F19: Program Brochure

Activity Title	Sidra's Second Pediatric Neuroscience Conference – A Focus on Treatable Neurological Disorders
Date	September 29 to October 1, 2022
Venue	VIRTUAL CONFERENCE
Facilitator/s	Dr. Ian Pople, Dr. Husam Kayyali, Dr. Ruba Benini
Target Audience	Physicians, Nurses, Allied Health Professionals, Others (Students, Researchers)
Overall Learning Objectives	▪ Describe recent advances in the medical management of treatable neurological disorders in children. ▪ Describe recent advances in the surgical management of treatable neurosurgical disorders in children including hydrocephalus and spina bifida. ▪ Discuss the role of personalized medicine in neurological disorders in children.

Program Overview

DAY 1: Thursday, September 29, 2022			
Time	**Session Title/Topic**	**Speaker**	**Session-Specific Learning Objectives**
SESSION 1: HYDROCEPHALUS – SCIENTIFIC ABSTRACT PRESENTATIONS Session Chairs: Dr Ian Pople, Neurosurgeon, Honorary Treasurer SRHSB			
12:45 -1:00 PM	Welcoming Remarks *(Dr Ian Pople, Qatar)*		
HYDROCEPHALUS - BASIC SCIENCE			
1:00-1:15 PM	A combination of ependyma progenitors and mesenchymal stem cells reduces oedema associated with posthemorrhagic hydrocephalus	**Dr. Luis Manuel Rodriguez-Perez** Spain	▪ To quantify the oedema in an experimental model of posthmorrhagic hydrocephalus. ▪ To evaluate the effect of cell therapy in the treatment of oedema.
1:15-1:30 PM	A sequential cell therapy to recover the ependymal cells in posthemorrhagic hydrocephalus.	**Javier Lopez-de San Sebastian** Spain	▪ Determine the effect of an inflammatory environment on ependymal differentiation. ▪ Assess in cell culture the effect of sequential transplantation of mesenchymal stem cells and ependymal progenitors on the final differentiation of ependymal.
1:30-1:45 PM	Obstruction as it correlates to etiology, length of implantation time, and revision rate	**Dr. Carolyn Harris** USA	▪ To educate the audience on the problem of CSF shunt catheter obstruction ▪ To describe findings of our study of explanted shunt catheters. ▪ To increase understanding of what causes shunt catheter obstruction.
1:45-2:00 PM	Testing and validation of reciprocating positive displacement pump for benchtop pulsating flow model of cerebrospinal fluid production in hydrocephalic patients	**Ahmad Faryami** USA	▪ To increase understanding of CSF production and flow. ▪ To describe the development of model of hydrocephalus CSF production for testing of shunts
HYDROCEPHALUS/SPINA BIFIDA – CLINICAL RESEARCH			
2:00-2:15 PM	How our hydro-warrior inspired us to help other families touched by hydrocephalus: the story behind Harry's HAT charity.	**Mrs. Caroline Coates** UK	▪ Share the lived experiences of families caring for a child with hydrocephalus, including my own, with clinical and academic audiences. ▪ To highlight the need and why we founded Harry's Hydrocephalus Awareness Trust ▪ Be part of a community with a shared vision for the future of hydrocephalus patients.
2:15-2:30 PM	Experiences of pediatric hydrocephalus patients and their families during a suspected shunt failure: findings and recommendations from the U.K.	**Mrs. Non Hill** UK	▪ Share the lived experiences of families caring for a child with hydrocephalus with clinical and academic audiences. ▪ Capture in their own words, what works well and what could work better for hydrocephalus patients and their families. ▪ Be part of a community with a shared vision for the future of hydrocephalus patients.
2:45-3:00 PM	Impact of BASICS trial on ventriculoperitoneal shunt surgery practice: a UK Shunt Registry based study	**Dr. Rocio Fernandez-Mendez** UK	▪ To describe the impact of the BASICS Bactiseal shunt trial on neurosurgical practice in UK
3.00-3.15 PM	**BREAK**		

3:15-3:30 PM	Epidemiology of post-traumatic hydrocephalus–a registry-based study	**Mr. Thanasis Paschalis** UK	▪ Describe UK CSF Shunt Registry ▪ To describe epidemiology and clinical findings of patients affected by post-traumatic hydrocephalus
3:30-3:45 PM	Social and cultural factors associated with knowledge and use of folic acid in combination with other vitamins by mothers of hydrocephalus and spina bifida affected babies.	**Dr. Shazia Yasmin** UK	▪ To describe the social and cultural factors affecting the knowledge and practices of women towards hydrocephalus and spina bifida babies before and after pregnancy.
3:45-4:00 PM	Cranial reduction surgery experience in Sidra hospital	**Dr. Wesam Khalafallah** Qatar	▪ Effect of huge macrocephaly on patient care and handling. ▪ Challenges of cranial reduction with shunted hydrocephalus. ▪ Literature review.
4:00-4:15 PM	Overview of urinary incontinence management in Spina Bifida: State of the Art	**Dr. Sushma Achugatla** India	▪ To give an overview of urinary incontinence management in Spina Bifida ▪ Educate the audience on best state of the art practice
4:15-4:30 PM	Comparative effects of ventriculoperitoneal shunt and endoscopic third ventriculostomy with choroid plexus cauterization in a pig model of hydrocephalus	**Dr. Maria Garcia Bonilla** USA	▪ To describe the effects of disrupting ventricular zone in animal model of hydrocephalus. ▪ To describe the effects of choroid plexus & ETV on ventricular zone disruption
4:30-4:45 PM	Quantitative Analysis of Flow and Pressure Changes Through Explanted Biobank Ventricular Catheters	**Ahmad Faryami** USA	▪ To increase understanding of CSF production and flow. ▪ To describe the development of model of hydrocephalus CSF production for testing of shunts
4:45-5:00pm	First experiences with Miethke M.blue® valve in iNPH patients	**Dr. Petr Skalický** Czech Republic	▪ To depict safety and benefit of Miethke M.blue valve in iNPH patients during a 3-month follow-up and provide a baseline for further comparative studies of shunt systems in iNPH. ▪ To describe limitatitions of recommended baseline settings of the M.blue valves by the manufacturer in iNPH patients. ▪ To share our diagnostic and therapeutic protocol in iNPH patients.
5:00-5:30 PM	Rapid Fire Poster Presentations	▪ Mr. Frank Kaphesi, Malawi	▪ The aim of this study was to determine the motor development outcomes in children with hydrocephalus up to 2 years of age, undergoing ETV and standard CSF shunt insertion
		▪ Dr. Naila Naz, UK	▪ To describe how metabolic disorders may be important potential causative pathways to Alzheimer's disease and to describe how CSF circulation may be important in this process
		▪ Dr. Eric Schmidt, France	▪ To educate audience on mechanism of consciousness disorders in the clinical presentation of acute or normal pressure hydrocephalus and its treatability.
		▪ Dr. Lisa Healy, UK	▪ To describe a new simple cognitive assessment tool for normal pressure hydrocephalus
		▪ Ms. Sneha Sawant, India	▪ To describe campaign to increase folic acid consumption in child-bearing women and to describe effects of recent project to fortify tea with folic acid and B12
5:30-6:05 PM	Waite Student Research Presentations	▪ Ms. Nazrin Talibova	▪ Understand the structural differences in the human brain of normal and severe head trauma individuals and changes in folate metabolism associated with severe head trauma.
		▪ Ms. Lydia Blacklock	▪ To undertake a summer research project relating to folate transport across the placenta of hydrocephalus rats and to learn laboratory skills during my undergraduate degree, to help inform future decisions about career choices in academic.
		▪ Mr. Setthasorn Zhi Yang Ooi	▪ To describe the management of congenital hydrocephalus in Africa and the extent of impact of the outcomes of congenital hydrocephalus on the healthcare burden in Africa.
		▪ Jeremy George	▪ To introduce and explain the condition of Benign Enlargement of Subarachnoid Spaces and to explain the analysis conducted on patient data in Qatar that are suffering from the condition and ascertain the conclusions of the study for further research that will be conducted.
		▪ Ahmad Faryami	▪ To increase understanding of CSF production and flow and to describe the development of model of hydrocephalus CSF production for testing of shunts

		▪ Javier San Sebastian	▪ To educate the audience on the process of Ependymal disruption is a consequence of the germinal matrix hemorrhage in prematurity. To describe how this affects CSF circulation and physiology.
	Harry's Hat Charity Student bursary	▪ Elizabeth Walsh (Harry's Hat)	▪ To report on a project to increase awareness of hydrocephalus and spina bifida in the UK
6:05-6.30 PM	Expert Panel Discussion		

DAY 2: Friday, September 30, 2022			
Time	**Session Title/Topic**	**Speaker**	**Session-Specific Learning Objectives**
SESSION 2: HYDROCEPHALUS & SPINA BIFIDA Session Chair: Dr Ian Pople, Pediatric Neurosurgeon, Sidra Medicine			
1:00-1:05 PM	Welcoming Remarks	**Dr. Husam Kayyali** Division Chief, Neurology **Dr. Ian Pople** Division Chief, Neurosurgery	
1:05-1:45 PM	***Casey Holter Lecture:*** Historical principles leading to modern approaches to infection in CSF drainage	**Dr. Roger Bayston** UK	▪ To examine what has been known but ignored for decades. ▪ To increase our understanding of the complexities of infections in CSF drainage. ▪ To consider how we can apply these principles to modern treatment and prevention methods.
1:45-2:15 PM	Role of Deep Brain Stimulation in treating pediatric neurological disorders	**Dr. Will Singleton** UK	▪ Describe the indications for DBS for pediatric dystonia. ▪ Understand the specific challenges of delivering a DBS program for children. ▪ Understand some of the specific surgical challenges I this population, and how these can be overcome utilizing image guided robotic surgical techniques. ▪ Understand the growing field of pediatric DBS beyond movement disorders – such as epilepsy and neuropsychiatric disease.
2:15-2:45 PM	The critical role of cerebrospinal fluid in development and function of the brain - can we treat hydrocephalus in utero without surgery?	**Dr. Jaleel Miyan** UK	▪ To understand the role of cerebrospinal fluid (CSF) in the development and function of the cerebral cortex. ▪ To understand the importance of CSF flow through the ventricular system and subarachnoid space for normal development and function of the cerebral cortex. ▪ To understand how CSF composition can change in response to drainage insufficiency and result in abnormal development and/or functions of the cerebral cortex. ▪ To appreciate the central role of cerebral folate in brain health and function. ▪ TO appreciate the potential to prevent hydrocephalus using folate therapy but not folic acid.
2:45-3:15 PM	Prenatal diagnosis and in utero repair of meningomyelocele and myeloschisis	**Dr. Luc De Catte** Belgium	▪ To discuss the embryological and pathophysiological mechanisms representing open neural tube defects. ▪ To address the sonographic diagnosis and neurosonographic evaluation, MRI investigation and genetic analysis leading to proper selection. ▪ To share the actual knowledge regarding the difference in utero repair options for MMC.
3:15-3:45 PM	Spina Bifida – Update on neurosurgical management	**Dr. Khalid Al-Kharazi** Qatar	▪ To discuss different types of Spina Bifida. ▪ To discuss neurosurgical management of myelomeningocele in the postnatal period. ▪ To discuss myelomeningocele postoperative neurosurgical care.
3:45-4:15 PM	Multidisciplinary Approach to Spina Bifida – Qatari Experience	**Dr. Bajes Yacoub** **Dr. Santiago Vallasciani** **Dr. Ananda Nunes** Qatar	▪ Describe the model of activity of our Nephro/Urology Spina Bifida activity in the MDT. ▪ Describe the health issues of the bifida population in Qatar from Nephro/Urology point of view.
4:15-4:45 PM	Recent advances in the understanding of pediatric hydrocephalus	**Dr. Martina Messing-Jünger** Germany	▪ To date traditional concepts of occlusive and communicating hydrocephalus based on imaging and etiology determine our treatment. To the concept of CSF bulk flow other pathophysiological theories involving vascular and molecular mechanisms have been added and will be discussed in the presentation.
4:45-5:00 PM	End of Session Closing Remarks		

DAY 3: Saturday, October 1, 2022			
Time	**Session Title/Topic**	**Speaker**	**Session-Specific Learning Objectives**
SESSION 3: NEUROMETABOLIC DISORDERS Session Chairs: Dr Farouq Thabet, Pediatric Neurologist, Sidra Medicine			
8:00-8:10 AM	Housekeeping issues	**Dr. Ruba Benini** Medical Director of Neurodiagnostic Lab, Neurology	
8:10-8:40 AM	Duchenne Muscular Dystrophy – Updates on treatment	**Dr. Mahmoud Fawzi** Qatar	▪ Understanding genetics of DMD. ▪ Current approaches for treatment of DMD. ▪ Emerging gene therapies for DMD.
8:40-9:10 AM	Congenital Myasthenic Syndromes – Update on Management and Outcomes	**Dr. Abdelaziz Alsaman** KSA	▪ To spread the awareness of such largely treatable conditions and have them diagnosed as early as possible. ▪ To highlight the different types and how to better differentiate them. ▪ To elaborate more on their inheritance, diagnosis, and treatment options and possible preventive measures of their recurrence.
9:10-9:40 AM	Spinal Muscular Atrophy and New Disease Modifiers	**Dr. Khalid Ibrahim** Qatar	▪ An overview of the genetic and the clinical presentation of the Spinal Muscular Atrophies. ▪ Review the management approach for children with the disease. ▪ Describe the progress made in treatment; the novel therapies and the current therapeutic strategies. ▪ Discuss the Qatar Experience.
SESSION 4: EPILEPSY Session Chairs: Dr Khaled Zamel, Pediatric Neurologist, Weil Cornell Medicine-Qatar			
10-10:30 AM	Treatable epileptic encephalopathies	**Dr. Ruba Benini** Qatar	▪ Review treatable metabolic causes of epileptic encephalopathies. ▪ Discuss treatment options in other select genetic epilepsies. ▪ Discuss a standardized diagnostic approach for children with epileptic encephalopathies.
10:30-11:00 AM	Latest surgical technologies for treating pediatric epilepsy	**Dr. Michael Carter** UK	▪ To educate the audience on latest technological advances in children's epilepsy surgery
11:00-11:30 AM	Pediatric Epilepsy Surgery in Qatar – The Sidra Experience	**Dr. Ian Pople** Qatar **Dr. Husam Kayyali** Qatar	▪ Overview of the Comprehensive Epilepsy Program at Sidra Medicine. ▪ Discuss the multidisciplinary approach to epilepsy surgery at Sidra Medicine. ▪ Review the outcome measures of Epilepsy Surgery at Sidra Medicine.
SESSION 5: NEUROMETABOLIC DISORDERS – NOT TO MISS Session Chairs: Dr. Rehab Al Saleh, Neurogenetics, Sidra Medicine			
12:00-12:30 PM	Overview of treatable neurometabolic disorders	**Dr. Tawfeg Ben Omran** Qatar	▪ To discuss the revolutionary changes in the diagnosis and discovery of inherited neurometabolic disorders (INMDs) in the Genomic Era. ▪ To present the recent advances and development of new treatments of INMDs. ▪ To highlight the importance of early detection and diagnosis of treatable INMDs, through newborn screening.
12:30-1.00 PM	Updates on treatment of lysosomal storage disease	**Dr. Walla Al Hertani** USA	▪ Overview of Lysosomal Storage Disorders ▪ Overview of the current therapeutic landscape ▪ Discussion on novel therapies for Lysosomal Storage Disorders.
1:00-1:30 PM	Leukodystrophies – Updates on Treatment	**Dr. Francesca Fumagalli** Italy	▪ Updates gene therapy clinical trials on the most common leukodystrophies (GLD, MLD and X-ALD). ▪ To know the other available treatment options. ▪ To know the importance of early diagnosis of treatable leukodystrophies.
SESSION 6: PRECISION MEDICINE IN NEUROLOGICAL DISORDERS Session Chairs: Dr. Khalid Ibrahim, Pediatric Neurologist, Sidra Medicine			
1:30-2:00 PM	Updates on Disease Modifying Agents in Pediatric Demyelinating Disorders	**Dr. Cheryl Hemingway** UK	▪ Understand the key differences between the 3 commonest pediatric demyelinating diseases - MS, MOG and AQP4. ▪ To have a greater understanding of the various treatment options for both acute and relapsing disease. ▪ To be aware that early aggressive treatment improves the long-term outcome.

2:00-2:30 PM	Improving diagnostic yield for neurological disorders using next-generation technologies	**Dr. Younes Mokrab** Qatar	▪ Overview of the Precision Medicine Program at Sidra ▪ Understand the role of WGS in gene discovery for neurological disorders. ▪ Understand how emerging technologies are improving diagnostic yield in neurology. ▪ Appreciate the importance of data sharing and international collaborations in advancing precision medicine for neurological diseases.
2:30-3:00 PM	Precision Medicine in Neurological disorders	**Dr. Sahar Isa Da'as** Qatar	▪ The developing utility of zebrafish model in neuroscience research. ▪ Zebrafish models of novel candidate genes and variants. ▪ Translational approach: from tank to bedside.
3:00-3:05 PM	Closing Remarks		

This activity is an Accredited Group Learning Activity Category 1 as defined by the Ministry of Public Health's Department of Healthcare Professions-Accreditation Section (DHP-AS) and is approved for a maximum of 13 hour/s."

In support of improving patient care, Sidra Medicine is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

The Scientific Planning Committee has reviewed all disclosed relevant relationships of speakers, moderators, facilitators, and/or authors in advance of this CPD activity and has implemented procedures to manage any potential or real conflicts of interest.