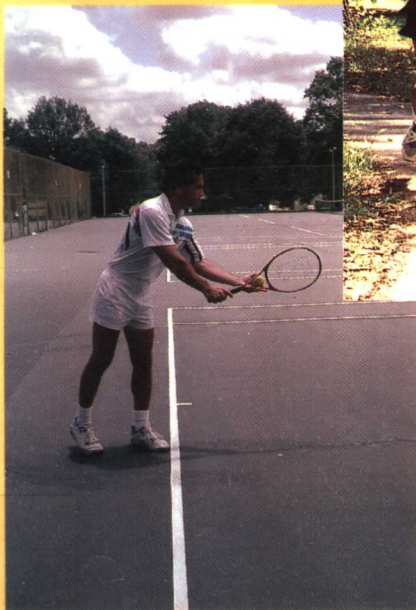


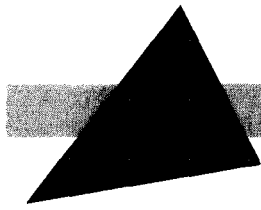
Third Edition

Fitness for Wellness

The Physical Connection

Frank D. Rosato





This text is dedicated to my wife Pat for her continuing patience and support during this and all of my professional endeavors.



Preface

The aim of the third edition of this text is the same as the first—to establish through contemporary evidence the connection between physical fitness and wellness. The fact that this is a third edition attests to the unceasing interest in fitness and wellness by college and university instructors and their students. There has been an explosion of new information since the first edition appeared in 1986, and the proliferation of information has continued at a brisk pace since the second edition was published in 1990. The massive research effort in this exciting field is evident as a host of researchers submit the results of their work to medical, exercise science, and nutritional science journals for publication. The steady stream of new information clearly indicated that another revision was in order, and once again, several important challenges had to be addressed.

The first challenge was to solicit feedback from adopters of the book regarding the book's utility, level of difficulty, and research orientation. Most of the respondents to a marketing survey conducted by West Publishing Company, while applauding the up-to-date documentation, suggested the documentation be scaled down so as not to overwhelm the reader. This was a difficult but not insurmountable task that resulted in only the most important and representative references being cited in this edition. The references that were ultimately selected for inclusion in the text represent a fraction of those that were read in preparation for writing the manuscript.

A second challenge was deciding what and how much would be deleted from the second edition. These difficult decisions had to be made to keep the text within manageable proportions yet expansive enough to convey the nature of the relationship between physical fitness and wellness as it is scientifically observed at this writing. Every chapter in this new edition has been significantly improved by the addition of new information and the deletion of outdated material. As a result, this edition is a little larger than the second edition, which again attests to the ongoing explosion of information being generated in this field. On a number of occasions during the writing of the manuscript, concepts, principles, and standards that were once accepted as truths by the scientific community had to be changed, updated, or replaced with newer information. These changes were made to assure that the text would be as current as possible when it went to print.

Several goals were established for the third edition. The primary objective is to inform college-age students regarding the development of physical fitness and wellness. Carefully selected research is the foundation of the text and the method through which the primary objective of providing pertinent information is met. The second objective is to help students gain insight into their own physical fitness and health status by providing a variety of self-assessment instruments. A third objective is that the text would aid college and university instructors as they teach basic fitness and wellness courses, because the text pulls together current research data from exercise science, medicine, nutrition, and the allied health professions. To this end, this edition is amply referenced not only to validate the information that it contains but also to provide a convenient and handy source for those who are interested in pursuing information beyond the book's scope. This edition, like its predecessors, attempts to establish a sound base for lifetime participation in physical fitness activities and an active way of living. Although the

"why" of exercise is emphasized, the "how" is certainly not neglected. In fact, this aspect has been somewhat expanded in this edition.

Many changes have occurred in the third edition that separate it from the first two editions. First and foremost, this edition has moved from a black-and-white format into a full-color text. The illustrations and photos have made the text more attractive. Second, more headings and subheadings have been strategically placed throughout the text so that the reader can quickly grasp the essence of the material that follows. The headings also break up larger portions of the text into smaller segments that are more easily digestible. To further facilitate comprehension of the material, some of the vocabulary and physiological terms have been simplified or deleted. Third, every chapter contains features entitled "Safety Tips" and "Facts, Fallacies, and Timely Tidbits" that enrich the text and add to the interest level. Boxed readings on selected current topics add flavor to the text.

Fourth, this edition features up-to-date statistics as well as new photos, illustrations, tables, charts, and figures. The summaries at the end of each chapter (Chapter Highlights) are in the form of individual statements rather than in narrative form, making it easier to identify important chapter concepts. (It might be helpful to read the Chapter Highlights before reading the chapter itself.)

Fifth, a total of 34 self-assessment instruments and tests are placed together in Appendix C at the back of the book. This procedure, which deviates from the format of previous editions, was chosen (1) so as not to bulk up each chapter, (2) so that the self-assessments would not interrupt the book's conceptual content, and (3) as a means to present them as a group. The tests are perforated for easy removal when they need to be handed in as part of a class assignment. The self-assessments may be administered and supervised by instructors, or they may be taken as outside assignments. Norms and standards are presented as a frame of reference for interpreting their results.

Sixth, adopters of the text will receive, upon request, an updated instructor's manual with chapter outlines and objectives, a test bank, and transparency masters. This convenient aid should help facilitate preparation for the delivery of instruction.

Seventh, items from previous editions that received favorable reviews such as "Points to Ponder," "Margin Notes," and "Miniglossary" were retained and expanded to reflect the new information being presented.

The third edition represents a substantial revision of its predecessor. The chapters not only have been significantly revised but also are presented in a different order. The rationale for changing the order was to present the material as much as possible in approximately the same order that an experienced exerciser would begin a workout or a novice would initiate an exercise program. For example, Chapter 1 lays a foundation for the attainment of wellness through physical fitness. It is important to understand the link between the two and that the fitness component is voluntary, important, and achievable within one's own potential.

Chapter 2 provides a variety of motivational techniques that have been successfully used by both beginners and seasoned exercisers to maintain interest in and enthusiasm for participating in their fitness activities. Chapter 3 issues exercise guidelines with which one must become familiar to maximize the likelihood of effectively and safely achieving one's fitness and wellness objectives. Chapter 4 presents a rationale for improving flexibility through appropriate stretching exercises that should be practiced during every exercise warmup and cooldown period. Chapters 5 and 6 introduce the principles of exercise and their application to the development of musculoskeletal and cardiorespiratory strength and endurance.

Chapters 7 through 11 are primarily informational in nature. It is necessary to understand selected diseases and disorders that can be delayed or prevented through a sound exercise program. Chapters 7 and 8 provide this information. Chapters 9 and 10 cover the basics of nutrition and provide the principles for successfully losing weight in a healthful manner. It seemed important to add Chapter

11, which deals with drugs and sexually transmitted diseases, since the target audience for this text is substantially affected by both.

A textbook is usually not the work of one person, and this effort is no exception. The ideas of many people are represented here. The contributions begin with the data generated by all of the researchers whose works provide the cognitive base for this text. They extend from there to the reviewers whose ideas and suggestions helped to refine the finished product, to the models who contributed to the aesthetics of the text, and to the professional staff of West Publishing Company. Jerry Westby, Manager, College Editorial, directed this project with assistance from Dean De Chambeau, Development Editor, whose cut-and-paste analyses of the reviewers critiques made my job easier; Christine Hurney, Production Editor, who made sure that I met deadlines; and Deborah Cady, Copyeditor, who fine-tuned the language and clarified the ideas.

Many thanks to my good friend Sheri Seiser, who took the photographs that have substantially enhanced the written word. Thanks also to the people who were willing to serve as models for this edition: Wayne Gutch, Renee Moss, Mimi Nguyn, Rob Pearse, Angela Redden, and Duane Sanders. I wish to extend my gratitude to the managers of Q the Sports Club for allowing us to take photos at their premises of our models performing exercises on the club's state-of-the-art equipment. The managers were very patient in allowing us to disrupt their very busy schedules.

Special thanks to Angie Newton who expeditiously transcribed my handwritten scrawl onto a computer disk.

Acknowledgements

As previously mentioned, the reviewers for this text deserve both praise and appreciation for the timely and knowledgeable comments. These individuals are:

Nikki Assman	James W. Jones
Ball State University	Henderson State University
Ralph Barclay	Timothy Kirby
Wayne State College	Ohio State University
Frederick C. Beyer	Jerry Krause
County College of Morris	Eastern Washington University
Sandy Bonneau	Richard W. Latin
Golden West College	University of Nebraska—Omaha
Kay Carter	Mark Loftin
University of Wisconsin—Stout	University of New Orleans
R.L. Case	Joseph J. Lopour
Sam Houston State University	Southern Utah University
Lonnie J. Davis	James R. Marett
Eastern Kentucky University	Northern Illinois University
Brian M. Don	Wayne F. Major
Boston University	University of Georgia
Sandra Flood	Elizabeth Ready
Northern Illinois University	University of Manitoba
Susan Hunter	Forrest C. Tyson
Memphis State University	Springfield College

Contents

Preface xvii

CHAPTER I

INTRODUCTION TO WELLNESS THROUGH PHYSICAL FITNESS 2

INTRODUCTION 3

Miniglossary 3

WELLNESS DEFINED 4

HEALTH: A MATTER OF CHOICE 6

CONTRIBUTING TO THE SOLUTION 8

Points to Ponder 11

HEALTHY PEOPLE 2000 11

Facts, Fallacies, and Timely Tidbits 12

PHYSICAL FITNESS OBJECTIVES 12

Exercise for Health 13

Exercise for Performance 14

Exercise for Physical Fitness 14

HOW FITNESS FITS 14

IS FITNESS A FAD? 15

THE FITNESS LEVEL OF AMERICAN YOUTH 16

ACTIVITIES THAT ARE GROWING IN POPULARITY 17

FITNESS IN BUSINESS AND INDUSTRY 17

Safety Tips: Wellness 18

THE MECHANIZATION OF AMERICA 19

FITNESS: BOOM OR BUST? 21

Points to Ponder 22

CHAPTER HIGHLIGHTS 22

REFERENCES 23

CHAPTER
2

**MOTIVATION FOR A PHYSICALLY
ACTIVE LIFE 24**

INTRODUCTION 25

Miniglossary 25

EXERCISE DROPOUTS AND ADHERERS 26

WHO IS EXERCISING? 27

MOTIVATION: SOME BASICS 28

Facts, Fallacies, and Timely Tidbits 31

WHY PEOPLE EXERCISE 31

Safety Tips: Starting an Exercise Program 33

Points to Ponder 34

MOTIVATIONAL STRATEGIES 34

Define Your Goals 35

Set Realistic Goals 35

Exercise with a Group 36

Enlist the Aid of Significant Others 36

Exercise with a Buddy 37

Associate with Other Exercisers 37

Build on Successful Experiences 37

Keep a Progress Chart 37

Exercise to Music 37

Set a Definite Time and Place for Exercise 38

Participate in a Variety of Activities 39

Dwell on the Positive 39

Don't Become Obsessive About Exercise 39

Know That There Are No Failures 40

PERSONALIZE YOUR EXERCISE PROGRAM 40

Points to Ponder 40

CHAPTER HIGHLIGHTS 40

REFERENCES 41

CHAPTER
3

GUIDELINES FOR EXERCISE 44

INTRODUCTION 45

Miniglossary 45

AEROBIC VERSUS ANAEROBIC ACTIVITIES 46

PRINCIPLES FOR EXERCISE 48

Starting Out Right 48

The Medical Exam 49

Warming Up for Exercise 49

Intensity 50

Frequency 53

Duration 54

Overload and Progression 54

Specificity 55

Cooling Down from Exercise	56
Points to Ponder	57
EXERCISE DURING PREGNANCY	57
<i>Facts, Fallacies, and Timely Tidbits</i>	58
THE EFFECTS OF CLIMATE	60
MECHANISMS OF HEAT TRANSFER	61
Conduction	61
Radiation	61
Convection	61
Evaporation	61
Exercise in Hot Weather	62
Hazards Associated with Hot Weather Exercise	62
Preventing Heat-Stress Illnesses	63
Exercise in Cold Weather	65
Exercise at High Altitudes	66
Exercise in Polluted Air	67
<i>Safety Tips: Exercise</i>	68
Points to Ponder	69
CHAPTER HIGHLIGHTS	69
REFERENCES	70

CHAPTER 4

FLEXIBILITY 72

INTRODUCTION	73
<i>Miniglossary</i>	73
FLEXIBILITY AND WELLNESS	73
DEVELOPING THE FLEXIBILITY COMPONENT	74
<i>Facts, Fallacies, and Timely Tidbits</i>	74
TECHNIQUES FOR IMPROVING FLEXIBILITY	75
Ballistic (Dynamic) Versus Static Stretching	75
Proprioceptive Neuromuscular Facilitation (PNF)	76
EXERCISES TO ENHANCE FLEXIBILITY	78
<i>Safety Tips: Developing Flexibility</i>	79
ASSESSING FLEXIBILITY	90
FIELD TESTS	91
Points to Ponder	91
CHAPTER HIGHLIGHTS	91
REFERENCES	92

CHAPTER 5

DEVELOPING THE MUSCULAR COMPONENT 94

INTRODUCTION	95
<i>Miniglossary</i>	95
HUMAN LOCOMOTION	97

MUSCULAR STRENGTH AND MUSCULAR ENDURANCE	97
THE MUSCULAR COMPONENT AND THE WELLNESS CONNECTION	99
The Effect of Muscle Training on Body Composition	99
The Effect of Muscle Training on Posture and Injury Prevention	100
The Effect of Muscle Training on the Skeletal System	100
The Effect of Muscle Training on Older Adults	101
The Effect of Muscle Training on Blood Pressure and Serum Cholesterol	101
<i>Facts, Fallacies, and Timely Tidbits</i>	102
GENETIC AND GENDER CONSIDERATIONS	102
Gender Differences	102
Neural Factors	103
Anabolic Steroids	104
Muscle Fiber Types	105
TRAINING CONSIDERATIONS	106
Isometric Training	106
Isotonic Training	108
Isokinetic Training	110
CIRCUIT TRAINING	111
PRINCIPLES FOR TRAINING THE MUSCULAR SYSTEM	112
Overload, Progression, and Maintenance	112
<i>Safety Tips: Performing Resistance Exercises</i>	113
Frequency, Intensity, Duration, and Rest	114
EXERCISES FOR DEVELOPING STRENGTH AND ENDURANCE	115
ASSESSING MUSCULAR STRENGTH AND ENDURANCE	121
Isometric Assessment	122
Isotonic Assessment	122
Isokinetic Assessment	123
<i>Points to Ponder</i>	126
CHAPTER HIGHLIGHTS	127
REFERENCES	128

CHAPTER 6

DEVELOPING THE CARDIORESPIRATORY COMPONENT 130

INTRODUCTION	131
<i>Miniglossary</i>	131
SHORT-TERM EFFECTS OF AEROBIC EXERCISE	132
Heart Rate	132
Stroke Volume	132
Cardiac Output	132
Blood Flow	133
Blood Pressure	133
Blood Volume	134
Respiratory Responses	134
Metabolic Responses	134
Aerobic Capacity Defined	134

Body Mass and Oxygen Utilization	135
Gender Differences in Aerobic Capacity	135
Mechanisms of Aerobic Decline	136
Oxygen Deficit and Oxygen Debt	136
<i>Safety Tips: Aerobic Exercise</i>	137

LONG-TERM EFFECTS OF AEROBIC EXERCISE 137

Heart Rate	137
Stroke Volume	138
Cardiac Output	138
Blood Pressure	138
Blood Volume	139
Heart Volume	139
Respiratory Responses	139
Metabolic Responses	140
Improving the Aerobic System	140
The Genetic Factor	141
The Anaerobic Threshold (Onset of Blood Lactic Acid)	141
The Effect of Aging on Aerobic Capacity	142
Estimating the Oxygen Demand of the Heart	142

DECONDITIONING—LOSS OF TRAINING EFFECT 142

ACTIVITIES FOR IMPROVING CARDIORESPIRATORY ENDURANCE 143

Facts, Fallacies, and Timely Tidbits 144

Points to Ponder 145

CHAPTER HIGHLIGHTS 146

REFERENCES 147

CHAPTER 7

CARDIOVASCULAR DISEASES 148

INTRODUCTION 149

Miniglossary 149

PREVALENCE OF CARDIOVASCULAR DISEASES 150

THE BASICS OF CIRCULATION 151

The Heart and Blood Vessels 151

The Blood 155

CARDIOVASCULAR DISEASES: THE TWENTIETH-CENTURY EPIDEMIC 155

Congenital Heart Disease 155

Rheumatic Heart Disease 155

Congestive Heart Failure 156

Coronary Heart Disease 156

Strokes 156

Heart Attacks 157

Points to Ponder 157

CARDIOVASCULAR RISK FACTORS 157

Major Risk Factors That Can't Be Changed 158

Heredity 158

Male Sex	158
Increasing Age	158
Major Risk Factors That Can Be Changed	158
Cigarette Smoking	158
Blood Pressure	161
Cholesterol	164
Physical Inactivity	170
<i>Facts, Fallacies, and Timely Tidbits</i>	171
Points to Ponder	175
Other Contributing Risk Factors	175
Obesity	175
<i>Safety Tips: Exercise for Post-heart Attack Patients</i>	176
Diabetes Mellitus	176
Stress	177
Triglycerides	177
CAN LIFESTYLE CHANGES REVERSE CORONARY HEART DISEASE?	178
Points to Ponder	179
CHAPTER HIGHLIGHTS	179
REFERENCES	180

CHAPTER 8

OTHER CHRONIC CONDITIONS 182

INTRODUCTION	183
<i>Miniglossary</i>	183
OSTEOPOROSIS	184
Osteoporosis—The Risk Factors	184
Preventing Osteoporosis	186
Hormone Replacement Therapy	186
Calcium Supplementation	186
Physical Activity	187
LOW-BACK PROBLEMS	188
Abnormal Curvatures of the Spine	188
Preventing Low-back Problems	189
Points to Ponder	190
OSTEOARTHRITIS	190
What Is Osteoarthritis?	190
Osteoarthritis and Physical Activity	194
ASTHMA	195
CANCER	196
What Is Cancer?	196
Diagnosis and Treatment	197
<i>Safety Tips: Prevention of Cancer</i>	198
Role of Exercise in the Prevention of Cancer	199
<i>Facts, Fallacies, and Timely Tidbits</i>	200
STRESS AND ITS MANAGEMENT	201
Stress Defined	201

Quantifying Stressors	201
THE GENERAL ADAPTATION SYNDROME	202
The Alarm Stage	202
The Resistance Stage	203
The Exhaustion Stage	203
THE EFFECT OF STRESS ON HEALTH AND WELLNESS	203
TECHNIQUES FOR MANAGING STRESS	204
Aerobic and Anaerobic Exercise	204
Meditation	206
Autogenic Relaxation Training	206
Progressive Relaxation	207
PERSONALITY TYPES	207
<i>Points to Ponder</i>	208
CHAPTER HIGHLIGHTS	208
REFERENCES	209

CHAPTER 9

THE BASICS OF NUTRITION 212

INTRODUCTION	213
<i>Miniglossary</i>	213
THE FOOD GUIDE PYRAMID	214
CARBOHYDRATES	215
FIBER	218
FATS	219
Hydrogenated Fats	221
Seafood	222
PROTEIN	222
<i>Facts, Fallacies, and Timely Tidbits</i>	223
Protein Sources	223
Protein Requirements	224
<i>Points to Ponder</i>	226
VITAMINS	227
MINERALS	230
WATER	230
<i>Safety Tips: Healthy Eating</i>	232
<i>Points to Ponder</i>	233
CHAPTER HIGHLIGHTS	233
REFERENCES	234

CHAPTER 10

THE REDUCTION EQUATION: EXERCISE + SENSIBLE EATING = FAT CONTROL 236

INTRODUCTION	237
<i>Miniglossary</i>	237
BODY COMPOSITION DEFINED	238

DEVELOPMENT OF ADIPOSITY	239
BODY COMPOSITION AND THE WELLNESS CONNECTION	241
<i>Facts, Fallacies, and Timely Tidbits</i>	243
THE CAUSES OF OBESITY	244
Heredity	244
Studies of Adoptees	244
Studies of Twins	244
The Setpoint Theory	245
THE EFFECTS OF EXERCISE ON BODY COMPOSITION	245
Exercise Burns Calories	245
Exercise and Appetite: Eat More, Weigh Less	247
Exercise Stimulates Metabolism	248
<i>Points to Ponder</i>	250
THE EFFECTS OF DIET ON BODY COMPOSITION	250
<i>Safety Tips: Recognizing Fad Diets</i>	253
EXERCISE AND THE UNDERWEIGHT	255
EATING DISORDERS	256
ASSESSMENT OF BODY COMPOSITION	257
Body Mass Index (BMI)	257
Skinfold Measurements	259
Bioelectrical Impedance	261
Hydrostatic Weighing	262
Standards for Body Fat Percentage	264
Desirable Body Weight	264
EXERCISES FOR IMPROVING BODY COMPOSITION	265
<i>Points to Ponder</i>	266
CHAPTER HIGHLIGHTS	266
REFERENCES	267

CHAPTER 11

THE CONSEQUENCES OF NEGATIVE CHOICES 270

INTRODUCTION	271
<i>Minglossary</i>	271
DRUGS: THEIR USE, MISUSE, AND ABUSE	272
TOLERANCE, DEPENDENCE, AND ADDICTION	272
LEGAL DRUGS	273
PSYCHOACTIVE DRUGS	273
SOME FREQUENTLY ABUSED DRUGS	274
Tobacco	274
Alcohol	275
Alcoholism	276
Cocaine	276
OTHER DRUGS OF ABUSE	277
Hallucinogens	277
Heroin	277
Marijuana	278

Points to Ponder 278

SEXUALLY TRANSMITTED DISEASES 278

Facts, Fallacies, and Timely Tidbits 279

Chlamydia 279

Gonorrhea 279

Genital Warts 280

Hepatitis 280

Syphilis 280

Genital Herpes 281

HIV and AIDS 281

SAFE SEX—HOW SAFE IS IT? 284

Safety Tips: Safe Sexual Practices 285

Points to Ponder 286

CHAPTER HIGHLIGHTS 286

REFERENCES 287

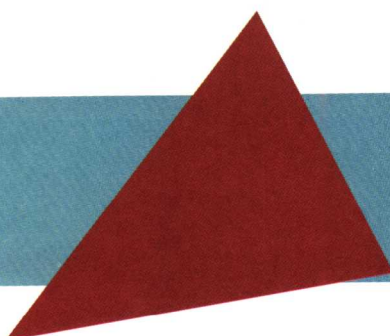
 **APPENDIX A FAST-FOOD NUTRIENTS 289**

 **APPENDIX B NUTRIENTS OF
SELECTED FOODS 295**

 **APPENDIX C SELF-ASSESSMENTS 305**

 **GLOSSARY 343**

 **INDEX 349**



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Third Edition

Introduction to Wellness Through Physical Fitness

CHAPTER OUTLINE

INTRODUCTION

Miniglossary

WELLNESS DEFINED

HEALTH: A MATTER OF CHOICE

CONTRIBUTING TO THE SOLUTION

Points to Ponder

HEALTHY PEOPLE 2000

Facts, Fallacies, and Timely Tidbits

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ACTIVITIES THAT ARE GROWING IN POPULARITY

FITNESS IN BUSINESS AND INDUSTRY

Safety Tips: Wellness

THE MECHANIZATION OF AMERICA

FITNESS: BOOM OR BUST?

Points to Ponder

CHAPTER HIGHLIGHTS

REFERENCES

INTRODUCTION



High-level wellness is within reach of most students who read this text. Required first is the basic knowledge of what constitutes a wellness lifestyle along with those behaviors that promote optimal health and well-being. Such a lifestyle can delay or prevent the onset of the chronic diseases (heart attack, stroke, cancer, diabetes, atherosclerosis, and chronic obstructive lung disease) that are disabling and killing the majority of Americans. A second requirement involves the motivation necessary to make the effort to act upon that knowledge. In other words, appropriate behavioral patterns consistent with and based upon the best evidence available today will pay substantial health benefits. This text identifies these behaviors and provides discussions regarding their impact on the quality and quantity of life.

A mountain of contemporary data clearly differentiates positive from negative behaviors and the effect that each has upon wellness or illness. After reading this text, you will understand why the behaviors impact health the way they do.

The text emphasizes the attainment of wellness through physical activity and a physically active lifestyle. The connection between the two will become very evident. If you follow the suggestions made here, you can expect many or all of the following physical fitness and wellness benefits to occur:

1. Improved physical appearance (more muscle, less fat, improved posture).
2. Increased level of energy.
3. Improved self-concept and self-esteem.
4. Greater ability to relax and handle stress, anxiety, and tension.
5. Enhanced mental and emotional well-being.
6. Greater resistance to such chronic diseases as heart disease, strokes, cancer, diabetes, osteoporosis, low-back problems, and other musculoskeletal disorders.

Miniglossary

Acute (or Communicable) Disease A severe disease of short duration.

Agility The ability to rapidly change direction while maintaining dynamic balance.

Balance Involves the maintenance of a desired body position either statically or dynamically. Also referred to as equilibrium.

Body Composition The amount of lean versus fat tissue.

Cardiovascular Disease A complex of diseases of the heart and circulatory system.

Cardiorespiratory Endurance The ability to take in, deliver, and extract oxygen for physical work.

Chronic Disease A long-lasting and/or frequently occurring disease.

Chronological Age An individual's calendar age.

Coordination The integration of body parts resulting in smooth, fluid motion.

Flexibility Range of motion around a specific joint.

Health Age An individual's biological age.

Health-Related Fitness A type of fitness that enhances one's health status by modifying many of the risks associated with lifestyle diseases.

Muscular Endurance The capacity to exert repetitive muscular force.

Continued