MEASUREMENT CHARACTERISTICS AND CLINICAL UTILITY OF THE EXECUTIVE FUNCTION PERFORMANCE TEST AMONG INDIVIDUALS WITH STROKE

Jason Raad, MS, Jennifer Moore, PT, DHS, NCS

Higher-level cognitive functions, such as decision-making, self-correction, and judgment, are referred to as executive functions. Following stroke, approximately two-thirds of individuals experience some impairment in cognitive function, which is associated with decreased ability to complete activities of daily living and instrumental activities of daily living, contributing to longer rehabilitation stays. Because of the impact these deficits have on independent living, assessment of executive function is critical to understanding the amount of support or assistance an individual requires in order to complete daily tasks. The Executive Function Performance Test (EFPT) is a performance-based measure that assesses impairments in executive function, including an individual’s capacity to live independently and the amount of assistance needed to complete common tasks. Tasks assessed include: simple cooking, telephone use, medication management, and bill payment. The EFPT has demonstrated excellent reliability and adequate to excellent validity in individuals with stroke. Approximately 2 hours are required to complete the EFPT. The instrument’s test booklet is free; however, the test kit costs approximately $50.

This Rehabilitation Measures Database summary provides a review of the psychometric properties of the EFPT in stroke populations. For a full review of the EFPT, along with reviews of over 100 other instruments, go to www.rehabmeasures.org. Please address correspondence to rehabmeasures@ric.org.

BIBLIOGRAPHY:


This instrument summary is designed to facilitate the selection of outcome measures by trained clinicians. The information contained in this summary represents a sample of the peer-reviewed research available at the time of this summary’s publication. The information contained in this summary does not constitute an endorsement of this instrument for clinical practice. The views expressed are those of the summary authors and do not represent those of authors’ employers, instrument owner(s), the Archives of Physical Medicine and Rehabilitation, the Rehabilitation Measures Database, or the United States Department of Education. The information contained in this summary has not been reviewed externally.

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## Executive Function Performance Test

<table>
<thead>
<tr>
<th>Measure Name:</th>
<th>Executive Function Performance Test</th>
<th>Acronym:</th>
<th>EFPT</th>
<th>Summary Authors: Raad J, Moore J</th>
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</thead>
</table>

### Population Reviewed:
Stroke, others reviewed at www.rehabmeasures.org

### Admin Time:
30-45 minutes

### Tasks:
4

### Score:
0/100 (min / max)

### Purpose and Administration Instructions:
- Assesses ability to initiate, execute and complete four basic tasks essential for self-maintenance and independent living: simple cooking, telephone use, medication management, and bill payment.

### Required Equipment:
A complete list of required items can be found in the Test Protocol Booklet.

### Training Requirements:
Review manual

### Validity:
- **Concurrent Validity:** Excellent in chronic stroke with the Functional Assessment Measure; Adequate with the Digits Backward, Trails B, Story Recall, Animal Fluency, Short Blessed Test.
- **Construct Validity:** Adequate to excellent with the Delis-Kaplan Executive Function System and the Short Blessed Test.

### Reliability:
- **Interrater Reliability:** Excellent in chronic stroke for the full EFPT and all subscales.
- **Internal Consistency:** Excellent in chronic stroke for total scores, cooking and medical management; adequate for bill payment and telephone use.

### Norms:

<table>
<thead>
<tr>
<th>Domain</th>
<th>Mild Stroke</th>
<th>Moderate Stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFPT total score</td>
<td>7.87 (8.42)</td>
<td>24.21 (5.39)</td>
</tr>
<tr>
<td>Cooking**</td>
<td>2.98 (4.90)</td>
<td>5.57 (7.27)</td>
</tr>
<tr>
<td>Using Telephone***</td>
<td>1.83 (2.27)</td>
<td>6.57 (9.00)</td>
</tr>
<tr>
<td>Medications***</td>
<td>0.92 (1.34)</td>
<td>5.50 (8.99)</td>
</tr>
<tr>
<td>Paying Bills**</td>
<td>1.92 (2.19)</td>
<td>4.43 (6.94)</td>
</tr>
<tr>
<td>Initiation</td>
<td>0.83 (1.67)</td>
<td>3.43 (7.14)</td>
</tr>
<tr>
<td>Organization***</td>
<td>1.77 (2.22)</td>
<td>6.21 (8.39)</td>
</tr>
<tr>
<td>Sequencing***</td>
<td>3.08 (3.20)</td>
<td>6.93 (7.87)</td>
</tr>
<tr>
<td>Safety &amp; Judgment**</td>
<td>1.32 (2.19)</td>
<td>4.07 (6.67)</td>
</tr>
<tr>
<td>Completion**</td>
<td>0.88 (1.90)</td>
<td>3.57 (7.08)</td>
</tr>
</tbody>
</table>

**p<.005; ***p<.0001

### Scoring Instructions:
- Component score: sum the numbers recorded on each of the four tasks for initiation, organization, sequencing, judgment and completion (range 0 to 5 for each task, maximum 20 points).
- Task score: sum the 4 scores for each task (range 0 to 25 for each task, maximum 100 points).

### Score Interpretation:
- Scoring involves summing each of the test sections and does not require special software.
- Additional normative data can be found in the Rehabilitation Measures Database.

### Considerations:
- SEM has not been established for the EFPT.
- Because the EFPT assesses patients while performing a novel task, it should only be utilized once for each patient.

### Abbreviations:
SEM: Standard Error of Measurement

### Cut-off Criteria:

<table>
<thead>
<tr>
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<th>ICC</th>
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<tbody>
<tr>
<td>Excellent</td>
<td>≥ .6</td>
<td>≥ .75</td>
</tr>
<tr>
<td>Adequate</td>
<td>.31 - .59</td>
<td>.40 - .74</td>
</tr>
<tr>
<td>Poor</td>
<td>≤ .3</td>
<td>&lt; .4</td>
</tr>
</tbody>
</table>

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