

A CME Teaching Activity

2016 American Society of Pediatric Neuroradiology

Designated for SA-CME

This enduring material activity counts towards the SA-CME requirement for the ABR, similar to a SAM activity

Release Date: June 15, 2016

About This CME Teaching Activity

This program focuses on optimizing workflow, the latest controversies in imaging hydrocephalus, functional mapping, and gadolinium deposition in pediatrics. Also featured is an in depth analysis into the clinical applications of functional MRI, and functional mapping applications in pediatrics. The program concludes with a neurosurgeon's perspective on advanced imaging techniques.

Material contained in this product was captured during the 2016 ASFNR/ASPNR live meeting.

Target Audience

This CME activity is intended to educate anyone interested in pediatric functional neuroimaging including neuroradiologists, neurologists, neurosurgeons, brain mapping scientists, cognitive neuroscientists, physicists, fellows, residents, doctoral and postdoctoral students, engineers and ancillary staff.

Scientific Sponsor

Educational Symposia

Educational Objectives

At the completion of this CME teaching activity, you should be able to:

- Describe the underlying physical basis of advanced functional and physiological imaging techniques used in pediatrics.
- Explain the clinical applications and limitations of advanced functional and physiological imaging techniques.
- Discuss how to effectively integrate functional imaging techniques into clinical practice with awareness of pertinent economic and logistical issues.

No special educational preparation is required for this CME activity.

Accreditation

Physicians: Educational Symposia is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Educational Symposia designates this enduring material for a maximum of 5.25 *AMA PRA Category 1 Credit(s)*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

SA-CME: Credits awarded for this enduring activity are designated "SA-CME" by the American Board of Radiology (ABR) and qualify toward fulfilling requirements for Maintenance of Certification (MOC) Part II: Lifelong Learning and Self-assessment.

All activity participants are required to pass a written or online test with a minimum score of 70% in order to be awarded credit. (Exam materials, if ordered, will be sent with your order.) All course participants will also have the opportunity to critically evaluate the program as it relates to practice relevance and educational objectives.

**AMA PRA Category 1 Credit(s)[™]
for this activity may be claimed until June 14, 2019.**

This CME activity was planned and produced by Educational Symposia, a leader in diagnostic imaging education since 1975.

This activity was planned and produced in accordance with the ACCME Essential Areas and Elements.

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Program

Session 1

Optimizing Workflow for Pediatric MRI

Aylin Tekes-Brady, M.D.

MRI is Better than CT for Hydrocephalus

Laura L. Hayes, M.D.

CT is Better than MRI for Hydrocephalus

Erin Simon Schwartz, M.D.

3D Fetal Imaging

David M. Mirsky, M.D.

Clinical Applications of MRS in Children

Ashok Panigrahy, M.D.

Applications of Diffusion Tensor Imaging in Pediatrics

Nancy K. Rollins, M.D.

Session 2

Advanced Imaging in Pediatric Epilepsy

Bruno P. Soares, M.D.

Gadolinium Deposition in the Brain: What Does it Mean?

Meng Law, M.D., MBBS, FRACR

The Future of Pediatric Neuroimaging

Timothy P.L. Roberts, Ph.D.

fMRI for Language Localization in Children

Mohit Maheshwari, M.D.

Session 3

fMRI for Motor Localization in Children

Deborah Zarnow, M.D.

Functional Mapping with Magnetoencephalography

William Gaetz, Ph.D.

Advanced Pediatric Neuroimaging:

The Neurosurgeon's Perspective

Bradley Edward Weprin, M.D.

A CME Teaching Activity

2016 American Society of Functional Neuroradiology

Designated for SA-CME

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Release Date: June 15, 2016

About This CME Teaching Activity

A broad range of cutting-edge topics in functional neuroradiology is featured throughout this program, including dynamic fMRI and MEG for time-resolved functional brain mapping, diffusion tensor imaging and tractography, advanced diffusion techniques (DKI, NODDI, RSI, etc.) for microstructural tissue modeling, structural and functional connectomics, perfusion, permeability, quantitative susceptibility mapping, and other novel quantitative neuroimaging biomarkers. This activity focuses on the current status of functional and physiologic imaging methodology, current controversies in the field, and promising new techniques. There is emphasis on pediatric neuroimaging including special lectures on the connectome of the developing brain, advanced imaging of neurodevelopmental disorders with a focus on autism and on adolescent cognitive maturation, as well as new techniques for pediatric stroke and pediatric brain tumor imaging.

Material contained in this product was captured during the 2016 ASFNR/ASPNR live meeting.

Target Audience

This CME activity is intended to educate anyone interested in functional neuroimaging including neuroradiologists, neurologists, neurosurgeons, brain mapping scientists, cognitive neuroscientists, physicists, fellows, residents, doctoral and postdoctoral students, engineers and ancillary staff.

Scientific Sponsor

Educational Symposia

Educational Objectives

At the completion of this CME teaching activity, you should be able to:

- Describe the underlying physical basis of advanced functional and physiological imaging techniques such as BOLD and resting state fMRI, Diffusion-weighted Imaging, Diffusion Tensor Imaging, Dynamic Susceptibility and Dynamic Contrast-enhanced MRI, Arterial Spin Labeling, Susceptibility-weighted Imaging, MR Spectroscopy, and MEG Imaging.
- Explain the clinical applications and limitations of advanced functional and physiological imaging techniques.
- Discuss how to effectively integrate functional imaging techniques into clinical practice with awareness of pertinent economic and logistical issues.

No special educational preparation is required for this CME activity.

Accreditation

Physicians: Educational Symposia is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Educational Symposia designates this enduring material for a maximum of 13.75 *AMA PRA Category 1 Credit(s)*TM. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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Faculty Continued on next page

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Program

Session 1

Diffusion MRI of Brain Development

Hao Huang Ph.D.

Mapping the White Matter Connectivity of the Human Brain

Pratik Mukherjee, M.D., Ph.D.

The Developing Human Connectome:
A Pathway Toward Clinical Translation?

Ashok Panigrahy, M.D.

Diffusion MRI of Autism Spectrum Disorder

Andrew Alexander, Ph.D.

Functional MRI of Autism Spectrum Disorder

Jeffrey S. Anderson, M.D., Ph.D.

Session 2

Autism Imaging: The Way Forward

Timothy P.L. Roberts, Ph.D.

The Adolescent Brain Cognitive Development (ABCD) Study

Terry L. Jernigan, Ph.D.

DSC Perfusion, Permeability, and Leakage Correction

Jerrold L. Boxerman, M.D., Ph.D.

ASL Perfusion in Pediatric Brain Imaging

Arastoo Vossough, M.D., Ph.D.

Session 3

Pediatric Stroke: How Can Imaging Help the Clinician?

Heather Fullerton, M.D.

Advances in Pediatric Brain Tumor Imaging

Tina Young Poussaint, M.D., FACR

Pediatric Radiogenomics

Islam I. Hassan, MD

Imaging the Neurocognitive Sequelae of Treatment for
Childhood Brain Tumors

Janine Lupo, Ph.D.

Session 4

Resting State Functional Connectivity - Past, Present & Future

Bharat Biswal, Ph.D.

Multi-Echo BOLD for Improved Resting State fMRI

Prantik Kundu, Ph.D.

Clinical Applications of Resting State fMRI

Joshua S. Shimony, M.D., Ph.D.

Neurite Orientation Dispersion & Density Imaging (NODDI)

Gary Hui Zhang, Ph.D.

Program Continued on next page

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Program

Session 5

Imaging White Matter Microstructure: Models and Applications
Els Fieremans, Ph.D.

Standardization of CVR Measurements
David J. Mikulis, M.D.

Neurovascular Uncoupling (NVU)
Jay J. Pillai, M.D.

Obsessive-Compulsive Disease & the Brain's Reward System:
Neuroscience & Neuroimaging
Leo Sugrue, M.D., Ph.D.

Session 6

Neuroimaging of Schizophrenia
John D. Port, M.D., Ph.D.

Real-Time fMRI Neurofeedback for Treatment
of Psychiatric Disorders
David M. Schnyer, Ph.D.

MRI Biomarkers of Tissue Microstructure: An Overview
Pratik Mukherjee, M.D., Ph.D.

T1 Rho
Christopher G. Filippi, M.D.

Quantitative Susceptibility Mapping at 3T and 7T
Chunlei Liu, Ph.D.

Session 7

Chemical Exchange Saturation Transfer (CEST)
Jay J. Pillai, M.D.

DTI Standardization for Multicenter Studies:
The TRACK-TBI Experience
Pratik Mukherjee, M.D., Ph.D.

Quantitative MEG Brain Mapping
Joseph A. Maldjian, M.D.

fMRI Standardization for Multicenter Studies:
The 1000 Functional Connectomes Project
Bharat Biswal, Ph.D.

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