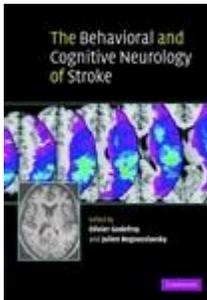


## What Clinicians Working With Stroke Victims Need to Know

A review of



### **The Behavioral and Cognitive Neurology of Stroke**

by Olivier Godefroy and Julien Bogousslavsky (Eds.)

New York: Cambridge University Press, 2007. 648 pp. ISBN

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Reviewed by

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Cerebral stroke is a vascular event that causes a significant decrease in the blood supply to a portion of the brain. There are two major classes: embolic (blood clot, causing ischemia) and hemorrhagic (intracerebral bleeding). The term *stroke* is usually not used in cases of transient ischemic attacks, subdural hematoma, or tumor or infection causing hemorrhage of infarction. Despite substantial advances in the diagnosis and treatment, stroke remains the third most common cause of death in most Western countries (after heart disease and cancer; see Rosamond et al., 2007, for a detailed review of current morbidity and mortality in stroke). In British studies in the 1990s, the incidence of stroke (number of occurrences each year) was 114 per 100,000 individuals (range: 81–150; more recently, 233), and the prevalence (number of living individuals who have had a stroke) was 518 per 100,000 individuals (range: 500–800). Mortality is around 12 percent and morbidity (severe

disability) is around 24 percent, though “clot busting” (thrombolysis) drugs may lower that number. The recurrence rate is 7–10 percent and is highest in the 12 months after the first stroke.

About 25 percent of individuals who recover from their first stroke will have another stroke within five years. In Britain, within one year of a stroke, 33 percent of the patients will have died, 45 percent will be living independently, 22 percent will require some help, and 20 percent will require institutionalization. According to the World Health Organization, the number of strokes in Europe is expected to increase from 1.1 million per year in 2000 to more than 1.5 million per year because of demographic changes such as an aging population (the incidence of stroke increases exponentially after the age of 30, and 95 percent of strokes are in individuals who are 45 years of age and older), urbanization, and immigration patterns; eventually stroke may overtake heart disease and cancer as the most common cause of death (Truelsen et al., 2006).

At the current time, it is estimated that 15 million people worldwide have a stroke each year, accounting for about 10 percent of deaths. Men are more likely to have a stroke than are women, but more than half the deaths from stroke are in women (probably because they live longer and therefore have their strokes later in life). Most of the recovery is in the first three months; 5- to 10-percent recovery occurs between 6 to 12 months; measurable recovery after 12 months is very unusual. About 10 percent of stroke patients develop seizures, usually within a week of the stroke, related to the severity of the stroke. Some risk factors for stroke apply only to women (pregnancy, childbirth, menopause, and, until recently, hormone replacement therapy). For both men and women, some causes of stroke are preventable; individuals at high risk of stroke include those with hypertension, heart disease, diabetes, and/or a history of smoking. Heavy alcohol consumption, high blood cholesterol levels, and illicit drug use are also modifiable risk factors. More than three quarters of stroke victims are disabled enough to decrease their employability.

Strokes cause more than just the obvious physical disabilities. Cognitive and emotional changes are likely after a stroke and can be just as disabling as weakness and sensory loss, the effects that are most evident to the patient and his or her family and friends. Incontinence and appetite loss may occur, and fatigue and depression, either primary or secondary, can have their own devastating consequences. Estimates of the frequency of depression after stroke vary between 30 and 50 percent, and an epidemiological study in Denmark in 1998 found that there were 140 suicides among about 38,000 stroke victims registered in a 15-year period. Since the cohort of stroke victims is large compared with the number of suicides within the group, this relatively small number might give the impression that suicide is a minor issue. But attempted suicides and severe depression without suicide were not counted, and the percentage is higher if one considers the number of suicides in the context of the individuals (7,400 in number) who were still living at the end of the study. Sadly, those with stroke before the age of 60 years were most likely to commit suicide.

I quote these statistics in order to show how important the topic is and to provide a basis for an appreciation that this particular book has been published at this particular time. Stroke is not going away and is possibly becoming more of a health issue as each year passes. Accurate diagnosis and effective treatment are essential, and *The Behavioral and Cognitive Neurology of Stroke* is an excellent compilation of the information and tools needed by psychologists working with stroke patients.

Edited books on a topic as broad as the behavioral and cognitive changes after vascular accidents can be frustrating to the reader unless the editors have taken great care in choosing the topics to be included and authors to cover these topics. The editors of this volume, Olivier Godefroy and Julien Bogousslavsky, have excelled in both areas. Godefroy is professor of neurology and chief of the Neurology Department at the University Hospital of Amiens, France, and Bogousslavsky is head of Neurology in the Swiss Medical Network, Valmont-Grenolier, Switzerland. They have mostly depended on neurologists and neuropsychologists from their two respective countries for this book: Of the 52 contributors to the 32 chapters, 40 are from France and Switzerland, 8 are from other European countries, and 5 are from North America.

This is not a criticism but rather a tribute to the excellence of neurology in France and Switzerland. Many of the authors have a long record of published work on brain-behavior relationships, and some are relatively new to the literature. All have an excellent command of their topic material. Godefroy and Bogousslavsky themselves are authors or coauthors of eight of the chapters. Most of the chapters share a common organization and style, which is helpful to the reader. About two thirds of them have summary key points in boxes scattered throughout the chapter; this was probably a request from the editors, followed by some but not all.

The volume is divided into an introduction followed by seven topic areas, each topic having between two and nine chapters. The seven sections include a large one with nine chapters: Behavioral and Mood Disorders. Three sections have five chapters each: Aphasia and Arthric Disorders; Hemineglect, Anton-Babinski, and Right Hemisphere Syndrome; and Agnosia and Balint's Syndrome. Three chapters cover the topic Executive and Memory Disorders, and there are two chapters each in the topic areas Motor and Gestural Disorders and Dementia and Anatomical Left-Right Syndromes. Space does not permit a detailed review of each of the chapters, but to me, the book provides an invaluable reference work for neurologists, psychiatrists, neuropsychologists, rehabilitation clinicians, and others working with this patient population.

Chapters on assessment include measures to be administered and contain sufficient information about which tests are useful and what scores can be expected. The chapter on depression after stroke by Carota and Paolucci is excellent in this way. These authors and others in the volume are sensitive to, and highlight, the possibility of confounding influences in the evaluation of patients after a stroke (e.g., aphasia and its effect on test scores and the ability to follow commands).

Strengths of this book include its clear organization and inclusiveness. One would be hard-pressed to find a topic relevant to stroke that is not covered; some chapters cover topics as broad as motor and gestural disorders while others are very specific, such as the chapter on prosopagnosia (deficient face recognition). Most chapters have an introduction followed by sections on assessment, prognosis, and management. These are useful chapters, containing practical information, written by clinicians who have worked extensively with stroke patients.

All the major sensory, motoric, cognitive, and emotional domains are well covered. Executive function changes, which may appear minor but which can have a major impact on an individual's ability to cope with his or her illness and return to work if employed, are covered in depth in the chapters in the Executive and Memory Disorders section (Godefroy and Stuss on dysexecutive syndromes; Lin and Alexander on disorders of episodic memory; and Van der Linden, Poncelet, and Majerus on working memory dysfunctions). Personality and mood changes and fatigue receive a disproportionate, but appropriate, level of attention, taking up one fifth of the book. The chapters on alterations of level of consciousness (Reichhart) and on delirium and confusional states (Henon and Leys) are particularly useful since alterations in consciousness are common after stroke and this is an area that, if ignored, will lead to errors in the assessment of a patient's abilities.

Because references are at the end of each chapter rather than collected at the end of the volume, an index of authors would have been useful. Having become accustomed to the presence of key points in most of the chapters, I missed them in the chapters where they were not present. Pharmacological treatments are treated somewhat superficially but in sufficient detail to make it clear that they have limited effectiveness except to manage symptom severity in acute depression, delirium, and mania. (Fatigue, experienced by a high percentage of patients after stroke, does not appear to have any effective psychopharmacological treatment.)

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