## Lab A3-5 University of Houston Non-Exercise Test for Predicting VO<sub>2max</sub>

## Determine Your Physical Activity Rating (PAR)

Give yourself the appropriate PAR score (0-7) based on the following scale:

- I. Does not participate regularly in programmed recreation, sport, or physical activity.
  - 0 points: Avoids walking or exercise (for example, always uses elevators, drives whenever possible instead of walking).
  - 1 point: Walks for pleasure, routinely uses stairs, occasionally exercises sufficiently to cause heavy breathing or perspiration.
- II. Participates regularly in recreation or work requiring modest physical activity (such as golf, horseback riding, calisthenics, gymnastics, table tennis, bowling, weight lifting, or yard work).
  - 2 points: 10–60 minutes per week
  - 3 points: Over 1 hour per week
- III. Participates regularly in heavy physical exercise (such as running or jogging, swimming, cycling, rowing, skipping rope, running in place) or engages in vigorous aerobic type activity (such as tennis, basketball, or handball).
  - 4 points: Runs less than 1 mile per week or spends less than 30 minutes per week in comparable physical activity.
  - 5 points: Runs 1–5 miles per week or spends 30–60 minutes per week in comparable physical activity.
  - 6 points: Runs 5–10 miles per week or spends 1–3 hours per week in comparable physical activity.
  - 7 points: Runs more than 10 miles per week or spends more than 3 hours per week in comparable physical activity.

## Estimate VO<sub>2max</sub>

The following equations can be used to estimate  $\dot{V}O_{2max}$  based on your physical activity rating, age, and either your body mass index or percent body fat. Choose the appropriate formula and fill in the appropriate values for the following variables:

PAR = Physical Activity Rating A = Age (in years) BMI = Body Mass Index % fat = Percent body fat (multiplied by 100; e.g., 25% × 100 = 0.25 × 100 = 25) G = Gender (0 for women, 1 for men)

Formula Using Body Mass Index

First, determine your BMI using the following four-step formula:

1. Convert your body weight to kilograms by dividing your weight in pounds by 2.2.

Body weight \_\_\_\_\_ lb ÷ 2.2 lb/kg = body weight \_\_\_\_\_ kg

2. Convert your height measurement to meters by multiplying your height in inches by 0.0254.

Height \_\_\_\_\_\_ in. × 0.0254 m/in. = height \_\_\_\_\_ m

## LAB A3-5 (continued)

3. Square your height measurement.

Height \_\_\_\_\_  $m \times height _____ m = height _____ m^2$ 

4. BMI equals body weight in kilograms divided by the square of your height in meters (kg/m<sup>2</sup>).

Body weight \_\_\_\_\_  $kg \div height ____ m^2 = BMI ____ kg/m^2$ 

Next, calculate VO<sub>2max</sub> based on this value for BMI:

 $\dot{V}O_{2\text{max}} = 56.363 + 1.921(\text{PAR}) - 0.381(\text{A}) - 0.754(\text{BMI}) + 10.987(\text{G})$ 

 $\dot{V}O_{2max} = 56.363 + (1.921 \times \underline{\qquad}) - (0.381 \times \underline{\qquad}) - (0.754 \times \underline{\qquad}) + (10.987 \times \underline{\qquad}) = \underline{\qquad} ml/kg/min$ 

Formula Using Percent Body Fat

(See Lab 6-1 in your text for instructions on determining percent body fat.)

$$\begin{split} \dot{VO}_{2max} &= 50.513 + 1.589(PAR) - 0.289(A) - 0.522(\% \text{ fat}) + 5.863(G) \\ \dot{VO}_{2max} &= 50.513 + (1.589 \times \underline{\qquad}) - (0.289 \times \underline{\qquad}) - (0.522 \times \underline{\qquad}) \\ &+ (5.863 \times \underline{\qquad}) = \underline{\qquad} \text{ml/kg/min} \end{split}$$

 $\dot{VO}_{2max}$ :
 \_\_\_\_\_ml/kg/min

 Classification:
 \_\_\_\_\_(from Lab 3-1 in your text)