**Wingate Anaerobic Test (WAnT)**

**Assessment Overview**

**Assessment Area**

**ICF Domain:**
Body Functions

**Subcategory:**
Functions and Structures of the Cardiovascular, Haematological, Immunological and Respiratory Systems

**Summary**

Wingate Anaerobic Test (WAnT) assesses muscle power by 30-second maximal effort trials on a leg or arm ergometer. The WAnT is currently the only standardized test to monitor upper extremity strength and power. It is also a well-established protocol that has been used in many populations. Arm WAnT has been used in persons with paraplegia to compare to performance of upper limb anaerobic tasks such as transferring in and out of the car and 26m wheelchair sprints.

**Clinical Considerations**

- This is the only standardized test to monitor upper extremity strength and power. Most assessments look at aerobic function rather than anaerobic tasks. This test has been shown to be valid and reliable across a wide range of able bodied and disabled individuals, including those with paraplegia. It is also a well-established protocol that has been used in many populations so comparisons are possible.
- The test is relatively easy and inexpensive to administer with the appropriate equipment; however, the initial expenditure is significant.

**Availability**

[http://www.brianmac.co.uk/want.htm](http://www.brianmac.co.uk/want.htm)

**Languages:** English

**Assessment Interpretability**

**Minimal Clinically Important Difference**

Not established in SCI

**Statistical Error**

Not established in SCI

**Typical Values**

**Mean (SD) Scores:**

**C5 Group:**
Peak Power (W) = 53.9-57.0
Mean Power (W) = 31.7-31.9

**C6 Group:**
Peak Power (W) = 121.7-119.7
Mean Power (W) = 70.3-72.3

**C7 Group:**
Peak Power (W) = 203.4-206.8
Mean Power (W) = 134.2-138.2

(Jacobs et al., 2005; N=45, complete cervical SCI, mean time since injury = 8.2-10.6 years)
<table>
<thead>
<tr>
<th>Measurement Properties</th>
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<tbody>
<tr>
<td><strong>Validity</strong></td>
<td><strong>Reliability – High</strong></td>
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<tr>
<td>Not established in SCI</td>
<td><strong>High Intra-rater Reliability:</strong> No significant differences between 2 trials (Jacobs et al., 2003; N=43, 33 male, paraplegic; Jacobs et al., 2005; N=45, complete SCI, injury levels T2-T12, mean (SD) time since injury = 8.1 (7.1) years)</td>
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<td><strong>Responsiveness</strong></td>
<td><strong>Number of studies reporting reliability data: 2</strong></td>
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<td>Floor/Ceiling Effect:</td>
<td>Effect Size:</td>
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<td><strong>Number of studies reporting responsiveness data: 0</strong></td>
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