

Ed Case Study

Ed is a 54-year-old former professional baseball player who is currently managing a law firm and spends most of his day behind a desk. He is 6'2" tall and weighs 200 lbs. His waist circumference is 38 inches. Ed underwent a physical examination and received the following results: resting blood pressure 131/89 mmHg, total cholesterol 225 mg/dL, LDL 180 mg/dL, HDL 37 mg/dL, fasting blood glucose 104 mg/dL, triglycerides 163 mg/dL. His resting heart rate was 81 beats/min and regular. He doesn't smoke cigarettes or use any other tobacco products. He has no symptoms or personal history of cardiovascular disease. Ed was a right-handed pitcher and has discomfort with shoulder internal and external rotation as well as overhead pressing movements.



Ed's doctor has recommended resistance training and stretching to resolve his rotator cuff pain. Ed's brother had an angioplasty procedure at the age of 57. Ed used to participate in recreational doubles tennis matches once a week for about 45 minutes, and played 9 holes of golf once a week using a cart before he began having rotator cuff pain. Ed has been going to the gym and lifting weights a couple of times a week for the past 3 months for 30 minutes per session, but his progress has plateaued. He is currently performing 2 sets of 12-15 repetitions to failure for the major muscle groups using machines but wants to participate in more cardio activities and begin a more structured resistance training program at the suggestion of his doctor. He has hired a trainer to help him with a resistance program 2 days/week as well as cardio activities. Ed is available 3-5 days a week for 1 hour each day.

Coronary Risk Factors

1. What is Ed's body mass index (BMI) and what is his body weight category?
2. List Ed's major coronary risk factors (if any):
3. What other factors that contribute to coronary artery disease does Ed currently have (if any):

Physical Fitness Assessment

After ensuring that Ed was fully cleared for exercise, he underwent a fitness assessment. His skinfold and 1 mile walk test measurements are listed below.



Skinfold measurements: Chest 17 mm, Abdomen 26 mm, Thigh 20 mm.

1 Mile Walk Test: Heart rate = 140 beats/minute, Time = 14 minutes and 30 seconds.

4. Using the **Body Composition and Waist Circumference** section of your PHF textbook, determine Ed's percent body fat. Determine his estimated VO_2 max for the 1 mile walk test by using the formula in the **Physical Fitness Assessment** section of your textbook. Using the table below, as well as the **Normative Data and Fitness Categories** section of your textbook, indicate his current fitness category for each test, and create a short-term goal for each test by using the percentage increases listed in the **Goal Setting** section of your textbook. Ed is still a novice exerciser, but is highly motivated. Therefore, use the higher end of the percentage increase for each test score.

	Current Raw Score	Current Fitness Category	Goal Raw Score*	Goal Fitness Category**
Percent Body Fat				
Sit-and-Reach (inches)	17.5	Low Excellent		
1 Min Sit-up	20	Mid Poor		
1 Min Push Up	Test not Taken			
1 RM Bench Press	Test not Taken			
1 Mile Walk (ml/kg/min)				

**Goal fitness category will be determined by looking up the goal raw score in the Normative Data and Fitness Categories section of your PHF textbook.

Cardiovascular Training and Prescription

5. Based on the above information and using the Heart Rate Reserve formula in the Cardiovascular Training and Prescription section of your PHF textbook, calculate Ed’s target HR. Remember that the intensity should be based on his current cardiovascular fitness level.
 - a. Estimate Max Heart Rate:
 - b. Calculate Heart Rate Reserve (HRR):
 - c. Multiply HRR by lower range of intensity:
Multiply HRR by higher range of intensity:
 - d. Add resting HR back in.
Determine low end of target HR:
Determine high end of target HR:
 - e. Target HR Range =
 - f. Target HR Range (10 second count):
 - g. Design a progressive 8 week cardiovascular program for Ed based on his current level of cardiorespiratory fitness to help him improve his VO₂ max score on his next fitness assessment.



	Type	Frequency	Intensity	Time	Weekly Volume
Week 1					
Week 2					
Week 3					
Week 4					
Week 5					
Week 6					
Week 7					
Week 8					

6. At which week does Ed meet the minimum number of minutes per week of moderate intensity aerobic activity recommended for health benefits?

Resistance Training



- 7. Ed would like to perform resistance training workouts with his trainer 2 days/week. What is one area that the trainer should target for resistance training?
- 8. Select a strength goal for Ed from the Resistance Training and Prescription section of the PHF textbook. He would like to utilize a traditional resistance training program for most of his exercises, but will utilize dynamic resistance training for his rotator cuff muscles. The Table in your textbook will assist you.

Intensity

- 9. List 7 resistance training exercises (3 upper body, 2 core, and 2 lower body) that you would include in his program along with the muscles worked, number of reps, and number of sets.

Name of Exercise	Muscles Worked	Days/Week	Sets	Reps

Note: There are a number of different exercises that you could have selected.

- 10. How would you determine the amount of resistance Ed should use for the seated cable low row and dumbbell squats? The Table in your textbook will assist you.



Flexibility Training

11. Ed spends much of his day sitting, has a rotator cuff problem, and would like to play tennis and golf again. Given these factors, list four static stretches that Ed should be doing, as well as the muscle(s) stretched, joint action to stretch each muscle, and provide suggestions for the duration and number of repetitions for each stretch. Use the Flexibility Training and Prescription section in your PHF textbook.

Name of Stretch	Muscles Stretched	Joint Action to Stretch	Duration	Repetitions



Nutrition

When at the doctor getting cleared for exercise, Ed met with a registered dietitian and was prescribed a diet of 2,000 calories per day. Counting calories will be a change for Ed, who tends to eat fast foods. The dietitian instructed him to consume 30% of his calories from healthy fats. In addition, he was instructed to cut back on simple sugars.

12. With a recommendation of 30% of total daily calories from fat, how many grams of fat should Ed take in each day? Is there any particular type of fat that Ed should limit in his diet?

13. To help Ed achieve this goal, what type of general recommendations would you make for him, especially since he mentioned earlier that he finds himself eating meals at fast food restaurants?



Behavior Change

14. Consider all of the information provided about Ed. Using the information in the Behavior Change section of your PHF textbook, in what stage of change would you classify him with regard to cardio and resistance training activity and healthy eating?



15. How might you incorporate some of the concepts in the behavior change action steps to help keep him motivated?