

# **Paffenbarger Physical**

# **Activity Questionnaire**

## **KNES 260 – Spring, 2004**

## **Science of Physical Activity and**

## **Cardiovascular Health**

This questionnaire was developed by Dr. Ralph Paffenbarger Jr. for his classical exercise and chronic disease epidemiology studies of Harvard and University of Pennsylvania alumni (for example: New England Journal of Medicine 314:605-613, 1986; American Journal of Epidemiology 117:245-257, 1983). This questionnaire quantifies the number of calories people expend per week in sports, leisure, and recreational activities. The methods for converting the answers to the following questions to weekly caloric expenditures are outlined in the following paragraphs.

Climbing 20 stairs is estimated to require the expenditure of 8 kcal of energy. These “kcal” are synonymous with the “calories” you think of from a dietary point of view, though they really are “kilocalories” or “kcal”. First, the number of stairs climbed per day on the questionnaire is converted to the number of stairs climbed per week. This result is then multiplied by 8 kcal/20 stairs to determine the number of kcals expended per week in stairclimbing.

Likewise, walking one block (1/12<sup>th</sup> of a mile) is estimated to require the expenditure of 8 kcal of energy. First, the number of blocks walked per day on the questionnaire is converted to the number of blocks walked per week. This result is then multiplied by 8 kcal/block to determine the number of kcals expended per week in walking.

Sports and recreational activities must be categorized as light or vigorous in intensity. Light sport or recreational activities are considered to be bowling, baseball, softball, golf, and house and yard work. Vigorous activities are considered to be such activities as brisk continuous walking, jogging, swimming, cycling and racquet sports. Light activities are converted to kcal expended/week by multiplying the number of minutes of that activity per week by an assumed energy expenditure of 5 kcal/minute. Vigorous activities are converted to the number of kcal expended per week by multiplying the number of minutes of that activity per week by an assumed energy expenditure of 10 kcal/minute.

The total number of kcals expended per week is then derived by summing the kcal expended per week for stairclimbing, walking, and each of the light and vigorous sport and recreational activities. These calculations are summarized on the page following the questionnaire.







# Paffenbarger Physical Activity Questionnaire

## Scoring Worksheet

1. Energy expenditure associated with stairclimbing  
 \_\_\_\_\_ stairs climbed/day \* 7 days/week = \_\_\_\_\_ stairs climbed/wk  
 \_\_\_\_\_ stairs climbed/week \* 8 kcal/20 stairs =  
 \_\_\_\_\_ **kcal energy expended/week stairclimbing**

2. Energy expenditure associated with walking  
 \_\_\_\_\_ blocks walked/day \* 7 days/week = \_\_\_\_\_ blocks walked/week  
 \_\_\_\_\_ blocks walked/week \* 8 kcal/block =  
 \_\_\_\_\_ **kcal energy expended/week walking**

3. Energy expenditure associated with light sport or recreational activities  
 \_\_\_\_\_ total minutes of light sport/recreational activities/week  
 \* 5 kcal/minute =  
 \_\_\_\_\_ **kcal expended/week in light sport/recreational activities**

4. Energy expenditure associated with vigorous sport or recreational activities  
 \_\_\_\_\_ total minutes of vigorous sport/recreational activities/week \* 10 kcal/minute =  
 \_\_\_\_\_ **kcal expended/week vigorous sport/recreational activities**

5. Total sport, leisure, and recreational energy expenditure per week

kcal/wk stairclimbing \_\_\_\_\_  
 kcal/wk walking \_\_\_\_\_  
 kcal/wk light sport/recreational \_\_\_\_\_  
 kcal/wk vigorous sport/recreational \_\_\_\_\_

**Total kcal/wk expended \_\_\_\_\_**