

Contents

PART I INTRODUCTION TO GONIOMETRY, 1

Chapter 1 Basic Concepts, 3

Goniometry, 3

Joint Motion, 4

- Arthrokinematics, 4
- Osteokinematics, 5
- Planes and Axes, 5

Range of Motion, 6

- Active Range of Motion, 8
- Passive Range of Motion, 8
- Hypomobility, 9
- Hypermobility, 11
- Factors Affecting Range of Motion, 12

Muscle Length Testing, 13

Chapter 2 Procedures, 19

Positioning, 19

Stabilization, 20

Measurement Instruments, 21

- Universal Goniometer, 21
- EXERCISE 1: Determining the End of the Range of Motion and End-Feel, 22
- Gravity-Dependent Goniometers (Inclinometers), 25
- Electrogoniometers, 26
- Visual Estimation, 26
- EXERCISE 2: The Universal Goniometer, 27

Alignment, 27

- EXERCISE 3: Goniometer Alignment for Elbow Flexion, 30

Recording, 31

- Numerical Tables, 32
- Pictorial Charts, 32
- Sagittal-Frontal-Transverse-Rotation Method, 33
- American Medical Association Guides to Evaluation Method, 34

Procedures, 34

- Explanation Procedure, 35
- Testing Procedure, 35
- EXERCISE 4: Explanation of Goniometric Testing Procedure, 36
- EXERCISE 5: Testing Procedure for Goniometric Evaluation of Elbow Flexion ROM, 36

Chapter 3 Validity and Reliability, 39

Validity, 39

- Face Validity, 39
- Content Validity, 39
- Criterion-Related Validity, 39
- Construct Validity, 40

Reliability, 41

- Summary of Goniometric Reliability Studies, 41
- Statistical Methods of Evaluating Measurement Reliability, 43

