

Presentation Notes for  
The American College of Sports Medicine's  
Exercise is Medicine® Program and  
its accompanying textbook by that name (see p. 12)

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- I. Educational Objectives: At the end of this session (hopefully) you will be able to:**
  - A. Define the "Exercise Prescription" and how it differs from prescriptions for pharmaceuticals or surgery.
  - B. Describe three central elements of the EiM® program, such as the FITT concept and the motivation mobilization process.
  - C. Discuss how the EiM® program can be useful in clinical practice.
  - D. Elaborate on 3-5 central concepts of becoming and being a regular exerciser.
  
- II. Why are you here?**
  - A. In general.
  - B. At this session.
  
- III. I assume that all or most of you deal with exercise and/or sport matters in your practices.**
  - A. Yes?
  - B. What kind?
  - C. Today we are focusing on the new ACSM program, "Exercise is Medicine®," which is designed to help you learn how to help patients, well or ill, become regular exercisers. Hopefully this will have an application, in one way or another, for many of you in your own practices.
  - D. How many of you are regular exercisers? What do you do?

**IV. Exercise is Medicine (<http://www.exerciseismedicine.org/physicians.htm>; <http://www.exerciseismedicine.org/fitpros.htm>): Some basics**

- A. Medicine and fitness are merging around regular exercise/regular physical activity for healthy living.
- B. We can describe “Exercise Deficit Disorder (EDD)” as one of the top three leading underlying causes of death: obesity, tobacco use, and physical inactivity.
- C. Obesity trends: By 1993, in every state 10% of the population was obese. By 2005, there were a number of states, mainly in the South, in which 30% of the population was obese.
- D. We may have with us in the United States the first generation of children who will not outlive their parents, due to obesity/physical inactivity.
- E. A low level of fitness is a bigger risk for mortality than mid- to moderate overweight/obesity. At least some of the benefits of regular physical activity can be acquired regardless of weight.
- F. Regular exercise/physical activity is the “health pill,” is a broad-based health promoter/disease preventer, that, *when done properly for the person*, has no significant side-effects.
- G. Physical activity level should be a vital sign, taken at every patient visit.

**V. Health Promotion and Disease Prevention/Treatment/Management Benefits of Regular Physical Activity (Physical Activity Guidelines Advisory Committee, Physical Activity Guidelines Advisory Committee Report, 2008, Washington, DC: US Dept. of Health and Human Services, pp. A-2 to A-4)**

A. General

Very strong scientific evidence based on a wide range of well-conducted studies shows that physically active people have higher levels of health-related fitness, a lower risk profile for developing a

number of disabling medical conditions, and lower rates of various chronic diseases than do people who are inactive.

B. Children and Youth

Strong evidence demonstrates that the physical fitness and health status of children and youth are substantially enhanced by frequent physical activity. Compared to inactive young people, physically active children and youth have higher levels of cardiorespiratory endurance and muscular strength, and well-documented health benefits include reduced body fatness, more favorable cardiovascular and metabolic disease risk profiles, enhanced bone health, and reduced symptoms of anxiety and depression.

C. Adults and Older Adults

Strong evidence demonstrates that, compared to less active persons, more active men and women have lower rates of all-cause mortality, coronary heart disease, high blood pressure, stroke, type 2 diabetes, metabolic syndrome, colon cancer, breast cancer, and depression. Strong evidence also supports the conclusion that, compared to less active people, physically active adults and older adults exhibit a higher level of cardiorespiratory and muscular fitness, have a healthier body mass and composition, and a biomarker profile that is more favorable for preventing cardiovascular disease and type 2 diabetes and for enhancing bone health. Modest evidence indicates that physically active adults and older adults have better quality sleep and health-related quality of life.

D. Older Adults

In addition to those benefits listed above, strong evidence indicates that being physically active is associated with higher levels of functional health, a lower risk of falling, and better cognitive function.

E. Women During Pregnancy and the Postpartum Period

Strong evidence indicates that moderate-intensity physical activity during pregnancy by generally healthy women increases cardiorespiratory and metabolic fitness without increasing the risk of low birth weight, preterm delivery, or early pregnancy loss. Moderate -

intensity physical activity during the postpartum period does not appear to adversely affect milk volume or composition or infant growth. Physical activity alone does not produce weight loss in postpartum women except when combined with dietary changes.

F. Persons With Disabilities

For many physical and cognitive disabilities, scientific evidence for various health and fitness outcomes is still limited due to the lack of research. Moderate to strong evidence indicates that increases in aerobic exercise improve cardiorespiratory fitness in individuals with lower limb loss, multiple sclerosis, stroke, spinal cord injury, and mental illness. Limited data show similar results for people with cerebral palsy, muscular dystrophy, and Alzheimer's disease. Moderate to strong evidence also exists for improvements in walking speed and walking distance in patients with stroke, multiple sclerosis, and intellectual disabilities. Moderately strong evidence indicates that resistance exercise training improves muscular strength in persons with such conditions as stroke, multiple sclerosis, cerebral palsy, spinal cord injury, and intellectual disability. Although evidence of benefit is suggestive for such outcomes as flexibility, atherogenic lipids, bone mineral density, and quality of life, the data are still very limited.

G. Persons Who Are Overweight or Obese

Strong evidence shows that physically active adults who are overweight or obese experience a variety of health benefits that are generally similar to those observed in people of optimal body weight (body mass index [BMI] = 18.5-24.9). These benefits include lower rates of all-cause mortality, coronary heart disease, hypertension, stroke, type 2 diabetes, colon cancer, and breast cancer. Some of these benefits appear to be independent of a loss in body weight, while in some cases weight loss in conjunction with an increase in physical activity results in even greater benefits. Because of the health benefits of physical activity that are independent of body weight classification, adults of all sizes and shapes gain health and fitness benefits by being habitually physically active.

**VI. What the EiM ® is about**

- A. You will find the Table of Contents of the textbook for the Program, ACSM's Exercise is Medicine®: A Clinician's Guide to Exercise Prescription, by myself and Edward Phillips, MD of Harvard University, in Table I.
- B. Physical activity status as a vital sign: why?
- C. The primary focus is on becoming a regular exerciser, as part of a healthy lifestyle.
- D. The Program also deals with the use of regular exercise in treating and managing illness.
- E. The central newly developed instrument for facilitating the desired behavior change in patients and clients is the "Exercise Prescription."
- F. What is different about this Rx from most others:
  - 1. Within the parameters of the Exercise Rx the patient/client will design their own program.
  - 2. Then, the patient/client is the implementer of his/her own program, for themselves.
  - 3. This prescription has no expiration date. Note on the cover of the book that Refills are "forever." This is perhaps the biggest obstacle to successfully making this behavior change.
  - 4. For providers the comfort level may well be lower than it is for conventional prescribing.
  - 5. Most providers have had little teaching/learning experience with regular exercise.
  - 6. It takes more time.
  - 7. It needs more follow-up
  - 8. The lack of patient/client adherence is likely greater than with conventional prescribing.

9. The side effect profile is of course significantly different than it is for pharmaceuticals --- for one thing it is more manageable.
- G. Therefore the Rx needs to be provided differently.
1. The collaborative relationship.
  2. Handing over power.
  3. Acting more as a teacher/coach than the more traditional “me doctor/you patient” model.
  4. Being a role model is not essential, but it helps.
- H. Building the patient-tailored program around being FITT: frequency, intensity, time and type.
- I. For the new U.S. Federal/ACSM/AHA “Physical Activity Guidelines,” see Table II.
- J. The hard part of regular exercise is the regular, not the exercise. Thus with patients we recommend that you focus first on the Regular, not the Exercise: walk around the block for ten minutes three times a week at a scheduled time, for two weeks; then 20 minutes three times a week at a scheduled time, for two weeks. If your patient is still doing it at the end of four weeks, they are surely dealing with the “regular.” Then he/she can begin to think about PaceWalking™ (our name for exercise walking with a strong armswing). For a beginning PaceWalking™ program schedule, see Table III.
- K. The PAR-Q: when to use it.

## VII. The Central Focus of the Book (for the T of C, see Table I): Mobilizing Motivation

- A. Why this book, and what's different about its recommendations? In our society there is a huge amount of information on exercise and weight management, pumped out every day through the Internet, magazines, newspapers, TV, DVD's, and what have you. It's almost all about what to do (diets, exercise routines, and etc.) and why to do it in terms of health and looks. If that's all that were required for people to exercise regularly and lose weight and keep it off, we would have one of the slimmest, fittest populations in the world. Instead we have a monster obesity epidemic and an increasing proportion of couch potatoes. We are tentatively labeling the latter condition Exercise Deficit Disorder. Physical Activity Status as a vital sign. Something is obviously missing beyond the what and the why. That is the HOW. Just how do you get from A to B, from where you are now to where you would like to be? In addition to knowing the what and why, you need to do one thing, summarized in three words: You need to "Mobilize your Motivation."
- B. What is motivation?
1. The long definition: Motivation is not a thing. It is a *mental process* that links an emotion, feeling, desire, idea, or intellectual *understanding*, or a recognized psychological, physiological, or health *need*, to the taking of one or more actions.
  2. The short definition: Motivation is a mental process that links a thought or a feeling to an action.
- C. The "Stages of Change/Transtheoretical Model" Six Stages: Pre-contemplation, Contemplation, Planning, Action, Relapse, Permanent Maintenance.
- D. The Six *Phases* of Behavior Change (the SJ modification of the SoC)
1. Not on the radar screen.
  2. Thinking about it.
  3. Going to get going.
  4. On the Ordinary Mortals® Pathway to Mobilizing Your Motivation.

5. Getting going!
  6. Making it part of your life.
- E. The ACSM's Exercise is Medicine® book presents two different models for mobilizing motivation. The reader has choices.
1. The Behavior Change Pyramid – Dr. Phillips.
  2. The “Wellness Motivational Pathway,” now the “Ordinary Mortals® Pathway to Mobilizing Motivation,” – Dr. Jonas
- F. The Ordinary Mortals® Pathway to Mobilizing Your Motivation has Five Steps
1. Assessing yourself: What do I like? What do I dislike? What would I like to change?
  2. Defining success, for yourself.
  3. Setting goals that will work for you.
  4. Establishing priorities among the various parts of your life.
  5. Taking Control.
- G. The Eight Keys to Taking Control
1. Understanding that motivation is not a thing, but a process that links a thought or a feeling with an action.
  2. Following the first four steps of the Ordinary Mortals® Pathway to Mobilizing Your Motivation, from the beginning.
  3. Making sure to examine what you already do well: health-promoting behaviors that are part of your life.
  4. Recognizing that gradual change leads to permanent changes.
  5. Dealing with the fear both of failure and of success.

6. Being ready to explore your limits while recognizing your limitations.
7. Appreciating the process of psychological immediate gratification.
8. We can never be perfect; we can always get better.

#### H. Promoting Regular Exercise/Physical Activity

1. Most regular exercisers do it because it makes them feel good, feel better, feel better about themselves,; look better, look better to themselves and to others.
2. Regular exercise is easier, for many much easier, than weight loss.
3. It's the regular, not the exercise that is the hard part. We cannot repeat this too often.
4. Exercising regularly takes time, forever.
5. Thus, start with the regular not the exercise; start small in time, start slow.
6. There are many choices for regular exercise within the two major groups, Lifestyle and Scheduled Leisure-time, which themselves may be mixed and matched.
7. All require taking control, *by the patient*.
8. The most important thing that the provider does after the initial assessment of readiness to change, is to guide the patient/help the patient to mobilize their motivation.
9. Why transfer of control from provider to patient is key with "Exercise is Medicine:" because the patient's own behavior is "the pill."

10. There are minimal side effects and complications of regular exercise, just as long as the patient engages in activities that are reasonable and rational for them and within their physical capabilities at the time they are engaging in them: “explore your limits; recognize your limitations.”
11. Developing the positive addiction.

### **VIII. Becoming a Regular Exerciser: A Set of Basic Concepts**

- A. The hard part of regular exercise is the regular, not the exercise.
- B. Exercise must be regular in order to be beneficial.
- C. There are recommended minimums, but anything is better than nothing, as long as it done on a regular basis.
- D. Gradual change leads to permanent changes.
- E. There are two approaches to regular exercise, “lifestyle” and “scheduled leisure time.” You can use one or the other exclusively or the two can be mixed and matched. BUT, they can both work equally well to provide the benefits of regular exercise.
- F. The exercise that is RIGHT for you is the exercise that is right for YOU.
- G. The variation of routines over the course of the year works for many.
- H. We can never be perfect; we can always get better.
- I. Explore your limits; recognize your limitations.
- J. Mobilizing your motivation is central to the whole exercise of becoming a regular exerciser. You cannot become a regular exerciser and stay that way without first mobilizing your motivation and then maintaining it, by periodically going through the Ordinary Mortals® Pathway.

## **IX. Making Exercise Fun**

### **A. Making Exercise Fun: The Mental Aspects**

1. Let it be fun.
2. Set appropriate goals.
3. Don't do too much, too soon.
4. Focus first on the regular, then on the exercise.
5. Understand that gradual change leads to permanent changes.
6. Recognize that the exercise chosen can become fun itself.
7. Recognize that the results can be fun, if given time.
8. Use the training sessions for thinking, when the activity chosen permits.
9. Anticipate rewards for performance.

### **B. Settings, Surroundings, and Companions, for Leisure-Time Scheduled Exercise: The Practical Aspects**

1. Set non-exercise related goals.
2. Set Leisure Time Scheduled Exercise training programs in minutes, not miles: TSTEP: The Scheduled Exercise Training Program
3. Learn and use different routes.
4. Exercise with a companion (can be a dog).
5. Listen to music, the news, talk radio, and/or audio courses.
6. Take care for safety.

## Table I: ACSM's EiM®: Table of Contents



### ***ACSM's Exercise is Medicine®: A Clinician's Guide to Exercise Prescription***

By Steven Jonas, M.D., M.P.H., M.S. and Edward Phillips, M.D.  
(Philadelphia, PA: Lippincott, Williams and Wilkins, 2009)

#### **Table of Contents:**

Foreword.	Introduction to the Program: "Exercise is Medicine ®"
Preface.	What EiM ® is: Certain technical/definitional issues; Acknowledgements
Introduction.	What this Book is About.
Chapter 1.	On Clinician Engagement and Counseling: A. The Essentials of Exercise Counseling; B. The Role of the Clinician; and C. Thinking About It, As a Clinician
Chapter 2.	Organizing the Practice: Covers the conscious organization of the practice; the "Five A's" framework, ( <b>A</b> ssess, <b>A</b> dvice, <b>A</b> gree, <b>A</b> ssist, <b>A</b> rrange follow-up; Setting up the Team; Reminders and Record Keeping; How to reduce all of this material to a package that can be successfully used in clinical practice.
Chapter 3.	Risk Assessment and Exercise Screening
Chapter 4.	Mobilizing Motivation: Basic Concepts: Mobilizing motivation as the central issue for patients/clients and caregivers; The Stages of Change
Chapter 5.	Mobilizing Motivation: The Wellness Pathway: Covers the Jonas "Five Step Model"
Chapter 6.	Mobilizing Motivation: The Phillips Model: the "Behavior Change Pyramid."

- Chapter 7. Getting Started as a Regular Exerciser – Basic Principles
- Chapter 8. The Exercise Prescription: From Sedentary to the ACSM/AHA/HHS Guidelines – General principles and parameters to enable the clinician to effectively prescribe regular exercise for patients.
- Chapter 9. The Exercise Prescription: Staying Active.
- Chapter 10. The Exercise Prescription: TSTEP (The Scheduled Training Exercise Program): Training Programs by the Minute.
- Chapter 11. Choosing the Activities, Sport, or Sports: The choice of sports is extensive; very important: different strokes for different folks: “The **best** exercise for you is the exercise that’s best for **you**;” aerobic and non-aerobic exercise; the “Lifestyle Exercise” (LE) approach and the “Scheduled Leisure Time Exercise” (SLTE) approach, using TSTEP.
- Chapter 12. Technique and Equipment. A rudimentary intro., except on Pace Walking TM.
- Chapter 13. Special Conditions: Regular Exercise for Illness Management.
- Chapter 14. Exercise in Children: “Exercise is a Family Affair.”
- Chapter 15. Finding the Fun in Regular Exercise.

## **Table II: the HHS/ACSM/AHA 2008 Physical Activity Guidelines**

<http://www.health.gov/paguidelines>

### **Key Guidelines**

Substantial health benefits are gained by doing physical activity according to the Guidelines presented below for different groups.

#### **Children and Adolescents (aged 6–17)**

- Children and adolescents should do 1 hour (60 minutes) or more of physical activity every day.
- Most of the 1 hour or more a day should be either moderate- or vigorous-intensity aerobic physical activity.
- As part of their daily physical activity, children and adolescents should do vigorous-intensity activity on at least 3 days per week. They also should do muscle-strengthening and bone-strengthening activity on at least 3 days per week.

#### **Adults (aged 18–64)**

- Adults should do 2 hours and 30 minutes a week of moderate-intensity, or 1 hour and 15 minutes (75 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic physical activity. Aerobic activity should be performed in episodes of at least 10 minutes, preferably spread throughout the week.
- Additional health benefits are provided by increasing to 5 hours (300 minutes) a week of moderate-intensity aerobic physical activity, or 2 hours and 30 minutes a week of vigorous-intensity physical activity, or an equivalent combination of both.
- Adults should also do muscle-strengthening activities that involve all major muscle groups performed on 2 or more days per week.

#### **Older Adults (aged 65 and older)**

- Older adults should follow the adult guidelines. If this is not possible due to limiting chronic conditions, older adults should be as physically active as their abilities allow. They should avoid inactivity. Older adults should do exercises that maintain or improve balance if they are at risk of falling.

For all individuals, some activity is better than none. Physical activity is safe for almost everyone, and the health benefits of physical activity far outweigh the risks. People without diagnosed chronic conditions (such as diabetes, heart disease, or osteoarthritis) and who do not have symptoms (e.g., chest pain or pressure, dizziness, or joint pain) do not need to consult with a health care provider about physical activity.

### **Adults With Disabilities**

Follow the adult guidelines. If this is not possible, these persons should be as physically active as their abilities allow. They should avoid inactivity.

### **Children and Adolescents With Disabilities**

Work with the child's health care provider to identify the types and amounts of physical activity appropriate for them. When possible, these children should meet the guidelines for children and adolescents—or as much activity as their condition allows. Children and adolescents should avoid being inactive.

### **Pregnant and Postpartum Women**

Healthy women who are not already doing vigorous-intensity physical activity should get at least 2 hours and 30 minutes (150 minutes) of moderate-intensity aerobic activity a week. Preferably, this activity should be spread throughout the week. Women who regularly engage in vigorous-intensity aerobic activity or high amounts of activity can continue their activity provided that their condition remains unchanged and they talk to their health care provider about their activity level throughout their pregnancy.

### Table III: The Scheduled Training Exercise Program: Getting Started

(Times, in Minutes)

Day	M	T	W	Th	F	S	S	Total	Comments
Week									
1	Off	10	Off	10	Off	Off	10	30	Ordinary
2	Off	10	Off	10	Off	Off	10	30	walking
3	Off	20	Off	20	Off	Off	20	60	Ordinary
4	Off	20	Off	20	Off	Off	20	60	walking
5	Off	20	Off	20	Off	Off	20	60	Fast
6	Off	20	Off	20	Off	Off	20	60	walking
7	Off	20	Off	20	Off	Off	30	70	Fast
8	Off	20	Off	20	Off	Off	30	70	walking
9	Off	20	Off	20	Off	Off	20	60	PaceWalkingTM
10	Off	20	Off	20	Off	Off	30	70	
11	Off	20	Off	30	Off	Off	30	80	PaceWalkingTM
12	Off	20	Off	30	Off	Off	30	80	
13	Off	30	Off	30	Off	Off	30	90	PaceWalkingTM

## Table IV: The Physical Activity Readiness-Questionnaire and Exercise Rx Forms

PHYSICAL ACTIVITY READINESS QUESTIONNAIRE



PATIENT'S NAME: \_\_\_\_\_ DOB: \_\_\_\_\_ DATE: \_\_\_\_\_

HEALTH CARE PROVIDER'S NAME: \_\_\_\_\_

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**Please read the questions below carefully, and answer each one honestly. Please check YES or NO.**

Yes    No   Has your health care provider ever said that you have a heart condition and that you should only do physical activity recommended by a health care provider?

Yes    No   Do you feel pain in your chest when you do physical activity?

Yes    No   In the past month, have you had chest pain when you were not doing physical activity?

Yes    No   Do you lose your balance because of dizziness or do you ever lose consciousness?

Yes    No   Do you have a bone or joint problem (for example, back, knee or hip) that could be made worse by a change in your physical activity?

Yes    No   Is your health care provider currently prescribing drugs (for example, water pills) for your blood pressure or heart condition?

Yes    No   Do you know of any other reason why you should not do physical activity?

Excerpted from the Physical Activity Readiness Questionnaire (PAR-Q) © 2002. Used with permission from the Canadian Society for Exercise Physiology.

EXERCISE PRESCRIPTION & REFERRAL FORM



PATIENT'S NAME: Jessica Smith DOB: April 5, 1958 DATE: Jan. 20, 2010

HEALTH CARE PROVIDER'S NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_

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Type of physical activity:	Aerobic	Strength
Number of days per week:		
Minutes per day:		
Total minutes per week*:		

**\*PHYSICAL ACTIVITY GUIDELINES**  
*Adults aged 18-64 with no chronic conditions:* Minimum of 150 minutes of moderate physical activity a week (for example, 30 minutes per day, five days a week) **and** muscle-strengthening activities on two or more days a week (2008 Physical Activity Guidelines for Americans).  
 For more information, visit [www.acsm.org/physicalactivity](http://www.acsm.org/physicalactivity).

**REFERRAL TO HEALTH & FITNESS PROFESSIONAL**

Name: \_\_\_\_\_

Phone: \_\_\_\_\_

Address: \_\_\_\_\_

Web Site: \_\_\_\_\_

Follow-up Appointment Date: \_\_\_\_\_

Notes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_