula | 288 |
| 12.2.4 Scapular Muscle Strength | 289 |
| 12.2.5 Pectoralis Minor Length (PML) | 290 |
| 12.2.6 Functional Testing | 291 |
| 12.2.6.1 Seated Medicine Ball Throw (SMBT) | 294 |
| 12.2.6.2 Y-Balance test for Upper Quarter (YBT-UQ) | 292 |
| 12.2.6.3 Closed Kinetic Chain Upper Extremity Stability Test (CKUEST) | 292 |
| 12.2.6.4 XCO Shoulder Fatigue Test (SFT) | 293 |
| 12.2.6.5 Upper Limb Rotation Test (ULRT) | 293 |
| 12.2.6.6 Shoulder Endurance Test (SET) | 294 |
| 12.2.7 Patient Rated Outcome Measures (PROM) | 295 |
| 12.2.8 Assessment of the Kinetic Chain | 297 |
| 12.3 Discussion | 298 |
| 12.4 Summary | 301 |

| | |
|--|-----|
| Chapter 13: Rehabilitation of the Overhead Athlete | 306 |
| 13.1 Background | 308 |
| 13.2 Treatment Strategy | 311 |
| 13.2.1 Thrower’s Program, the Basics | 311 |
| 13.2.2 Eccentric Training for the Decelerator Mechanism | 313 |
| 13.2.3 Special Considerations for the Rehabilitation of the Swimmer .. | 315 |
| 13.2.4 Special Considerations for the Rehabilitation of the Volleyball Player | 317 |
| 13.2.5 Special Considerations for the Gymnast and other ‘Hanging’ Sports | 319 |
| 13.2.6 Special Considerations for the Athlete who Handles With ‘Impact’ | 322 |
| 13.3 Discussion | 324 |
| 13.4 Summary | 325 |
| 13.4.1 Acute Traumatic Injuries | 325 |
| 13.4.2 Chronic Overload Injuries | 326 |
| 13.4.3 Sport-Specific Issues | 327 |
| Chapter 14: Injury Prevention and Return to Sports After Injury | 330 |
| 14.1 Injury Prevention for Shoulder Injury | 332 |
| 14.1.1 Background | 332 |
| 14.1.2 Injury Prevention Program Strategy | 333 |
| 14.1.3 Discussion | 334 |
| 14.2 Return to Sports After Shoulder Injury | 337 |
| 14.2.1 Background | 337 |
| 14.2.2 Return to Sports Strategy for the Shoulder | 339 |
| 14.2.3 Discussion | 340 |
| List of Abbreviations | 346 |