HOSPITAL PHYSICIAN®

NEUROLOGY BOARD REVIEW MANUAL

STATEMENT OF EDITORIAL PURPOSE

The *Hospital Physician Neurology Board Review Manual* is a peer-reviewed study guide for residents and practicing physicians preparing for board examinations in neurology. Each manual reviews a topic essential to the current practice of neurology.

NOTE FROM THE PUBLISHER:
This publication has been developed without involvement of or review by the American Board of Psychiatry and Neurology.

Neuropsychological Evaluation in Clinical Practice: Case Interpretation and Treatment

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INTRODUCTION

This manual is the second half of a 2-part review of neuropsychology. The first part presented an overview of the practice of neuropsychology, focusing on the goals of a neuropsychological evaluation, its methods, and the cognitive domains assessed. In clinical practice, there are 4 main goals of a neuropsychological evaluation: (1) to assess a patient's cognitive status across a range of domains to determine areas of strength and weakness; (2) to provide assistance in addressing questions pertaining to differential diagnosis; (3) to monitor cognitive status over time through repeat neuropsychological evaluations; and (4) to provide recommendations regarding possible treatments and interventions that can help patients and their families or help determine competency for managing instrumental activities of daily living (eg, finances, medication, appointments, driving). The neuropsychologist accomplishes these goals through both qualitative observation and quantitative data obtained by administration of standardized tests.

In this manual, we present clinical cases that illustrate essential concepts in neuropsychology and demonstrate how neuropsychological evaluations can contribute to a patient's clinical care. In each case presentation, we describe the patient's background, symptom presentation and history, behavioral observations, test scores, interpretation of results, and treatment recommendations. For each case, the test data have been converted from raw scores to percentiles. These scores reflect the percentage of people in the general population who attain a lower score; the scores can be interpreted as indicating that the patient scores "better than 'x'% of similar individuals who take the same test." To facilitate interpretation and comparison of these values, the percentile ranks are classified into descriptive ranges. The ranges used are as follows:

98th percentile and above = very superior

91st–97th percentile = superior

75th–90th percentile = high average

25th–74th percentile = average

9th–24th percentile = low average

3rd–8th percentile = borderline impaired

2nd percentile and below = impaired

It is notable that 3 of the 4 patients described are male; however, this is not meant to imply that the presented conditions are gender specific or that males are more often referred for neuropsychological evaluation. Additionally, in an effort to provide clear and concise cases, we present cases involving individuals with average estimated premorbid levels of functioning. It has been suggested that individuals with above average premorbid intelligence may possess "cognitive reserve" and in turn exhibit signs of memory loss or cognitive decline later in the disease process.[1] This is an important concept when examining individuals with higher estimated premorbid levels of functioning, as they may score within the "average range" but still be experiencing initial symptoms of neurologic dysfunction.

CASE 1: A 71-YEAR-OLD MAN WITH MEMORY LOSS

CASE PRESENTATION AND HISTORY

A 71-year-old right-handed man is referred for neuropsychological testing by his primary care physician for evaluation of memory and cognitive functioning, assistance with differential diagnosis, and recommendations regarding possible treatments and interventions. The patient reports experiencing "short-term memory loss" for the past 3 to 4 years. Specifically, he describes some difficulty keeping track of his score when playing golf, remembering conversations, and remembering what he has read in the newspaper. The patient says that he feels his memory problems are minor and are caused by stress, and he notes that occasionally he