CONTENTS

PREFACE iv

ACKNOWLEDGMENTS v

CONTRIBUTORS vi

REVIEWERS ix

INTRODUCTION TO THE FOURTH EDITION xxv

PART I Global Health and Aging: Implications for Health and Participation 1

1 Growing Old in Today's World 3

Bette Bonder

History of Aging 4

Life Expectancy 4

Impact of Economic Circumstances and Gender Throughout History 4

Attitudes About Aging From a Historical Perspective 5

Historical Roles of Older Adults 6

Cohort Effects 6

Aging Today: Factors Affecting the Experience of Aging 7

Physical Environment 7

Sociocultural Factors 8

Individual Characteristics 10

The Impact of Gender in Modern Times 11

Socioeconomic Factors 11

Positive Aging 12

2 Theories of Aging: A Multidisciplinary Review for Occupational and Physical Therapists 19

Bette Bonder, Renée R. Taylor, and Evguenia S. Popova

Challenges of Societal Aging 19

What Do Gerontologists Want to Explain? 19

Sociodemographic Changes 20

The Current State of Theory in Gerontology 20

Theories of Aging 20

Biological Theories of Aging 20

Neuropsychological Theories of Aging 21

Psychological Theories of Aging 22

Sociological Theories of Aging 24

Client-Centered Approaches With Older Adults 26

The Systems Theory of Motor Control 26

The Model of Human Occupation 27

The International Classification of Functioning, Disability, and Health and the Occupational Therapy Practice Framework, Third Edition 28

The ICF 28

The Occupational Therapy Practice Framework, Third Edition 29

3 Public Policy and Advocacy in North America 33
Nancy Richman
Public Policy and Aging 33
Federal Policy 34
State Policy 38
Local Policy 38
Public Policy in International Context 38
Models of Advocacy 39
How Policy Is Made 39
Advocating for Policies 40
Advocating for Individuals 40
The Role of OT and PT in Advocacy 41
Advocacy at Work: The Olmstead Act 42

4 Aging Around the World 45
Services for Older Adults in Israel 45
Yael Zilberslag, Maayan Katz, Jenny Brodsky, and Iris Rasoolu
The Demography of Aging in Israel 46
Health and Welfare Services 46
Long-Term Care for Disabled Elders 47
The Social Formal System of Care 47
The Health System of Care 48
Issues and Challenges 49
Health Care for the Elderly in Mexico 49
Laureano Reyes Gómez and Susana Villasana Benítez
Sociodemographic Context 49
Health-Care Systems 50
Conclusion 52
Aging in South Africa 53
Kim Lewitte and Anupa Singh
The Effect of Apartheid on South African Aged 53
The Rainbow Nation: Current Status of Older Adults 54
Health Care in South Africa 54
The Role of the Aged in the South African Community 56
Challenges for the Aged in South Africa 57
Conclusion 58

5 Meaningful Occupation in Later Life 61
Bette Bonder
The Search for Meaning 61
Occupation and Meaning 62
Themes of Meaning 63
Supporting Meaning in Occupational and Physical Therapy Interventions 66

6 Culture, Ethics, and Elder Abuse 75
Bette Bonder and Georgia J. Anetzberger
Culture and Aging 75
Aging in International Context 76
Culture and Aging in the United States 77

Aging, Culture, and Function 77
Occupations 77
Performance Skills 79
Performance Patterns 79
Context 80
Activity Demands 80
Client Factors: Body Functions and Body Structures 81
Culture and the Intervention Process 81
Cultural Competency 81
Analysis of Occupational Performance 81
Intervention 82
Ethical Issues in Later Life 82
Elder Abuse 83
Definition and Forms 83
Prevalence and Incidence 83
Reporting 84
Examples, Signs, and Risk Factors 84
Addressing Elder Abuse 85

PART II Aging: Body Structures and Body Functions 91

SECTION 1 Normal Age-Related Changes 93

7 Cognitive Function 93
Katherine S. Judge and Nicole T. Dawson
Bases of Cognitive Aging 94
Key Tenets of Cognitive Aging Across the Life Span 94
Methodological Considerations 94
Foundations of Cognition Aging: Basic and Higher Order Cognitive Processes 95
Basic Cognitive Processes 95
Higher Order Cognitive Processes 99
Additional Cognitive Processes 101
Theories Of Cognitive Aging 102
Speed of Processing Theory 102
Working Memory 102
Inhibition 103
Common Cause Hypothesis (Sensory Functioning) 103
Optimizing Cognitive Aging and Health 103

8 Cardiopulmonary and Cardiovascular Function 109
Elizabeth Dean
Interrelationships Among Structure and Function, Activity, and Social Participation: Cardiovascular and Pulmonary Function 110
Age-Related Changes in the Cardiopulmonary System and Its Function 110
Airways 110
Lung Parenchyma 110
Alveolar Capillary Membrane 110
Chest Wall 110

Respiratory Muscles 111
Net Effect of Age-Related Cardiopulmonary Changes 111
Age-Related Changes in the Cardiovascular System and Its Function 111
Heart 111
Blood Vessels 112
Net Effects of Age-Related Cardiovascular Changes 112
Functional Consequences of Age-Related Cardiopulmonary and Cardiovascular Changes 112
The Functional Performance Threshold 112
Functional Capacity 116
Functional Consequences of Fitness in Older People 118
Deconditioning 118
Conditioning 118
Implications for the Management of the Care of Older People 119
Safety 124
Customizing the Environment to Maximize Function 124

9 Sensory Function and Function Related to the Skin 129
Linda A. Hunt, Amanda Stead, and Bobby Nijjar
Vision System and Functional Performance 130
Normal Age-Related Vision System and Vision Changes 130
Auditory System and Functional Performance 132
Normal Age-Related Auditory System and Hearing Changes 132
Effects of Normal Age-Related Auditory System and Hearing Changes 134
Taste and Smell: Physical Changes and Functional Performance 136
Somesthesis: Physical Changes and Functional Performance 138
Skin Changes With Aging 138
Touch and Pressure 138
Pain 138
Temperature 139

10 Neuromuscular and Movement Function: Muscle, Bone, and Joints 145
Vanina Dal Bello-Haas, Norma J. MacIntyre, and Sirirat Seng-Iad
Neuromusculoskeletal and Movement Function in Older Adults 146
Age-Related Changes in Muscle Strength and Power 148
Age-Related Muscle Changes and Function 150
Age-Related Changes in the Skeletal System 151
Age-Related Changes in the Nervous System 153
Assessing the Neuromusculoskeletal System in Older Adults 154
Range of Motion and Flexibility Assessment 154
Muscle Strength and Power Assessment 154
Management of Neuromusculoskeletal Impairments in the Older Adult 155
Strength and Resistance Exercises 156
Flexibility (Stretching) Exercises 158

11 Neuromuscular and Movement Function: Coordination, Balance, and Gait 163
Vanina Dal Bello-Haas, Norma J. MacIntyre, and Sirirat Seng-Iad
Age-Related Changes in Postural Alignment 163
Age-Related Changes in Coordination 165
Age-Related Changes in Balance and Gait 166
Changes in Proprioception 167
Changes in Gait 167

Assessing Posture, Coordination, Balance, and Gait in Older Adults 167
Static Posture Assessment 167
Coordination Assessment 168
Balance Assessment 169
Gait Assessment 172
Management of Posture, Coordination, Balance, and Gait Problems in the Older Adult 174
Postural Problems and Skeletal Deformities 174
Coordination 174
Balance and Gait 174

SECTION 2 Age-Related Health Conditions, Impairments, and Limitations 181

12 Cognitive and Emotional Function: Health Conditions 181
Katherine S. Judge and Nicole T. Dawson
Key Tenets for Understanding and Maximizing Success With Atypical Cognitive Changes 182
Neurodegenerative Illnesses: Dementia and Associated Disorders 184
Prevalence of Dementia and Associated Disorders 184
Etiology and Types of Dementia 184
Symptoms of Dementia 185
Diagnosing Dementia 186
Pharmacological and Nonpharmacological Interventions for Dementia 187
Stroke 188
Prevalence 188
Etiology and Types of Stroke 188
Symptoms of Stroke 188
Diagnosing Stroke 189
Pharmacological and Nonpharmacological Interventions for Stroke 189
Mental Health Conditions 189
Depression 190
Anxiety Disorders 191
Schizophrenia 192
Bipolar Disorder 192
Substance Use Disorders 193
Understanding the Illness Experience of Individuals With Cognitive Conditions 194
Translating Research Findings Into Rehabilitation Treatment Plans for Cognitive and Emotional Disorders 194

13 Cardiopulmonary and Cardiovascular Function: Health Conditions 201
Elizabeth Dean
Factors Affecting Cardiopulmonary and Cardiovascular Health in Older People 202
Pathophysiology, Etiology, and Epidemiology 203
Gravitational Stress and Exercise Stress 208
Extrinsic Factors 209
Intrinsic Factors 209
Exercise Testing and Training Older People With Cardiopulmonary and Cardiovascular Health Conditions 210
Assessment Findings and Implications for Exercise Testing 210
Exercise Test Findings and Implications for Exercise Training 211

14 Sensory Function, Function Related to the Skin and Pain: Health Conditions 217
Linda A. Hunt, Bobby Nijjar, and Amanda Stead
Pathological Changes in the Visual System 217
Cataracts 218
Age-Related Macular Degeneration 219

Glaucoma 219
Diabetic Retinopathy 220
Functional and Behavioral Adaptations 221
Other Diseases That May Affect Vision, Visual Processing, and Functional Performance 222
Pathology of the Auditory System 224
Skin 224
Pain 225
Assessment 225
Interventions 226

15 Neuromuscular and Movement Function: Health Conditions 231
Norma J. MacIntyre, Vanina Dal Bello-Haas, and Sirirat Seng-Iad
Osteoarthritis 231
Risk Factors and Signs and Symptoms 232
Management of Osteoarthritis 232
Osteoporosis 233
Clinical Diagnosis 233
Fractures 233
Management of Osteoporosis 234
Amputation in Older Adults 236
Physical and Psychosocial Challenges of Limb Amputation 236
Management of Limb Amputation in Older Adults 236
Complications of Limb Amputation 237
Parkinson's Disease 238
Management of Parkinson's Disease 238
Stroke 241

16 Neuromuscular and Movement Function: Falls 249
Vanina Dal Bello-Haas and Norma J. MacIntyre
Definition of Fall and Near-Fall 249
Fall Facts 249
Where and When Do Older Adults Fall? 250
Consequences and Sequelae of Falls 250
Risk Factors for Falls 251
Risk Factors—Age-Related and Biological 251
Risk Factors—Behavioral and Cognitive 252
Risk Factors—Environmental and Community 253
Fall Risk and Fall Prevention Assessment 253
Fall Risk and Fall Prevention Intervention 255
Exercise 256
Prescription of Assistive and Adaptive Devices and Activities of Daily Living, Mobility, and Gait Training 257
Fear of Falling Interventions 257
Environment/Community: Prevention and Intervention 257
Other Interventions 257

17 Considerations for Medical Care of Older Adults 263
Patrick Bray and Bette Bonder
Differential Impact of Disease and Disorder in Later Life 264
Physiological and Psychosocial Factors and Disease 264
Severity of Specific Conditions 264

Presenting Symptoms 264
Preexisting Conditions 264
Acute Conditions 265
The Impact of Hospitalization 265
Common Medical Conditions in Later Life 265
Cancer 265
Diabetes and Obesity 266
Urinary Tract Infection 268
Infectious Diseases 268
Nutritional Deficiency and Oral Health 269
Frailty Syndrome and Posthospital Syndrome 269
Medication 270
General Principles for Effective Medication Use in Later Life 270
Pain Management 271
Substance Abuse 271
Implications for Occupational Therapy and Physical Therapy 272

PART III Active Aging: Supporting Client Activities and Participation 277

18 Self-Care 279
Kristine Haertl
Defining Self-Care 280
Models to Explain Everyday Functional Abilities 280
Competence, Value, and Meaning in Self-Care 280
Significance of Self-Care 281
Prevalence and Type of Limitations of Activities of Daily Living Among Older Adults 282
Effects of Medical Conditions on Self-Care 282
Stroke 282
Cardiovascular Disease 283
Dementia and Cognitive Decline 283
Joint Inflammation and Disease 283
Sensory Problems 283
Measuring Self-Care Performance 284
Assessing Factors Contributing to Self-Care Deficits 284
Assessing Instrumental Activities of Daily Living 285
Assessing Environmental Factors 285
Safety 286
Activities of Daily Living Intervention 286
Skill Training 286
Environmental Modifications 287
Assistive Devices for Self-Care 288
Task Modifications 289

19 Leisure 295
Anita C. Bundy, Sanetta H. J. Du Toit, and Lindy M. Clemson
Leisure and Aging 296
Leisure as a Statement of Identity 297
Leisure as a Fully Engaging Experience 298

Elements of Leisure 299
Control 299
Motivation 302
Freedom From Unnecessary Constraints of Reality 304
A Model of Leisure Engagement 304
Promotion of Leisure: Application of the Model 304
Role of Physical Therapy in Promoting Leisure 306

20 Work and Retirement 313
Brent Braveman, Patricia Bowyer, and R. Elaine Fogerty
Models of Retirement and Transition to Retirement 314
The Retirement Process and Models 315
Who Are the Older Workers of Today and Tomorrow? 316
Barriers to Successful Continued Employment Faced by Older Workers 317
Generational and Cultural Perspectives on Work and Retirement 317
Therapy Perspectives on Work and Retirement 318
Occupational Therapy and Older Workers 318
Physical Therapy and Older Workers 319
Ergonomic and Assistive Technologies 319
Volunteerism and Leisure 320
Legislative and Policy Issues Around the World 321
Other Health-Care Providers Involved in Work and Retirement 321

21 Environment, Products, and Technology 327
Sergio Romero
Aging and Functional Performance 327
The Built Environment and Functional Performance 328
Change the Individual 328
Change the Environment 328
Provide Individuals With Tools 330
Aging in Place 330
Assessing the Need for Assistive Technology 331
Determining Assistive Technology Needs Using the ICF and Practice Framework 331
Assistive Technology for Older Adults 333
Devices for Persons With Mobility or Motor Impairments 333
Devices for Persons With Vision Impairments 334
Devices for Persons With Hearing Impairments 335
Devices for Persons With Memory Loss 336
Issues Relating to Use of Assistive Technology With Older Adults 336

22 Driving 341
Wendy Stav and Beth A. Ekelman
Overview of National Statistics on Violations, Crashes, and Fatalities 341
Driving as an Occupation 342
Client Factors 343
Performance Skills 343
Performance Patterns 343
Contexts 343
Age-Related Physiological and Disease-Related Changes Affecting Driving Performance 345
Sensory Functions 345
Changes in Other Functions 346

Clinical Assessment and Intervention 348
Medical and Driving History and Performance Patterns 349
Clinical Assessment of Movement 350
Clinical Assessment of Visual Functions 350
Clinical Assessment of Other Client Factors and Performance Skills 351
Evidence-Based Practice 352
Suggestions for Clinicians in Geriatric Practice 353

23 Community Mobility 359
Wendy Stav
Losing the Ability to Drive: A Psychosocial Perspective 359
Source of Decision to Stop Driving 360
Implications of Driving Cessation 360
Family Involvement 361
Suggestions for Clinicians in Geriatric Practice 361
Community Mobility: Some Alternative Solutions 362
Facilitating Change in Transportation Services 364
Evidence-Based Practice 364

24 Interactions, Relationships, and Sexuality 367
Bette Bonder and Cynthia Hovland-Scafe
Social Relationships in Later Life 368
Culture and Family 369
Family Constellations 369
Family Occupations 370
Grandparenting 371
Special Circumstances 371
Spousal Relationships and Widowhood 371
Implications for Intervention 372
Sexuality and Aging 372
Defining Sexuality 372
Life-Stage Effects 373
Gays and Lesbians in Older Adulthood 373
Sexual Attitudes and Behaviors of Older Adults 373
Age-Related Physical Changes and Sexual Functioning 373
Effects of Disease and Other Factors on Sexuality 374
Implications for Health-Care Providers 375
When Caregiving Becomes Necessary 375
The Intentional Relationship Model 376
Techniques for Practice 377
Addressing Family Issues in the Current Health-Care Environment 378

25 Learning in Later Life 383
Vanina Dal Bello-Haas and Megan E. O'Connell
Gerogogy 384
Impact of Sensory System Changes on Older Adult Learning 384
Impact of Psychological and Physical Changes on Older Adult Learning 385
Impact of Cognitive Changes on Older Adult Learning 385
Impact of Social-Cultural Elements on Older Adult Learning 385

Learning and Memory: Not Just One Way to Learn 385
Episodic and Semantic Memory 386
Free Recall and Supported Recall 387
Prospective Memory 387
Procedural Memory and Motor Learning: Skill Learning 387
Formal, Nonformal, and Informal Learning in Later Life 388
Why Do Older Adults Engage in Learning? 391
Learning and Older Adult Health 391
Cognitive Reserve 391
Health Literacy 392
E-Learning in Later Life 392

26 Spirituality 397
Mary Ann McColl
Defining Spirituality 397
Differentiating Religion from Spirituality 398
Spirituality as a Vital Dimension of Rehabilitative Practice 398
As Human Beings 398
As Health Professionals 398
As Occupational Therapists in Particular 398
As Witnesses and Advocates for People With Chronic Illnesses and Disabilities 399
As Specialists in Elder Care 399
Approaches to Spirituality in Occupational and Physical Therapy 400
Acknowledge the Issue 400
Refer to a Spiritual-Care Professional 400
Intervene Directly Using Spiritual Interventions 401
Intervene Indirectly Using Familiar Therapeutic Interventions 401
Narrative 401
Ritual 401
Appreciation of Nature 402
Creativity 402
Work 402
Movement 402

PART IV Service Delivery for the Aging Client 405

27 Evaluation of Functional Performance 407
Lori Letts and Julie Richardson
Functional Performance 407
Evaluating Functional Performance 408
Conceptual Frameworks for Evaluation of Functional Performance 409
International Classification of Functioning, Disability, and Health 410
Glass Model 410
Person-Environment-Occupation Model 411
What to Assess When Focusing on Function in Older Adults 411
Priority Areas of Functional Performance With Older Adults 412
Specific Issues Related to Evaluation of Functional Performance 415

28 Health and Wellness 421
Julie D. Bass
Concepts Related to Health and Wellness 421
Factors Associated With Health and Wellness in Older Adults 422
Rowe and Kahn Model of Successful Aging 422
Other Factors Associated With Health and Wellness for Older Adults 423
Therapy for Health and Wellness 425
Occupational Therapy 425
Physical Therapy 426
Occupational Therapy and Physical Therapy Interventions and Programs 426
Professional Development for Practice 430
Addressing Health and Wellness in the Current Health-Care Environment 430

29 Community-Based Services 437
Georgia J. Anetzberger
Service Imperative 438
Service Classifications 438
Continuum of Care 438
Location 439
Function 439
Service Utilization 439
Service Barriers 440
Linkage 441
Something to Do 441
Working 442
Learning 442
Giving 442
Experiencing 443
Someone to Care 444
Adult Protective Services 445
Someplace to Live 445
Implications for Physical and Occupational Therapy 446

30 Primary Care 453
Julie Richardson and Sarah Wojkowski
Primary Care and Primary Health Care 453
Models of Integrating Rehabilitation Professionals and Services in Primary Care 454
Theoretical Frameworks Used to Understand Access to Health Services 455
A Conceptual Framework for Access to Health Care 455
Theoretical Framework for Health Service Utilization 456
The Expanded Chronic Care Model 456
Interpreting the ECCM 456
The ECCM and the Health-Care Professional 456
Roles for Occupational Therapists in Primary Care 458
Roles for Physical Therapists in Primary Care 459
Patient-Centeredness in Primary Care 459
Multimorbidity 460
Physical Function as a Primary Health Outcome 460

Self-Management and Behavior Change 461
Lifestyle Conditions and Interventions 462
Health Coaching and Motivational Interviewing 463
Motivational Interviewing 463
Cognitive Behavioral Therapy 464
Patient Satisfaction 464
The Integration of Technology to Maximize Service Delivery 465
Integration of Occupational Therapy and Physical Therapy Within the Primary Care Team 465

31 Home Health Care 471
Missi Zahoransky

History of Home Health Care in the United States 472
Cultural Competence and Patient-Centered Care 472
Overview of Important Legislation 473
The Health Insurance Portability and Accountability Act of 1996 (HIPAA) 473
The Balanced Budget Act of 1997 (BBA) 473
The Affordable Care Act (ACA) 473
The Improving Medicare Post-Acute Care Transformation Act (IMPACT) 473
Home Health-Care Agencies and Medicare 474
Criteria for Medicare Reimbursement to Home Health Agencies 474
Criteria for Coverage of Home Health Services for Medicare Beneficiaries 474
Impact of Regulations on Therapy Provision 477
The Role of OT, PT, and SLP in the Survey Process 477
Patients' Rights and Confidentiality 477
The Role of the Therapist in Communication and Plan of Care 477
Therapy Services and Therapy Assistants 478
The Initial Visit and Comprehensive Assessment 478
Documentation 480
Initial Evaluation 481
Reassessment 481
Payment Systems and Reimbursement 481
Therapy Thresholds 482
Part B Outpatient Therapy Services 482
Other Sources of Payment 483
What Intervention Looks Like 483
Therapy and Data Collection 483
Intervention 483
Measuring Quality and Best Practice 484

32 Rehabilitation 489
Vanina Dal Bello-Haas and Joyce Tryssenaar

Disability in Older Adulthood 490
Psychological Consequences of Disabling Events 491
Aging With a Preexisting Disability 491
Issues for Persons With Intellectual Disability 492
Issues for Persons With Serious Mental Illness 492
Issues for Persons With Physical Disabilities 492
What Makes Older Adult Rehabilitation Unique? 492
Chronological Versus Physiological Aging 492
Progressive Versus Catastrophic Disability 493

Biological and Other Factors 493
Management 493
The Rehabilitation Team 493
Coordinating the Rehabilitation Team 495
Case Management 495
The Occupational Therapy-Physical Therapy Partnership 496
Delivery Systems 496
Acute Care 497
Transitional Care Facilities and Units 497
Rehabilitation Units 497
Day Hospital Care and Adult Day Care Facilities 497
Home Health and Domiciliary Care 498
Outpatient and Ambulatory Care 498
Evaluation 498
Assessment Instruments 499
Personal and Environmental Factors to Consider 499
Personal Factors That May Influence Rehabilitation 499
Environmental Factors That May Influence Rehabilitation 500
Rehabilitation for Older Adults—The Evidence 501

33 Long-Term Care 507
Joshua Greene
Evolution of the Nursing Home 508
Legislation and Regulation 508
Medicare and Medicaid 508
State Regulations 510
Models of Care 510
Profile of Nursing Home Residents 511
Therapy in Nursing Home Settings 511
Occupational Therapy 512
Occupation in Long-Term Care 512
Physical Therapy 513
Interdisciplinary Teams in Long-Term Care 514
Therapies and the Total Environment 516
Evidence-Based Approaches to Care for Patients With Dementia 516

34 End of Life 521
Karen la Cour and Line Lindahl-Jacobsen
End of Life, Palliative Care, and Hospice Philosophy 522
Living in Old Age With a Life-Threatening Illness 524
A Good Death and Different Cultures 525
The Influence of End of Life on Close Family and Relatives 526
Needs for Palliative Occupational Therapy and Physiotherapy 527
Health Policy and Related Factors Affecting End-of-Life and Palliative Care 528
End-of-Life Palliative Occupational Therapy and Physiotherapy Interventions 528
Referral 529
Assessment 530
Goal Setting 530
Intervention 530

Bereavement for Older Persons in End of Life and for Family Members 531
Family Involvement and Support 531
Palliative Care: A Team-Based Approach 532
Appropriate Outcomes for Palliative Occupational Therapy and Physiotherapy and Implications for Practice 533

35 The Future of Aging 539
Bette Bonder and Vanina Dal Bello-Haas
Demographic and Societal Trends 539
Cohort Effects 540
Culture and Aging 541
Meaning in Life 541
Participating in Life and Community 541
Work and Retirement 542
Aging and Environment 542
Financial Considerations 542
Living Arrangements 543
Trends in Health Care 544
Systems of Care—Facilitating Transitions 544
Evidence-Based Practice 544
Technology 545
Biomedical Research 545
Paying for Care 546
Implications for Physical and Occupational Therapy 546

GLOSSARY 550
INDEX 557