Thursday Breakfast Seminar Options (BRK 1-10)

BRK01: A PRACTICAL APPROACH TO GENETIC TESTING FOR CHILDREN WITH NEURODEVELOPMENTAL DISORDERS
Melissa Carter, MD

Purpose: To help clinicians decide when and how to order genetic investigations for their patients with neurodevelopmental disorders (developmental delay, autism spectrum disorder, learning disabilities)

Target Audience: Clinicians who diagnose and treat neurodevelopmental disorders in children

Course Summary: With so many advances in genetic testing technology over the past decade, it is increasingly difficult for non-genetics professionals to keep current and make evidence-based decisions about genetic testing for their patients. At the same time, waitlists for genetics services are becoming increasingly longer, and young children with developmental delays are at high risk for a genetic disorder. Timely genetic diagnosis is essential for parents who may alter their reproductive planning based on results of genetic tests. This course will provide a “how-to” guide for clinicians, providing the attendees with a practical approach to genetic testing in their patients with a wide range of developmental, neurological and behavioral disorders.

Learning Objectives:
1. Have a “bird’s eye view” of the current state of knowledge regarding the genetic etiologies of neurodevelopmental disorders
2. Understand how and when to order genetic testing to maximize diagnostic yield and minimize cost to the family and/or health care system
3. Understand the different types genetic tests that are currently available, and the benefits and drawbacks to each.
4. Feel more confident ordering genetic investigations for their patients

BRK02: A PROGRAM TO MEASURE WALKING ACTIVITY PRE AND POST SURGERY IN YOUTH WITH CEREBRAL PALSY
Nancy Lennon, MS, PT; Julieanne Sees, DO, FAOAO

Purpose: This breakfast seminar will describe an innovative program, coordinated through our gait analysis laboratory, to measure mobility performance utilizing portable accelerometry and patient report tools.

Target Audience: Rehabilitation professionals, including surgeons, therapists, and physiatrists

Course Summary: This breakfast seminar is directed towards surgeons and rehabilitation professionals who care for ambulatory children and youth with cerebral palsy. We will describe the development of a measurement protocol utilizing a portable FDA approved device to capture habitual walking activity (WA). We will present our experience in device selection, and clinical protocol development, including processes to examine data accuracy, reliability and validity. We will present early data to discuss differences in WA between surgical candidates and literature reports of WA in children and youth with CP. Case studies will illustrate the feasibility and utility of data collection during the post surgical recovery of youth with CP. Cases will show how data sharing among surgeons, therapists, and families during post-operative monitoring can support recovery of walking mobility. Preliminary data on one and two-year outcome of WA following orthopedic surgery will facilitate a discussion of post-op rehabilitation programming.
Learning Objectives:
1. Gain an understanding of typical walking activity (WA) levels in children and youth with cerebral palsy.
2. Describe differences in WA for youth with CP by age groups, disability levels, and pre / post surgery.
3. Develop knowledge-based skills in methods to measure and interpret (WA) for children and youth with cerebral palsy.
4. Understand the practical considerations of implementing a program to measure walking activity in a clinical setting.

BRK03: COMPETENCE IN COMPLEX CARE: EDUCATIONAL APPROACHES TO EMPOWER FUTURE HEALTHCARE TEAMS
Kathleen Huth, MD; Anne Marie Sbrocchi, MD; Tammie Dewan, MD; Hema Patel, MD, MSc (Clin Epi)

Purpose: To discuss innovative and feasible educational approaches for fostering competency in the care of children with medical complexity.

Target Audience: Pediatricians, educators, and members of interdisciplinary healthcare teams involved in the care of children with medical complexity and/or training of future healthcare providers in this area.

Course Summary: While the population of children with medical complexity (CMC), including cerebral palsy and developmental disability, continues to grow, specific knowledge and skill development is required in the next generation of healthcare professionals in order to build capacity to care for CMC. However, many training programs offer variable educational exposure.

To address this gap for Canadian trainees, a national standardized curriculum in the care of CMC was developed with the support of the Royal College of Physicians and Surgeons of Canada, our national licensing body, and the Canadian Pediatric Society. The goal was to provide a harmonized exposure to the basic knowledge and skills involved in the care of CMC through a module-based curriculum which could be integrated in pre-existing dedicated teaching rounds. The main objective of the curriculum is to enable future pediatricians to provide proactive, coordinated care for CMC, incorporating interactive activities and hands-on simulations to promote increased self-efficacy. While developed with pediatricians in mind, the content and principles of care have generalizability to broader healthcare teams and may serve as a template in the development of similar teaching tools.

Drs Patel, Sbrocchi, Huth and Dewan will discuss the process of curriculum development and evaluation through a national collaborative effort, and the educational methods used to promote the transfer of knowledge and skills from classroom to clinical practice.

Learning Objectives:
1. Describe a six-step approach to curriculum development in complex care for pediatric residents in Canada.
2. Discuss innovative yet practical educational strategies that enhance learning, motivation and transfer of skills to clinical practice.
3. Reflect on opportunities and challenges of implementing and evaluating a national educational initiative in complex care.
4. Develop action plans for curriculum development to meet educational needs in their own discipline and institution.
BRK04: MORE THAN “JUST DATA”: GETTING THE MOST OUT OF A CEREBRAL PALSY REGISTER

Susan Reid, PhD; Elaine Meehan, BSc; Dinah Reddihough, MBBS

Purpose: To discuss the scope for cerebral palsy (CP) registers to be used to inform clinical practice and healthcare decision making, using the Victorian CP Register (VCPR) as an example and the results of a survey of medical professionals to guide the discussion.

Target Audience: Researchers, CP register professionals, and all clinicians working in the field

Course Summary: The VCPR has been in existence for 30 years, and currently holds data on over 5500 individuals, the oldest group now being 46 years of age. Its research outcomes have been significant over this period, contributing to more than 100 different research projects and a similar number of publications, while helping over 20 PhD students complete their studies. While it continues to strengthen its track record in longitudinal and epidemiological research, the potential of the VCPR to improve patient outcomes by collecting new types of data and linking to other datasets is being explored. During this seminar, the presenters will share their experiences of setting up and maintaining a CP register for over three decades, while striving to keep it “relevant” in an era when registers are difficult to fund and research priorities are changing. The results of a survey in which medical professionals working with children with CP were asked about the types of clinical questions they would like answered by CP registers will also be presented.

Learning Objectives:
1. To understand how CP registers can be used for knowledge generation in the field of CP, beyond epidemiological research
2. To recognize the potential for CP registers to improve health outcomes for individuals with CP
3. To identify important research questions that may be answered by using CP registers in novel ways
4. To discuss strategies for increasing the utility of CP registers

BRK05: READY TO EAT? CAN TRAINING CAREGIVERS IMPROVE PARTICIPATION IN FEEDING FOR CHILDREN WITH CEREBRAL PALSY

Gina Rempel, MD, FRCPC; Marianne Gellert-Jones, MA, CCC-SLP; Barb Borton, BMR (OT), MSc (Rehab); Cynthia Dodds, PT, PhD

Purpose: Participation in feeding is important for children of all abilities from a social and emotional perspective, as well as to enhance communication and skill development. Yet, children with cerebral palsy (CP) with difficulty feeding and swallowing may be excluded from participation for fear of negative health consequences. This session will present evidence that feeding training methods improve participation in safe feeding. An inter-professional team will review important elements of caregiver feeding training to promote and develop safe feeding skills allowing children with CP (Eating and Drinking Classification System (EDACS) levels 4 and 5) to participate in an enriching life experience.

Target Audience: Clinicians, Therapists, Nurses, Physicians, Parents and Caregivers

Course Summary: Using the International Classification of Functioning, Disability and Health Framework (ICF), this case-based session will describe essential elements necessary to train caregivers across environments (home, school, community) in order to provide feeding and eating opportunities to children with CP. Ethical, safety and quality of life considerations will enrich the discussions. During this interactive session, participants will be able to prioritize elements of training significant to their settings.
Learning Objectives:
1. List the benefits of participation in feeding for all children regardless of their feeding abilities
2. Elucidate the pros and cons of balancing risk and fostering participation in feeding
3. Articulate the importance of engaging caregivers in feeding training across environments in order to promote safe feeding participation for children with CP
4. Identify important elements of caregiver training and resource development in a variety of care settings

BRK06: SLEEP PROBLEMS IN THE CHILD WITH PHYSICAL DISABILITIES
Golda Milo-Manson, MD

Purpose: to improve a health professional's ability to counsel parents and children/youth with sleep difficulties

Target Audience: health professionals who work with children and youth with physical disabilities who also have sleep challenges

Course Summary: Pediatric sleep problems are common and appear to occur more frequently in children with special needs. Although the range is variable one study documented an 80% occurrence of sleep problems in children with developmental disorders. This breakfast seminar will: review the literature, discuss principles of developmental issues in sleep, discuss common issues in sleep with children with physical disabilities, review behavior management techniques, when medication is appropriate and when a sleep study should be ordered

Learning Objectives:
1. Gain knowledge of current evidence related to management of sleep problems in children with physical disabilities
2. Understand when to use medication intervention to assist with sleep challenges
3. Articulate to families the sleep hygiene issues that contribute to sleep difficulties
4. Rule out other medical issues that may contribute or mask behavioral sleep difficulties

BRK07: SO YOU WANT TO BUILD A ROBOT FOR REHABILITATION....
Sarah Evans, MD; Kevin Cleary, PhD; Catherine Coley, PT.DPT.PCS.

Purpose: To highlight the key elements to collaborative work between clinicians, engineers and end users to develop innovative and participatory designs for rehabilitation robots.

Target Audience: Physiatrists and other physicians who participate in pediatric rehabilitation, Physical Therapists, Occupational Therapists, Speech Language Pathologists, and Bioengineers

Course Summary: Rehabilitation robots are not developed because of a desire to build a robot. They are created in response to a functional deficit seen in a particular patient or group of patients. Rehabilitation robots evolve based on their usefulness, which is determined by whether they are used by patients to attenuate function. This course will focus on the working relationship and interdisciplinary approach required between bioengineers and clinicians that leads to the development of the best mechanical and robotic devices to assist in the rehabilitation of children with functional deficits. We will discuss concept, development of robotic devices, proof of concept, and clinical trials to test devices as well as languages spoken by each discipline and the appropriate role of each person on the team as we work to bring a device to market. The importance of including the patient and family in the development process, participatory design, will be discussed and emphasized.
Learning Objectives:
1. Understand the benefits of incorporating robots into pediatric rehabilitation
2. State the problem to be addressed with a rehabilitation robot in terms that make the problem understood by clinicians and engineers
3. Describe the steps required to develop a rehabilitation robot
4. Define participatory design and describe the significance of the same

BRK08: UNDERSTANDING THE SPEED OF AGING IN ADULTS WITH CEREBRAL PALSY
Mark Peterson, PhD; Edward Hurvitz, MD

Purpose: Aging is a multidimensional phenomenon that manifests differently between individuals throughout the lifespan, and is highly conditional on interactions between environmental, behavioral, and demographic characteristics. Traditional aging research ignores changes in life-expectancy at the population level, actual life expectancy at the individual level, and characteristics of people throughout time, and has led to an incomplete understanding of the factors that influence altered aging trajectories. For example, while the incidence of cerebral palsy (CP) has remained stable in recent years, the mortality rate of children with CP has declined, suggesting that adults with CP represent a growing population whose health status and healthcare needs are poorly understood. This expansion of the aging CP population has led to a diversification of cardiometabolic disease morbidity, including increased prevalence of aging-related multimorbidity and musculoskeletal frailty. Thus, early screening and continued health promotion efforts for healthy aging in persons with CP are vital to reduce the escalating burden associated with chronic disease clustering and worsening function. This session will highlight the need for a lifespan approach to improve screening and tailoring of interventions to preserve function and cardiometabolic health, increase longevity, and improve overall quality of life in the CP population.

Target Audience: Physicians, Therapists, Nurses, Program Coordinators, Physiologists, Researchers, Post-doctoral fellows

Course Summary: Although decrements in muscle mass and strength are typically considered the primary contributing factors of gross motor decline in adults with CP, it is likely that these changes are actually the direct consequence of years spent accumulating extremely sedentary lifestyles. These modifiable behaviors lead to substantially increased risk of multiple chronic disease processes, such as obesity, diabetes, hypertension, asthma, and stroke. We have recently completed two studies which represent a substantial addition to the current body of literature pertaining to: (1) predictors of multimorbidity in middle-aged adults with CP, and (2) characterization of the longitudinal trends and disease free survival of chronic disease risk factors, such as diabetes, hypertension, hypercholesterolemia, hypogonadism, dementia, depressive disorders, osteoporosis, pulmonary disease, arthritis, etc., in large samples of adults with CP.

Learning Objectives:
1. Develop an approach to clinical screening of the adult with cerebral palsy that includes greater attention to aging-related chronic disease risk
2. Describe the risk of chronic disease clustering (i.e., multimorbidity) in adults with cerebral palsy and risk factors that contribute to increased risk
3. Understand the need for surveillance of health risks in adults with cerebral palsy, with a priority focus on metabolic and musculoskeletal systems
4. Identify and discuss relevant risk factors for chronic conditions in CP, and offer guidance for lifestyle interventions to prevent losses of function and disease, and to improve quality of life
BRK09: WHEN A PICTURE PAINTS A THOUSAND WORDS: ACCURATE DESCRIPTION AND APPLICATION OF THE GROSS MOTOR FUNCTION CLASSIFICATION SYSTEM
Kate Willoughby, B Physio, D Physio; Pamela Thomason, MPT; Brenda Agnew, Bachelor of Arts

Purpose: To familiarise participants with the revised illustrations which accompany the Gross Motor Function Classification System (GMFCS) descriptors, to explore the utility of the GMFCS and why accurate classification of gross motor skills is important in a variety of clinical and research settings.

Target Audience: Physical therapists, paediatricians, rehabilitation physicians, parents

Course Summary: The GMFCS has become a gold standard tool which has been of immense benefit to parents/carers, clinicians and researchers in understanding the wide spectrum of gross motor function in young people with cerebral palsy, and it has provided a common language for the description of severity of gross motor involvement. In this seminar, the importance of accurate classification of gross motor skills by the GMFCS will be discussed using the framework of a variety of clinical and research contexts: long term gross motor prognosis, epidemiology of secondary musculoskeletal disorders, goal setting and selection of interventions and understanding the effectiveness of interventions. Participants will become familiar with the revised Gross Motor Function Classification System (GMFCS) ‘Descriptors and Illustrations’, which were amended in direct response to feedback from parents and carers. Interactive case studies will assist participants in understanding the important distinctions between each of the five levels of the GMFCS, and in the practical application of the classification in a variety of situations.

Learning Objectives:
1. Understand the development of the GMFCS, its clinical utility, and how it is underpinned by gross motor curves
2. Understand and confidently apply the distinctions between each of the levels of the GMFCS
3. Engage parents and caregivers in positive discussion about the GMFCS and its relevance to their child’s function
4. Understand the relationship between GMFCS and the effectiveness of interventions, and apply that knowledge in goal-setting and the selection of interventions

BRK10: YES, CLINICAL RESEARCH CAN BE DONE IN YOUR BUSY PRACTICE!
Lynnette Rasmussen, OTR/L; Virginia Nelson, MD, MPH; Kate Wan-Chu Chang, MA, MS

Purpose: To address the importance and challenges of clinical research, and to encourage attendees to consider implementing a research study based on clinical observations.

Target Audience: Physicians and clinicians.

Course Summary: With health care requiring more evidenced-based practice, there is growing demand to increase the volume of clinic-based research in treating patients. However, medical professionals are often left with little resources, including time and funding, to conduct research in their practice. This session will discuss the benefit of evidence-based practice and challenges of clinical research. The speakers will share their experience and provide helpful tips for practitioners who are interested in clinical research. The audience is encouraged to bring their research questions to the session and will have the opportunity to share ideas while exploring this topic.

Learning Objectives:
1. State the importance and benefits of evidenced –based practice
2. Identify the tools and resources that address the challenges faced in setting up a research project in a busy clinical practice
3. Develop a research question based on clinical observations
4. State how to incorporate research into a busy clinic