



## **Brain and Heart**

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## **Neuropsychology of Cardiovascular Disease**

Shari R. Waldstein & Merrill F. Elias (eds.),  
Mahwah, New Jersey, Lawrence Erlbaum  
Associates, 2001.

Cardiovascular disease is the primary cause of death and morbidity in developed countries. In the United States alone it causes more than 40% of all deaths and it is estimated that nearly 60 million Americans suffer one or various types of cardiovascular disease. We should not forget that cerebrovascular disorders and vascular dementias are associated with cardiovascular disease. The cognitive, behavioral and emotional problems encountered by cerebrovascular patients are clearly described in most manuals and book chapters on clinical neuropsychology. It is not, however, quite so easy to find manuals and book chapters which describe the neuropsychological consequences of cardiovascular disease. Nonetheless, those who treat such patients on a daily basis know that psychological functioning is often affected to a greater or lesser degree. Twenty-five years ago the main objective in treating cardiovascular disease was to save lives while neuropsychological sequelae were ignored or went undetected. Today we find that patients' demands are not only for greater quantity of life, but for a higher quality as well.

Neuropsychologists play an important role in helping cardio-and cerebrovascular patients to recover and maintain a higher quality of life. They are well-armed with specific knowledge, techniques and procedures which allow them to detect and successfully treat the particular impairments that these patients present. This book edited by Shari R.

Waldstein and Merrill F. Elias offers the most up-to-date information concerning the neuropsychology of cardiovascular disease. The authors, all contributing excellent chapters to the book, are highly recognized professionals in their fields.

The first chapter, written by Leslie I. Katzel y Shari R. Waldstein, gives us a clear view of the classification of cardiovascular diseases. They describe its prevalence and include an overview of atherosclerosis risk factors, high blood pressure, coronary heart disease, peripheral vascular disease, carotid artery disease, and stroke. Chapter Two, by the same authors, focuses on high blood pressure and cognitive function. It begins with an overview on the epidemiology of high blood pressure and pathophysiology and goes on to discuss the relationship between high blood pressure and cognitive functions, their underlying mechanisms and clinical significance. The third chapter is written by Matthew F. Mildoon, Janine D. Flory and Christofer M. Ryan and deals with serum cholesterol, the brain and cognitive functioning. The authors discuss serum cholesterol and cognitive performance in nonelderly adults, and serum cholesterol, cognitive decrements, and Alzheimer disease in stroke-free elderly adults, as well as cholesterol levels, the cerebral vasculature, strokes, and vascular dementia. Chapter Four affords us an interesting chapter on diabetes associated to cognitive dysfunction. It begins with an epidemiological description and the etiology of diabetes mellitus (type 1 and type 2) and continues with a discussion about neuropsychological dysfunction associated with type 1 diabetes, hypoglycemia and hyperglycemia, metabolic control and cognitive dysfunction in older adults with type 2 diabetes.

Chapter Five is about cardiovascular risk factors and cognitive functioning from an epidemiological perspective. The authors, Elias, M., Elias, P., Robbins and cols., start by distinguishing between risk factors for stroke and discuss its epidemiological significance. They then go on to discuss the multivariate context of risk factors, the assessment of risk factors, the mechanisms underlying risk-related cognitive dysfunction and end with views on future research. Chapter Six, written by Everson, Helkala, Kaplan and cols., is concerned with atherosclerosis and cognitive functioning and covers the pathophysiology and epidemiology of the subject. This chapter also offers a literature review and a methodological critique and concludes pointing out the clinical significance of cognitive and behavioral finding in patients. The title of Chapter Seven, "Thinking on your feet: A neuropsychological review of peripheral vascular disease reviewing risk factors, pathophysiological mechanisms, and its clinical

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course”, speaks for itself and is written by Natalie A. Phillips. In Chapter Eight, Guy Vingerhoets explains the cognitive consequences of myocardial infarction, cardiac arrhythmias, and cardiac arrest.

Chapter Nine, written by a group at Duke University made up of Deborah Jonas, James Blumental, David Madden, and Matt Serra, focuses on the cognitive consequences of antihypertensive medications while the focus of Chapter Ten, by Stanton Newman, Jan Stygall and Robert Kong is on the neuropsychological consequences of coronary artery bypass surgery. Robert A. Bornstein, in Chapter 11, reviews and discusses neuropsychological function before and after heart transplantation. Next, Anne Baird and Elizabeth M. Pieroth describe the neuropsychological impact of surgical removal of major blockages in the blood flow to the brain in a chapter titled “Tracking the cognitive effects of carotid endarterectomy”.

Chapter Thirteen, written by José Merino and Vladimir Hachinski, gives us an in-depth classification of cerebrovascular diseases and the authors of Chapter Fourteen, Joel H. Kramer, Lada A. Kamenoff, and Helena C. Chui, discuss the neuropsychology of subcortical ischemic vascular dementia. The last chapter of the book, by authors Gregory G. Brown and Lisa T. Eyler Zorrilla, covers the neuropsychological aspects of stroke.

We welcome the arrival of this up-to-date, well-written book, and its treatment of the state of the art in the neuropsychological effects of cardiovascular diseases. We highly recommend it *Neuropsychology of Cardiovascular Disease* to all professionals whose work involves them with cardiovascular diseases, and especially to neuropsychologists, neurologists, behavioral medicine specialists, cardiologists, and gerontologists.