

Presenter: Sallie Baxendale

7:20 - 8:50am

Saturday, 4th February, 2023

Town & Country Ballroom B

Abstract & Learning Objectives:

The role of the neuropsychologist in epilepsy surgery programs has evolved considerably over the past decade. In addition to gatekeeping against catastrophic outcomes, the preoperative neuropsychological assessment is also used to predict the nature and extent of likely postoperative cognitive change and to guide the preparation of prospective candidates accordingly. This workshop will introduce the concepts of contraindication, complication and cost with respect to cognitive outcomes following traditional and newer, less invasive forms of epilepsy surgery. We will explore how neuropsychological data can be integrated with the findings from the wider presurgical evaluation to assess the cognitive risk in each of these categories, with a particular focus on functional and structural imaging techniques. Finally we will look at ways in which information about risks to cognitive function can be shared with both fellow clinicians and patients at each stage along the surgical pathway. Upon conclusion of this course, learners will be able to:

1. Recognize the distinction between cognitive contraindications, complications and costs in cognitive outcomes following epilepsy surgery
2. Summarize the latest developments in non invasive epilepsy surgery investigations and techniques and their implications for neuropsychological function
3. Apply neuropsychological data to predict postoperative cognitive outcomes and use these predictions to prepare surgical candidates for any anticipated changes.

CE Workshop 12: Magnetic Resonance Spectroscopy for in vivo Assessment of Neurochemistry in Neuropsychology Research

Presenter: Jamie Near

7:20 - 8:50am

Saturday, 4th February, 2023

Pacific Ballroom A

Abstract & Learning Objectives:

Magnetic resonance spectroscopy (MRS) is an imaging technique closely related to magnetic resonance imaging (MRI) that allows non-invasive measurement of tissue chemistry and metabolism in vivo. One important application of MRS is in the human brain, where few alternative methods for neurochemical/metabolic measurement are available. MRS has demonstrated clinical value in several brain conditions, including the diagnosis and staging of cancers, neurodegenerative diseases, and creatine deficiency disorder. But beyond its clinical value, MRS has tremendous potential as a research tool. In the context of neuropsychological research, MRS provides an important tool to help understand how neurochemistry and metabolism are associated with everyday cognitive functions including sensory and motor function, perception, memory, decision making, and mood.

In this educational workshop, I will focus on magnetic resonance spectroscopy and its use in neuropsychology research. I will begin by introducing the basics of how MRS data are collected, processed, and analyzed. I will discuss the advantages of MRS as well as its limitations. Finally, I will provide a selected summary of current literature involving the use of MRS in neuropsychological research.

Upon conclusion of this course, learners will be able to:

1. Describe how magnetic resonance spectroscopy experiments are conducted, including methods of data acquisition, processing, analysis and interpretation.
2. List examples from recent literature of how MRS has been used in neuropsychological research.
3. Apply and devise new experiments involving the use of MRS for neuropsychological research.

Invited Symposium 4: Innovations in Infant, Toddler, and Young Child Neuropsychological Models of Care

Chair: Natasha N. Ludwig