

6-Minute Arm Test:

Adapted from Hol AT et al. Reliability and validity of the six-minute arm test for the evaluation of cardiovascular fitness in people with spinal cord injury. Arch Phys Med Rehabil, 88:489-95; Methods, with permission from Elsevier Publishing.

Procedure:

Heart rate measurements are continually recorded throughout the study. Blood pressure should be measured before and after the test.

Before the study commences, ask your subjects to empty their bladders to minimize any episodes of autonomic dysreflexia.

Subjects are asked to complete a single, 6-minute stage of submaximal exercise on a standard arm cycle ergometer. The power output (PO) is selected for each individual based on their manual muscle strength, ASIA motor score and physical activity level (see table below). The aim is to attain a steady heart rate of 60%-70% of age-predicted maximum heart rate or a rating of 11-15 on the Borg RPE scale.

PO selection:

For subjects with tetraplegia:

Set PO to 10W if: Power wheelchair user OR \leq grade 4 wrist extension

Set PO to 15W if: Manual wheelchair user

Set PO to 20W if: Manual wheelchair user AND grade 5 wrist extension AND physically active (engaged in physical activity at least 3 times a week as measured by PASIPD)

For subjects with paraplegia:

Set PO to 30W if: female ☐ inactive

Set PO to 40W if: female ☐ active OR male ☐ inactive

Set PO to 50W if: female ☐ competitive athlete OR male: active

Set PO to 60W if: male ☐ competitive athlete

An increase of 5 W/min for individuals with tetraplegia and 10 W/min for paraplegia are provided. The final steady-state heart rate is averaged over the last 30 sec of the 6 minute test.

6-MAT Worksheet

Patient Name: _____

Date: _____

6-MAT

Initial Power Output (PO): _____ Watt

Increase in power output for each minute: _____ Watt/minute

During the final 30 seconds of the test

Baseline Outcome Variables of Heart Rate: _____ beats/minute

Borg Scale - Ratings of Perceived Exertion (RPE): _____ (6-20 points)