Clinical presentation of neuropsychiatric disorders
Ronan O'Carroll

in The Handbook of Clinical Neuropsychology

Clinical neuropsychology plays a crucial role in the assessment of cognitive impairment in clinical practice and in research in psychiatry. Recent advances in knowledge have allowed for more fine-grained cognitive analysis of specific impairments. This in turn can lead to a greater understanding of the neural basis of abnormal behaviour. The development of neuropsychological measures allows for the valid and reliable assessment of treatment efficacy. This is particularly important as ‘negative features’ (including cognitive impairment) have become increasingly recognized as key targets for pharmacological treatment in psychiatry. This chapter reviews the clinical presentation and common neuropsychological features of some of the major psychiatric disorders. These include anorexia nervosa, Asperger's syndrome, autism, bulimia nervosa, Capgras syndrome, conversion disorder (hysteria), Cotard syndrome, and De Clerambault's syndrome.

The Bedside Neuropsychological Examination and Luria’s Influence
Anne-Lise Christensen and George P. Prigatano

in Luria's Legacy in the 21st Century

The Lurian approach to the bedside neuropsychological examination: Historical context, reflections, and clinical observations within European countries. Due to the development of basic neurosurgical techniques for operations on the brain, neurosurgery became a new and autonomous
surgical discipline of special importance during World War 1. However, it was not until the 1970ies a bedside examination, focusing on Luria's methodology, performed at a very early state in the neurosurgical department at Aarhus University, proved its value in line with Luria's general attitude to the conflict between explanatory, physiologic psychology and the descriptive, phenomenological psychology. A neuropsychologist as part of the clinical team makes it possible to start evaluation earlier and makes it possible to perform the evaluation little by little, during the states of decline or progress and already at this state by way of support and feedback initiate a rehabilitation process. An American modification of Luria's approach to the bedside neuropsychological examination is described. The development of the Barrow Neurological Institute Screen for Higher Cerebral Functions (BNIS) was developed in part on the basis of Lurian concepts. This section of the chapter describes the test and how the test can be used for clinical and research purposes. It emphasizes the importance of obtaining both qualitative and quantitative information in the assessment of higher cerebral functions. It also emphasizes the importance of assessing cognitive and affective functioning in a brief, but reliable way.

Mental Status Testing
Ian McDowell

in Measuring Health: A guide to rating scales and questionnaires
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Population aging has highlighted the importance of disorders of cognition such as Alzheimer's disease. This chapter outlines a range of approaches to assessing cognitive ability and reviews thirteen brief assessment scales, mainly intended for use with elderly people. These include screening instruments and longer bedside assessments, but do not include neuropsychological assessment instruments for which formal qualifications are required for their administration and interpretation.

Forensic issues in neuropsychology
William W. McKinlay, Michaela McGowan, and Jane V. Russell

in The Handbook of Clinical Neuropsychology
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This chapter discusses the role of neuropsychology in civil and criminal cases. Neuropsychologists may be called on to assist in civil cases (e.g., in personal injury claims after traumatic brain injury) and other brain injury including medical negligence (e.g., anaesthetic accident). Cases in which there is severe brain injury are amongst the largest personal injury claims coming before the Courts. The large amounts at stake reflect that the costs of providing specialized care to someone with significant disability for the rest of their life are very substantial, together with the fact that there may be substantial loss of earnings. Neuropsychologists sometimes also assist in criminal cases where issues regarding fitness to plead and fitness to present evidence arise in individuals who may be neuropsychologically impaired. In addition, retrograde amnesia and post traumatic amnesia associated with traumatic brain injury may limit recall of key events, such as an accident or assault, and this can raise important issues so that the Court may require information about the nature and extent of these periods of amnesia.

The epilepsies
Pamela J. Thompson

in The Handbook of Clinical Neuropsychology

Clinical neuropsychology is able to make a unique contribution to the management of epilepsy. Neuropsychological deficits are hidden and are often overlooked as most attention is focused on seizures and the need for control. Undetected cognitive deficits will have far reaching negative consequences that extend beyond academic concerns. The longer cognitive problems go unrecognized the worse the outcome and the more difficult it can be to redress the effects. A neuropsychological assessment provides a systematic and standardized record of cognitive strengths and weaknesses and can be vital in the management of the epilepsies. This chapter begins with a general description of epilepsy. It then discusses investigations for epilepsy, treatment, neuropsychological deficits, chronic cognitive disturbance, neuropsychological impact of treatment, psychological disorders associated with epilepsy, and neuropsychological assessment and rehabilitation.
A basic understanding of how endocrine dysfunction affects the central nervous system is important for a majority of cases referred for assessment by clinical neuropsychologists. Beyond playing a role in assessment and management in more obvious scenarios, such as pituitary adenoma and Graves' disease, increasing attention is being paid to the role of neuropsychology in assessment and management of cognitive dysfunction due to illnesses with direct or indirect effects on the endocrine system and, secondarily, the central nervous system. This chapter discusses principal syndromes of the neuroendocrine system, disorders involving the thyroid hormones, diabetes mellitus, disorders involving the reproductive hormones, disorders involving the adrenal hormones, and melatonin.

Assessment of executive function
Paul W. Burgess

Executive function is probably the newest of the fields of neuropsychology. Although observations of patients showing symptoms of executive dysfunction have existed for over 150 years, and experimental investigation for at least half of that time, the area has only really become the focus of very widespread investigation in the last twenty years or so. And, since the translation of scientific findings into clinically useful techniques occurs relatively slowly, it is only recently that the experimental findings are being translated into procedures for clinical use. As a consequence, the practising clinician should take special care to follow the latest developments in this fast-moving field. This chapter describes some of the most commonly used tests of executive function. The principal aim is to outline the philosophy of the assessment procedure, so that the reader can know what to look for, decide which tests to use, and understand the issues surrounding the possible choices of assessment procedure.
The primary objective of the neuropsychiatric clinical assessment is to make a comprehensive and accurate diagnosis and to set up a plan of management or care. It may be necessary to identify what additional information, if any, is required to substantiate the diagnosis. This unambiguous objective is nevertheless difficult to achieve and misdiagnoses are common. In general in neuropsychiatry, the greater the care taken in the clinical assessment, the greater the probability of obtaining the correct diagnosis. However, over-investigating can be expensive and stressful for the patient. This chapter focuses on the principles of what a neuropsychiatrist attempts to do, and the particular contributions of the neuropsychologist in assessment and management of neuropsychiatric conditions.

The rehabilitation of attention
Tom Manly, Jessica Fish, and Ian H. Robertson

This chapter examines various attempts to enhance the natural recovery of attentional processes, or to better manage the consequences of impairment, following brain injury acquired in adulthood. The results reviewed give grounds for cautious optimism. However, rehabilitation is about working with patients to achieve functional goals in everyday life. If the promising findings showing changes on neuropsychological tests are to usefully filter through to clinical care, the extent to which these translate into meaningful functional improvements must be evaluated.
Cognitive assessment requires from the examiner a good theoretical and practical knowledge of the tests used. Because of the broad range of the cognitive functions and the necessity of assessing a subject's performance over several trials for each function, assessing the cognitive status of patients is time-consuming. Therefore, the way in which patients will be assessed has to be guided by strategic decisions involving a trade-off between the minimal list of tests deemed necessary and the risk of patient fatigue over a too prolonged session of testing. This chapter first describes briefly the methodology of the neuropsychological evaluation and how it has to be adapted to situations and questions. It then gives, in table format, a summary of the main neuropsychological and behavioural tests used in clinical and research assessment. This format has been chosen to be readily available to the clinician.
presents a structured interview that offers a theoretically motivated and relatively comprehensive approach to the assessment of anosognosia for motor impairments.

Treatment and rehabilitation of neuropsychiatric disorders
Laura H. Goldstein

in The Handbook of Clinical Neuropsychology
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This chapter considers some of the issues and provides a number of guidelines when considering the psychological treatments of neuropsychiatric disorders. Topics discussed include neuropsychological assessment, applying psychological interventions to neuropsychiatric disorders, and application of cognitive behavioural therapy to neuropsychiatric disorders.

Disturbances of Lower and Higher Visual Capacities Caused by Occipital Damage
W. Poppelreuter

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During the First World War many soldiers suffered brain injuries, mostly from gunshot wounds. The localized nature of these injuries made them of special significance for neuropsychological studies and they were the subject of research by British and German psychologists and neurologists working in military hospitals. The work carried out by Walther Poppelreuter in Germany is of particular interest. He was one of the first to design and use precise experimental methods for neuropsychological assessment and analysis. Poppelreuter was also one of the first to suggest a relatively specific processing of visual submodalities such as movement, depth, form, and colour in the prestriate areas. Much of his practical advice on the management of patients is still of value. Anyone concerned with brain injuries, especially of the occipital lobe, can still benefit from his contribution. This translation makes this classic now available to a wider audience.
Clinicians are interested in different aspects of attention depending on the type of brain damage involved and the practical questions to be addressed. For instance, the assessment of transient cognitive impairments may be critical in epileptic patients, whereas in stroke patients hemi-neglect will be most relevant. In head-injured patients, the clinician might want to study speed of information-processing. This chapter discusses ways of assessing attention, assessing the speed of information processing, assessment of focused and divided attention, testing attention on the strategic level, hemi-inattention, and cognitive rehabilitation of attention.

Developmental Influences on Adult Intelligence
K. Warner Schaie

This book lays out the reasons why we should study cognitive development in adulthood, and presents the history, latest data, and results from the Seattle Longitudinal Study (SLS), which now extends to over forty-five years. The SLS is organized around five questions: does intelligence change uniformly throughout adulthood, or are there different life-course-ability patterns? At what age and at what magnitude can decrement in ability be reliably detected? What are the patterns and magnitude of generational differences? What accounts for individual differences in age-related change in adulthood? Can the intellectual decline that increases with age be reversed by educational intervention? Based on work on the SLS, this book presents a conceptual model. The model represents this book's author's view on the factors that influence cognitive development throughout the human lifespan, and provides a rationale for the various influences that have been investigated — genetic factors, early and current family environment, life styles, the experience of chronic disease, and various personality attributes. The data in this volume include the 1998 longitudinal cycle of the SLS. In light of both new data and revised analyses, psychometric and
neuropsychological assessments have been linked in long-term data to aid in the early identification of risk for dementia in later life. The book also presents new data and concludes on the impact of personality on cognition. It includes correlation matrices and web-access information for select data sets.

Clinical and laboratory examinations relevant to clinical neuropsychology

Udo Kischka

in The Handbook of Clinical Neuropsychology

This chapter describes the methods used by clinicians to gain insight into the structure and the functions of a patient's nervous system. Computerized tomography and magnetic resonance imaging are the methods of choice to demonstrate the anatomical structure and deviations thereof, such as trauma, stroke, tumour, or inflammation. They help visualize where a lesion is localized. All the other methods mentioned in the chapter are used to examine the extent of functioning of parts of the nervous system.

The functional neuroanatomy of learning and memory

Hans J. Markowitsch and Martina Piefke

in The Handbook of Clinical Neuropsychology

This chapter describes the kinds of learning and memory which are relevant for clinical practice and how they are defined and delineated. Two main lines are followed: one which divides information processing with respect to time, and another with respect to contents. It addresses questions concerning how information is transmitted in the brain (encoded, stored, or represented), and how information is retrieved. It describes the anatomical circuits and networks engaged in these processes with references made to the brain's biochemistry (transmitters, hormones), as far as it is relevant for learning and memory, and such disorders.
This chapter presents a synopsis of the representation of language functions in the brain with a focus on disorders based on three sources of information: lesion studies (i.e., what is known from the effects of pathology upon language behaviour in patients); the anatomical interpretation of normal function based on physiological measurements during language operations in healthy subjects; and a combination of the two; namely, physiological measurements recorded during language processing in aphasic patients.