

beneficial effects. Cortical morphometric, white matter connectivity and functional brain changes in bilinguals represent the neural basis for its effect on cognitive reserve/resilience. In this presentation, insights from studies that have explored the role of bi/multilingualism in impacting cognitive resilience against dementia and stroke will be discussed in the context of global research.

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

1. Describe the impact of bilingualism on age at onset and cognitive manifestations of dementia and stroke
2. Discuss the mechanisms that underlie the potentially protective effects of bilingualism in dementia and stroke
3. Describe the role of bi/multilingualism on cognitive reserve/resilience in disorders of the brain

CE Workshop 03: Stroke in the Developing Brain: Mechanisms, Outcomes, and Intervention

Presenter: Robyn Westmacott

9:00am - 12:00pm

Wednesday, 1st February, 2023

Town & Country Ballroom D

Abstract & Learning Objectives:

Over the past 10-15 years, significant progress has been made in the diagnosis and treatment of pediatric stroke. Accordingly, the focus of much research has turned to understanding factors that determine neurological and neuropsychological outcomes in this population. This Continuing Education (CE) course will start by defining key terms in the field of pediatric stroke and reviewing current understanding of epidemiology, pathophysiology, diagnosis, and medical treatment. Next, we will review recent neuropsychological literature on cognitive outcomes following pediatric stroke, highlighting the vulnerability of the developing brain, the long-term deficits that often result from early disruption of brain function and subsequent brain development, and the significant variability in outcomes seen across individuals.

Heterogeneity in outcomes has been linked to a range of clinical and demographic factors, including those related to the brain (e.g., stroke

type, lesion location and size, adaptive and maladaptive patterns of reorganization), the child (e.g., age at stroke, age at assessment, comorbid neurological conditions) and the environment (family stress, parent mental health, educational support). Multi-disciplinary approaches to intervention will also be discussed. Finally, directions for future research will also be outlined, as we are just starting to understand how these factors interact to impact neurocognitive outcome and resiliency following pediatric stroke.

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

1. Describe the epidemiology, pathophysiology, and neurological outcomes associated with stroke in infants and children
2. Illustrate the variability in neuropsychological outcomes after pediatric stroke and highlight important determining factors of these outcomes
3. Apply current research into outcomes and treatments to neuropsychological practice

INS Business Meeting

12:00 - 12:55pm

Wednesday, 1st February, 2023

Town & Country Ballroom B

CE Workshop 04: Cancer Survivorship Across the Lifespan: Mechanisms and Modifiable Factors

Presenter: Kevin Krull

1:00 - 4:00pm

Wednesday, 1st February, 2023

Town & Country Ballroom B

Abstract & Learning Objectives:

Long-term survivors of pediatric cancer are at elevated risk for cognitive impairment, which manifests in different ways at different times throughout survivorship. Although some cognitive impairment may result from the cancer itself, as is the case with a brain tumor, impairment has been consistently associated with exposure to CNS-directed therapies like neurosurgery, cranial irradiation, intrathecal

chemotherapy or high dose intravenous methotrexate or cytarabine. Additionally, survivors who do not receive CNS-directed therapies are also at elevated risk for cognitive impairment following cancer therapy that disrupts systemic organ function vital to brain health, e.g., cardiac, pulmonary or endocrine function. Risk for cognitive impairment is further exacerbated by adverse events during cancer therapy (e.g., severe infection, recurrent general anesthesia) and health behaviors following cancer therapy (e.g., physical activity, sleep). The type and severity of cognitive impairment in long-term survivors of pediatric cancer may evolve and grow over time, with emerging evidence suggesting some survivors are at risk for accelerated cognitive aging and early onset dementia. Over the course of the survivor's lifespan, the prevalence and impact of cognitive deficits will be determined by a complex interaction between premorbid development and environment, cancer therapy and clinical care, and post-treatment recovery and physical health. The timing and type of these events will dictate the approach to screening and monitoring for cognitive impairment, and will determine the best course for therapeutic intervention to facilitate future cognitive and emotional health.

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

1. Describe direct and indirect sources of cognitive impairment in long-term survivors of pediatric cancer
2. Discuss how cognitive impairment may change over the lifespan of survival following treatment for pediatric cancer
3. Identify modifiable targets for interventions to facilitate cognitive health in long-term survivors of pediatric cancer

CE Workshop 05: Technology and Cognition: Examining new trends and opportunities for neuropsychology

Presenter: Maria T. Schultheis

1:00 - 4:00pm
Wednesday, 1st February, 2023
Town & Country Ballroom C

Abstract & Learning Objectives:

Advances in technologies continue to offer new opportunities for understanding brain functioning and brain-behavior interactions. The clinical application of these technologies continues to require the understanding of both the benefits and limitations of integrating these novel methodologies. This workshop will provide an overview of several emerging and established technologies in neuropsychological assessment and rehabilitation. This will include discussion of portable brain imaging technologies, neuromodulation technologies, virtual reality simulation and various brain-computer interface devices. In addition, we will discuss how clinical application of these novel devices offer opportunities for growing knowledge in new areas of analysis (i.e., machine learning analysis) and interdisciplinary collaborations. Upon conclusion of this course, learners will be able to:

1. Identify 3 technologies that are currently employed in neuropsychological research
2. Assess the strengths and weakness of novel technologies for brain-behavior interface
3. Examine current clinical applications of neuromodulation technologies and portable brain-imaging technologies

CE Workshop 06: The Cumulative Burden of Congenital Heart Disease Across the Lifespan: Implications for Neuropsychologists in Pediatrics Through Geriatrics

Presenters: Adam R. Cassidy, Jacqueline H. Sanz, Kelly R. Wolfe

1:00 - 4:00pm
Wednesday, 1st February, 2023
Town & Country Ballroom D

Abstract & Learning Objectives:

The heart and the brain are inextricably linked across development by overlapping genetic programs and transacting physiologies that exist long before birth and endure throughout the lifespan. Congenital heart disease (CHD) refers to a diverse array of conditions in which structural heart development is atypical. Of the roughly 1 million babies born with CHD each