

Contents

Preface

vi

Acknowledgments

viii

Part I **Overview and History**

Chapter 1 **Perceived Exertion** **2**

Developing the Concept 2
Early Perceived Exertion Studies 4
The Three Effort Continua 6
Defining Perceived Exertion 8

Chapter 2 **Pain** **10**

Defining Pain 11
Special Aspects of Pain 11

Chapter 3 **Measuring Perceived Exertion and Pain** **13**

The Borg RPE and CR10 Scales 13
When to Use the Scales 14
What Scale to Use 14
Some Misuses of the Scales to Avoid 15

Part II **Principles of Scaling and Using the Borg Scales**

Chapter 4 **Psychophysical Scaling** **18**

Ratio Scaling 19
Interindividual and Other Interprocess Comparisons 24

Chapter 5 **The Borg RPE Scale** **29**

Construction of the Scale 29
Reliability of the Scale 31
Validity of the Scale 34

Chapter 6 **The Borg CR10 Scale** **39**

Construction of the Scale 39
Reliability of the Scale 41
Validity of the Scale 42

Chapter 7	Administration of the Borg Scales	44
	General Principles 44	
	The Borg RPE Scale 46	
	The Borg CR10 Scale 49	
<i>Part III</i>	<i>Applications of the Scaling Methods</i>	
Chapter 8	Perceived Exertion in Working Capacity Tests	54
	Aerobic Exercise Testing and RPE 54	
	Anaerobic Exercise Testing and RPE 57	
	Estimating Maximal and Resting Heart Rates 58	
	The Simple Run or Walk Test 59	
Chapter 9	Scaling Pain and Related Subjective Somatic Symptoms	63
	Evaluating Symptoms and Pain 63	
	Scaling Pain With the Borg CR10 Scale 65	
Chapter 10	External, Physiological, and Psychological Factors and Perceived Exertion	68
	The Environment 68	
	Nutrition and Drugs 69	
	Physiological Factors 70	
	Psychological Factors 72	
	Weighing All the Factors 74	
Chapter 11	Applying the Scales to Training and Rehabilitation	75
	Mode of Exercise 75	
	Frequency and Duration of Exercise 76	
	Intensity of Exercise 76	
	Short-Term Exercise and Muscular Training 78	
	Long-Term Exercise Regulation 79	
	Rehabilitation 79	
Chapter 12	Ergonomics and Epidemiology	81
	Ergonomics 81	
	Epidemiological Intensity Evaluations 84	
Chapter 13	Perceived Exertion and Sports	86
	Short-Term Maximal Effort 87	
	Long-Term Maximal Effort 87	
	Short-Term Submaximal Effort 88	
	Long-Term Submaximal Effort 89	
	Sports With Mixed Efforts of Varying Duration 89	
	<i>References</i>	92
	<i>Index</i>	98
	<i>About the Author</i>	103
	<i>Appendix</i>	104