IISHP

On The Move

INTERNATIONAL INSTITUTE FOR SPORT AND HUMAN PERFORMANCE

A news brief **May 2003**

Senior Fitness Workshop offers continuing education credits.

The annual Senior Fitness Workshop, offered Thursday through Saturday, May 8-10, 2003, was approved by the American College of Sports Medicine's Professional Education Committee for 20 CECs.

The workshop is designed for health and fitness professionals who work or want to work with seniors. It provides knowledge about the changes occuring in the aging process and how those changes will affect leading a physically active life. It will also address training for performance. The workshop will be held in the facility of the International Institute for Sport and Human Performance (IISHP), Bowerman Building, 1580 E. 15th, Eugene, on the UO campus.

Continued on page 2

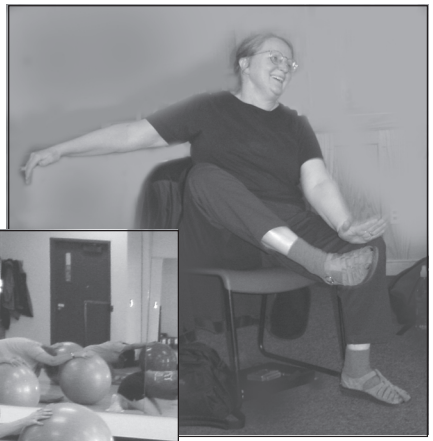
Basic Concepts in Training

a workshop for coaches, parents, and athletes taught by Dick Brown

Saturday, May 31, 2003 and Sunday, June 1, 2003

This eight-hour course will give participants an understanding of the concepts that form the basis of training. It can also be very valuable for masters athletes, coaches in any sport, exercise physiologists, athletic trainers, massage therapists, personal trainers, and physical therapists.

Registration is open to students, the general public, and the professional community on a space-available basis. Workshop fee is $180. Students, $150 (Valid student ID required). Call (541) 346-4114 for more information; also: http://www.uoregon.edu/~iishp/events. html.



Above: Participant in the 2001 Senior Fitness Workshop.

Left: Stability ball exercise class for seniors.

Basic Concepts Course Outline

The Concept of Energy

In this section the idea that energy quantifies the capacity for movement or physical change will be discussed. The 1st and 2nd Laws of Thermodynamics and their relationship to the human condition will be represented.

The Concept of Cells

In this section the idea that all systems of the body are designed to service the cells will be discussed. The structure of the cell, as related to energy conversion, will be reviewed.

The Concept of Homeostasis

In this section the idea that the cells seek a stable environment of homeostasis will be discussed. Mechanisms that provide for stability and measurements that quantify stability will be presented.

The Concept of Metabolism

In this section the idea that metabolism is the process that allows maintenance of homeostasis will be

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Upcoming Events

Continued from Page 1

Senior Fitness Workshop Schedule

Thursday, May 8, 2003

7:00-8:00	On Site Registration
8:00-9:00	The aging process and how exercise affects it (Stan James, M.D.)
9:15-10:30	Bone Health (Christine Snow, Ph.D., Oregon State University)
10:45-12:15	Advanced Strength Training for Seniors (Stephanie Harris, M.D., at In Shape Athletic Club with club seniors)
12:30-1:45	Lunch break with table discussions
2:00-3:00	Cardiovascular changes in aging (Sarah Grall, M.S., Oregon Heart Ctr)
3:15-5:00	Cardio workout (Stephanie Harris, M.D.)
6:30-8:00	Yoga (Verna Reidy, Yoga by Design)

Friday, May 9, 2003

8:00-9:30	Maintaining an active lifestyle and functionality through the use of Pilates (Shawn Healey, M.S., Carpe Diem)
9:45-10:45	Musculoskeletal health and fitness in seniors (Brad Wilkins, M.S., University of Oregon)
11:00-12:45	Strength and balance (Stephanie Harris, M.D.)
1:00 -2:15	Lunch break with table discussions
2:30-3:30	Spirited Walking (Carolyn Kortge, author of The Spirited Walker)
3:45-5:00	Chair exercise (Elizabeth Simeone, LCC Cottage Grove)
6:30-8:00	Tai Chi (Strawberry Gatts, M.S., University of Oregon)

Saturday, May 10, 2003

8:00-9:45	Aquatic exercises for Seniors (Lisa Moore, Easter Seal instructor)
10:00-11:00	Nutrition for active seniors (Patty Fahlstrom-Nopp, R.D., Fruits of Wisdom Nutrition Counseling)
11:15-12:45	Flexibility to maintain functional mobility (Stephanie Harris, M.D.)
12:45-1:15	Self evaluated quiz and question and answer session

Continued from page 1

Concepts in Training

discussed. The conversion of energy from one form to another in the cell will be reviewed.

The Concept of Nutrients

In this section an overview of the nutrients the body requires for metabolism will be discussed. Each nutrient, including its characteristics and its specific role in metabolism, will be presented. Nutrients will include oxygen, water, protein, carbohydrates, fat, vitamins, minerals, and trace elements.

The Concept of Fight or Flight

In this section the idea that we have evolved, and therefore our bodies react in specific ways to certain stimuli and require certain considerations to function at an efficient level, will be discussed. The concept of Fight or Flight, and the reaction these conditions demand from the

Upcoming Events

body to maintain homeostasis, will be presented.

The Concept of Hans Selye

In this section the most important training concept for athletes, Hans Selye's General Adaptation Syndrome Theory, will be discussed. It will be shown how all the preceding concepts contribute to this practical and useful theory. The role of recovery from challenge, the only time adaptation takes place, will be presented.

The Concept of Adaptation

In this section the idea that our body is designed to adapt to challenge will be discussed. Types of challenges and reactions to these challenges will be presented.

Registration

Registration is open to students, the general public, and the professional community on a space-available basis. Workshop fee is $180. Students, $150 (Valid student ID required).

Registration Deadline

Applications must be received by Friday, May 21, 2003.

For details, application forms, or on-line registration regarding institute workshops, go to www.uoregon.edu/~iishp and click on "events"

American College of Sports Medicine Exercise Specialist workshop offered prior to certification exam

June 17-20, 2003

Exercise Specialist certification candidates have in the past enjoyed the extra training and reviewing of materials provided by the preceding workshop. The program content is embracing the basic knowledge of exercise physiology, pathophysiology, pharmacology, electrocardiography, exercise program leadership, and counseling. The workshop serves to review and supplement the background experience of the well-prepared participant. It is, however, intended to independently prepare a candidate for ACSM Exercise Specialist certification.

Workshop Content

Coronary Artery Disease & Interventional Treatments

Objective: Brief overview of the pathogenesis of coronary artery disease and risk stratification. To review thrombolytic therapy, percutaneous transluminal coronary angioplasty, coronary atherectomy, coronary artery bypass surgery, stents and laser; with specific reference to indications, contraindications, and complications.

Exercise Physiology

Objective: To describe the physiological systems that act to provide energy for exercise performance, including the oxygen transport system and the metabolic pathways that function in skeletal muscle tissue.

Pharmacology

Objective: To cover the physiologic effects of medications commonly encountered in patients involved with exercise testing and training. The medications include those used in the control of angina, elevated blood pressure, CHF, arrhythmias, bronchospasm, and elevated blood lipids.

Electrocardiography

Objective: To review systematic interpretation of standard 12-lead ECGs, normal and abnormal ECG responses and arrhythmias.

Clinical Exercise Testing

Objective: To review current recommendations regarding guidelines for medical screening and risk stratification before exercise testing, methodology and interpretation.

Additional Diagnostic Testing Procedures

Objective: To discuss current additional testing procedures included with standard graded exercise testing and the value of the results.

Testing and Exercise Prescription for the Pulmonary Patient

Objective: To discuss physiologic parameters and special clinical considerations in exercise testing and training patients with pulmonary disease.

Upcoming Events

Testing and Exercise Prescription for the Cardiac Disease Patient

Objective: To discuss specific clinical considerations in exercise testing and training for cardiac patients (including angina, CHF, CABG/valve surgery, heart transplant, and AICD/pacemaker patients).

Testing and Exercise Prescription for the Diabetic Patient

Objective: To discuss specific clinical considerations for testing and training a diabetic patient.

Testing and Exercise Prescription for Other Special Populations

Objective: To discuss special clinical considerations in exercise testing and training for the following patient populations: hypertension, peripheral vascular disease, obesity, and pregnancy.

Current Concepts of Rehabilitation Programs

Objective: To provide current concepts of exercise-based inpatient rehabilitation therapy, transitional care, and outpatient exercise programming.

Musculoskeletal Injuries: Prevention, Recognition, and Treatment

Objective: To discuss the prevention, recognition, and treatment of musculoskeletal injuries; highlighting the importance of a mild-to-moderate intensity exercise prescription, the significance of an appropriate warm-up and cool-down, and the RICE treatment method.

Human Behavior and Psychology

Objective: To describe the psychological responses that often arise and complicate the course of recovery from myocardial infarction, heart surgery, and/or chronic diseases.

Nutrition Interventions

Objective: To review the role of the Registered Dietitian, and dietary recommendations to reduce cardiovascular risk.

Emergency Procedures

Objective: To discuss the management of emergencies, with specific reference to training, rehearsal and certification, early warning signs/symptoms, interventions, emergency equipment, drugs, and the importance of adequate documentation.

Quality Measurement & Improvement

Objective: To discuss the importance of continuous quality improvement (CQI), quality assurance methods, and the Joint Commission of Accreditation of Health Care Organizations.

Legal Aspects of Exercise Testing and Training

Objective: To review legal issues associated with facilities, equipment, personnel and practices, negligence and malpractice, standards of practice and competency, informed consent, documentation, and communication.

Environmental Considerations

Objective: To discuss the hazards present in the environment that may affect exercise performance or place an exercising individual at risk for injury or illness.

Exercise Testing Practical Session

Objective: To highlight the fundamentals of graded exercise testing with specific reference to indications, contraindications, protocols, methodology, endpoints, normal and abnormal responses. To allow hands-on participation.

Exercise Leadership Pract. Session

Objective: To discuss principles of effective leadership in Phase I (inpatient) & Phase II (outpatient) exercise programs; including appropriate activity, education, and motivating patients. To provide the participant with innovative exercise programming ideas, with and without equipment during individual and group activities.

Exercise Prescription Pract. Session

Objective: To review the pertinent information for the development of appropriate exercise prescriptions in various clinical populations.

Energy Expenditure Calculations Practical

Objective: To provide an overview of the energy cost equations and their practical application. Sample problems will be distributed.

For an application, go to:
http://www.wwilkins.com/acsmcrc/exerspe.html
or call (541) 346-4114.

Book Reviews

Performance-Enhancing Substances in Sport and Exercise

Bahrke, Michael S. & Yesalis, Charles E., eds.

Human Kinetics, 2002, 384 pp. $57.00

Few subjects are more controversial than the use of drugs and other supposed performance-enhancing substances (PESs) in sport and, increasingly, among amateur athletes and fitness enthusiasts. As researchers gain further insight into the hazards of drug use and athletes and coaches become increasingly savvy, interest in this field will only increase. *Performance-Enhancing Substances in Sport and Exercise* offers a comprehensive yet succinct review of the current state of drug use in sport and a look at what the future may hold for athletes and the scientists trying to catch drug users and promote substance-free activity.

Edited by Michael Bahrke and Charles Yesalis, the text is founded on a detailed and fully referenced discussion of how drug use evolved in competitive sport during the past two centuries. From international scandals such as the East German doping program to U.S.-specific situations such as steroid use in the National Football League, the historical context of performance enhancement provided is both broad and deep. This background is helpful in understanding how today's events evolved.

The discussion of methods used to detect the use of PESs is equally helpful to readers. The description of drug testing methods will be especially beneficial for allied health professionals and fitness specialists who lack training in laboratory science. Detailed explanations of the biochemical mechanisms associated with PESs help clarify what athletes seek to gain from taking them and why scientists and public health officials discourage their use. The text also discusses the factors that make it difficult to conduct meaningful research (e.g., variations in bioavailability and formulation) and influence research results (e.g., study design, lab data vs. field data), thereby enhancing readers' ability to assess published research.

The editors devote full chapters to common classes of PESs such as anabolic-androgenic steroids as well as to biochemicals such as erythropoietin. These overviews offer not only a view of the current cutting-edge knowledge but also a concise list of key references on the topic. The text also addresses the use of substances that are less well-known in sport, such as hypnotics and neuroleptics.

Performance enhancement, both legal and sanctioned, frequently involves the use of nutritional supplements, herbals preparations, and other substances that fall outside the realm of prescription medications. Individual chapters address the use of creatine and sodium bicarbonate, as well as macronutrients and metabolic intermediaries such as glutamine, pyruvate, and carnitine. These sections will be of particular interest to athletic trainers and other allied health professionals who field questions from athletes. Many in the health care industry don't regard recreational drugs (e.g., marijuana, cocaine) as PESs, but some athletes do. The book provides a thorough description of how social drugs affect athletic performance.

Designer genes and designer drugs have been much in the news as genomics researchers unravel the mysteries of human DNA. Sport commissions and even athletes have condemned developments in the field of genetics as potentially opening a new era of pharmacological cheating. The book includes a chapter that explains the Human Genome Project and the possibilities for manipulation of human performance through such means as recombinant human erythropoietin, growth factors, and red blood cell substitutes. It also addresses stem cell research and how the ability to manipulate undifferentiated cells could open new doors for performance enhancement.

Scientific discoveries notwithstanding, successful performance enhancement relies to a large degree on understanding and working within the sport governance system. The text provides a brief overview of the legal environment facing athletes and researchers and how that envi-

ronment affects their behavior. The text also identifies some of the key performance-enhancement issues going into the 21st century.

The readability and comprehensiveness of *Performance-Enhancing Substances in Sport and Exercise* makes it a useful addition to the library of any sport scientist or athletic trainer. Though some readers may find the technical detail a bit challenging, the text's diagrams and tables help simplify these concepts. Although understanding of the science underlying the use of PESs evolves continuously, the completeness and detail of this text will make the volume valuable for some time to come.

—Carolyn Petersen, M.S.
Carolyn Petersen is a Web Communications Consultant at Mayo Clinic in Rochester, Minnesota.

Advanced Fitness Assessment and Exercise Prescription 4th ed.

Vivian H. Heyward

Human Kinetics:

Champaign, IL, 2002, 384 pp.

In this fourth edition of the exercise science classic *Advanced Fitness Assessment and Exercise Prescription*, Vivian Heyward provides a focused, comprehensive approach to fitness assessment and training. Heyward brings together all the information needed to prepare for the ACSM Health/Fitness Instructor certification as well as a wide range of materials that underlie the art and science of exercise prescription. She successfully avoids the temptation to present everything published about a given subject and, in the process, gives readers a succinct, useful sourcebook for professional activities.

The text provides a concise explanation of the physiological principles on which testing for cardiovascular fitness, muscular strength and endurance, flexibility, and body composition are based. An abundance of figures, tables, and sample calculations make it easy for readers to identify key points. Case studies involving common scenarios illustrate how health care professionals use assessment results individually and collectively in designing a fitness improvement program.

Heyward makes the text readable by interspersing question-and-answer sections among the more traditional explanatory text. Sidebars to the main text identify key points and summarize recommendations and guidelines for quick review. Photographs of correct testing procedures and illustrations of proper exercise form support the explanations in the text.

The chapters discuss the theory and research underlying fitness assessment and exercise prescription. The appendices, however, bring together all the material in an easy-to-use reference format. The six appendices, organized by area—health and fitness appraisal; cardiorespiratory assessments; muscular fitness exercises and norms; body composition assessments; energy intake and expenditure; flexibility exercises, low back care exercises, and stress assessment—provide a handy way for students to prepare for professional certifications and a useful reference for practicing professionals. Some highlights of the appendices include:

- Full PAR-Q and PARmed-X with medical history questionnaire
- Standard informed consent form
- Sample ECG tracings for practice reading heart rate
- Comprehensive energy expenditure charts exercises, sports, and activities
- Comprehensive chart of resistance exercises with muscles used, joint actions, and variations
- Illustrations demonstrating proper exercise techniques and positions to be avoided

Advanced Physical Fitness Testing and Exercise Prescription works as both a classroom text for upper division and graduate students and a reference for professionals in the field. Amateur athletes seeking to improve competitive performance, too, will find it valuable.

—Carolyn Petersen, M.S.
Carolyn Petersen is a Web Communications Consultant at Mayo Clinic in Rochester, Minnesota.

Kudos to our Friends

The International Institute for Sport and Human Performance sincerely appreciates the support from alumni and friends. A warm thank you to the contributors who gave since Sep. '02.

Institute Gifts:

Janet Dufek and Barry Bates, Eugene, OR
Stephanie Harris, Eugene, OR
Human Performance and Wellness Foundation, Eugene, OR
McKenzie View Fund, The Oregon Community Foundation

Jan Broekhoff Scholarship Fund

Elmie & Gordon Augustine, San Jose, CA
Richard Munroe, Pinetop, AZ
Jin Jong Quek, Singapore
Jack and Ruby Schendel, West Linn, OR
Richard Tay, Singapore

Jan Broekhoff scholarships received with gratitude

Two graduate students of the Exercise and Movement Science Department each received a grant of $1,000 to be used toward their research. The scholarship was made possible through the help of many donors under the leadership of Singapore alumnus Dr. Jin Jong Quek. Dr. Jan Broekhoff was the last dean of the College of Human Development and Performance and was one of the principal founders of the institute.

Bret Wong is a doctoral student in physiology. His dissertation will explore mechanisms of the local heating response in the skin. He hopes his study will give some answers to questions about neurotransmitters, their involvement, and how they work together.

Shing-Jye Chen is a doctoral student in biomechanics. His research area is related to the human foot and ankle complex. Specifically, he is investigating the foot complex response to customized arch supports. He explains that many unknowns about arch supports exist and that it is necessary to analyze these foot supports for their effectiveness. Shing-Jye will use his scholarship to purchase individual customized arch supports as well as other research tools such as foot models and modeling software. "The grant will also provide me with one of the most valuable provisions a researcher must have: time," he says.

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Please make your check out to UO Foundation and mail to: IISHP, Bowerman Building
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Annual HEAL Conference featured 20 different activities

The HEAL (Health through Exercise and an Active Lifestyle) conference had its 11th occurrence on April 1, 2003. This year's event, entitled, "Come Fool Around with Fitness," was held at the Valley River Center and attracted approximately 300 senior citizens. Sixteen different interactive sessions were offered, including walking, chair exercise, line- and folk-dancing, strength and balance exercises. The stability balls were a new feature that enjoyed much attraction. There were also introductions to golfing, yoga, tai chi, and Pilates. More than 30 organizations and businesses, offering services for seniors, were represented. Cosponsors with the institute were OASIS and PeaceHealth's Center for Senior Health.

Above: Virginia Fillingim of OASIS is leading a tai-chi session

Left: Participants in the session "Exercise with stability balls," offered by the Eugene Family YMCA, are enjoying the use of Therabands for strength development.

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