

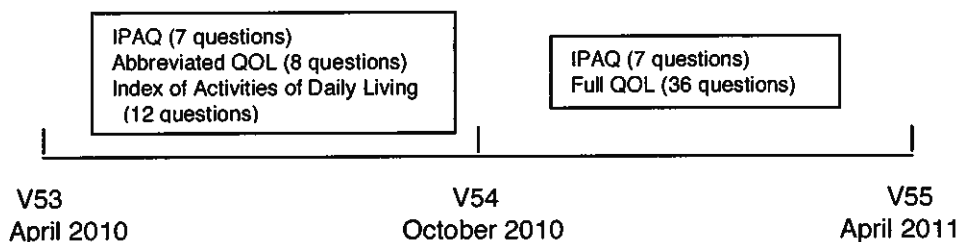
September 28, 2009

Dear Clinical Working Group Committee Members:

We are writing to request that a brief assessment of physical activity be included MACS-wide beginning at visit 53. The MACS is well-positioned to make major contributions to the understanding of the epidemiology and risk factors related to co-morbidities of aging among HIV-infected persons, including diabetes, cardiovascular disease, frailty, and osteoporosis. Many of these conditions are influenced by the level of physical activity. For this reason, it is crucial to have an accurate assessment of this variable in our cohort.

Physical activity is difficult to measure in cohort studies and there are inherent limitations using questionnaires for its assessment. Nevertheless, several different instruments have been developed and validated in adults and are used in various cohort studies. After having reviewed the various instruments, we suggest using the INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE (IPAQ). This is a short 7 question, self-administered form, which has been validated in multiple countries and is available in several languages. (Craig CL, et al. International Physical Activity Questionnaire: 12-Country Reliability and Validity. Med Sci Sports Exerc 2003 Aug 35(8):1381-95.)

The administration of the IPAQ questionnaire (see Appendix A) will be implemented using the MWII (via the Internet or local (including audio) versions; estimated completion time 3-5 minutes) over 2 consecutive visit cycles (visit 53-54: April 2010 to April 2011). This strategy will maximize completion of the questionnaire by all active participants to assess variability within participant-visits so as to determine whether the questionnaire should be measured each visit or once a year. The first administration will coincide with the abbreviated SF-36 QOL and the Index of Activities of Daily Living during visit 53 and the second with the full version of the SF-36 QOL during visit 54 (See timeline below).



Computation of mets-min/week and categorical scoring of physical activity will be completed by CAMACS staff using a validated scoring algorithm (see Appendix B).

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## INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE (August 2002)

### SHORT LAST 7 DAYS SELF-ADMINISTERED FORMAT

#### FOR USE WITH YOUNG AND MIDDLE-AGED ADULTS (15-69 years)

The International Physical Activity Questionnaires (IPAQ) comprises a set of 4 questionnaires. Long (5 activity domains asked independently) and short (4 generic items) versions for use by either telephone or self-administered methods are available. The purpose of the questionnaires is to provide common instruments that can be used to obtain internationally comparable data on health-related physical activity.

#### ***Background on IPAQ***

The development of an international measure for physical activity commenced in Geneva in 1998 and was followed by extensive reliability and validity testing undertaken across 12 countries (14 sites) during 2000. The final results suggest that these measures have acceptable measurement properties for use in many settings and in different languages, and are suitable for national population-based prevalence studies of participation in physical activity.

#### ***Using IPAQ***

Use of the IPAQ instruments for monitoring and research purposes is encouraged. It is recommended that no changes be made to the order or wording of the questions as this will affect the psychometric properties of the instruments.

#### ***Translation from English and Cultural Adaptation***

Translation from English is supported to facilitate worldwide use of IPAQ. Information on the availability of IPAQ in different languages can be obtained at [www.ipaq.ki.se](http://www.ipaq.ki.se). If a new translation is undertaken we highly recommend using the prescribed back translation methods available on the IPAQ website. If possible please consider making your translated version of IPAQ available to others by contributing it to the IPAQ website. Further details on translation and cultural adaptation can be downloaded from the website.

#### ***Further Developments of IPAQ***

International collaboration on IPAQ is on-going and an ***International Physical Activity Prevalence Study*** is in progress. For further information see the IPAQ website.

#### ***More Information***

More detailed information on the IPAQ process and the research methods used in the development of IPAQ instruments is available at [www.ipaq.ki.se](http://www.ipaq.ki.se) and Booth, M.L. (2000). *Assessment of Physical Activity: An International Perspective*. Research Quarterly for Exercise and Sport, 71 (2): s114-20. Other scientific publications and presentations on the use of IPAQ are summarized on the website.

# INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions will ask you about the time you spent being physically active in the **last 7 days**. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Think about all the **vigorous** activities that you did in the **last 7 days**. **Vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. Think *only* about those physical activities that you did for at least 10 minutes at a time.

1. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, aerobics, or fast bicycling?

**IPAQ1D\_053** \_\_\_\_\_ days per week

**IPAQ1NA\_053**  No vigorous physical activities → **Skip to question 3**

2. How much time did you usually spend doing **vigorous** physical activities on one of those days?

**IPAQ2H\_053** \_\_\_\_\_ hours per day

**IPAQ2M\_053** \_\_\_\_\_ minutes per day

**IPAQ2DK\_053**  Don't know/Not sure

Think about all the **moderate** activities that you did in the **last 7 days**. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal. Think *only* about those physical activities that you did for at least 10 minutes at a time.

3. During the **last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis? Do not include walking.

**IPAQ3D\_053** \_\_\_\_\_ days per week

**IPAQ3NA\_053**  No moderate physical activities → **Skip to question 5**

4. How much time did you usually spend doing **moderate** physical activities on one of those days?

**IPAQ4H\_053** \_\_\_\_\_ hours per day

**IPAQ4M\_053** \_\_\_\_\_ minutes per day

**IPAQ4DK\_053**  Don't know/Not sure

Think about the time you spent **walking** in the **last 7 days**. This includes at work and at home, walking to travel from place to place, and any other walking that you might do solely for recreation, sport, exercise, or leisure.

5. During the **last 7 days**, on how many days did you **walk** for at least 10 minutes at a time?

**IPAQ5D\_053** \_\_\_\_\_ days per week

**IPAQ5NA\_053**  No walking → *Skip to question 7*

6. How much time did you usually spend **walking** on one of those days?

**IPAQ6H\_053** \_\_\_\_\_ hours per day

**IPAQ6M\_053** \_\_\_\_\_ minutes per day

**IPAQ6DK\_053**  Don't know/Not sure

The last question is about the time you spent **sitting** on weekdays during the **last 7 days**. Include time spent at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch television.

7. During the **last 7 days**, how much time did you spend **sitting** on a **week day**?

**IPAQ7H\_053** \_\_\_\_\_ hours per day

**IPAQ7M\_053** \_\_\_\_\_ minutes per day

**IPAQ7DK\_053**  Don't know/Not sure

**This is the end of the questionnaire, thank you for participating.**

## APPENDIX 1

### At A Glance IPAQ Scoring Protocol (Short Forms)

#### Continuous Score

Expressed as MET-min per week: MET level x minutes of activity/day x days per week

#### Sample Calculation

#### MET levels

Walking = 3.3 METs

Moderate Intensity = 4.0 METs

Vigorous Intensity = 8.0 METs

#### MET-minutes/week for 30 min/day, 5 days

$3.3 \times 30 \times 5 = 495$  MET-minutes/week

$4.0 \times 30 \times 5 = 600$  MET-minutes/week

$8.0 \times 30 \times 5 = 1,200$  MET-minutes/week

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TOTAL = 2,295 MET-minutes/week

Total MET-minutes/week = Walk (METs\*min\*days) + Mod (METs\*min\*days) + Vig (METs\*min\*days)

#### Categorical Score- three levels of physical activity are proposed

##### 1. Low

- No activity is reported **OR**
- Some activity is reported but not enough to meet Categories 2 or 3.

##### 2. Moderate

Either of the following 3 criteria

- 3 or more days of vigorous activity of at least 20 minutes per day **OR**
- 5 or more days of moderate-intensity activity and/or walking of at least 30 minutes per day **OR**
- 5 or more days of any combination of walking, moderate-intensity or vigorous-intensity activities achieving a minimum of at least 600 MET-minutes/week.

##### 3. High

Any one of the following 2 criteria

- Vigorous-intensity activity on at least 3 days and accumulating at least 1500 MET-minutes/week **OR**
- 7 or more days of any combination of walking, moderate- or vigorous-intensity activities accumulating at least 3000 MET-minutes/week

Please review the full document "Guidelines for the data processing and analysis of the International Physical Activity Questionnaire" for more detailed description of IPAQ analysis and recommendations for data cleaning and processing [[www.ipaq.ki.se](http://www.ipaq.ki.se)].