Traveling CME Neurosciences 2017–18
**CONTINUING MEDICAL EDUCATION**

**Traveling CME / Neurosciences**

**2017–18**

---

**DATE**

Upon request

---

**LOCATION**

Your practice

---

**WHO**

Internists, family physicians, neurologists, neurosurgeons, neuro-radiologists, naturopathic doctors, nurse practitioners, physician assistants, physical and occupational therapists and registered nurses.

---

**CREDIT**

OHSU School of Medicine, Division of CME, designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit.™ Physicians should claim only the credit commensurate with the extent of their participation in the activity.

---

**ACCREDITATION**

Oregon Health & Science University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

---

For more information or to schedule a traveling session, please contact OHSU Provider Relations.

Dina Girgenti-lida

Provider relations manager

503-494-6535
girgenti@ohsu.edu

---

**Table of contents**

<table>
<thead>
<tr>
<th>OHSU faculty</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session selection</td>
<td>12</td>
</tr>
<tr>
<td>Aging, Alzheimer’s and dementia</td>
<td>12</td>
</tr>
<tr>
<td>ALS and neuromuscular</td>
<td>12</td>
</tr>
<tr>
<td>Cerebrovascular</td>
<td>13</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>15</td>
</tr>
<tr>
<td>General neurology</td>
<td>15</td>
</tr>
<tr>
<td>General wellness</td>
<td>17</td>
</tr>
<tr>
<td>Headaches</td>
<td>17</td>
</tr>
<tr>
<td>Multiple sclerosis</td>
<td>18</td>
</tr>
<tr>
<td>Nerve</td>
<td>18</td>
</tr>
<tr>
<td>Neurocritical care</td>
<td>18</td>
</tr>
<tr>
<td>Neurological trauma</td>
<td>19</td>
</tr>
<tr>
<td>Neuro-oncology/-skull base</td>
<td>20</td>
</tr>
<tr>
<td>Pain</td>
<td>21</td>
</tr>
<tr>
<td>Parkinson’s and movement disorders</td>
<td>22</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>23</td>
</tr>
<tr>
<td>Pituitary/-neuroendocrinology</td>
<td>25</td>
</tr>
<tr>
<td>Sleep</td>
<td>26</td>
</tr>
<tr>
<td>Spine</td>
<td>27</td>
</tr>
<tr>
<td>Spine-pediatrics</td>
<td>29</td>
</tr>
</tbody>
</table>
OHSU faculty

Prakash Ambady, M.D.
Assistant professor, neurology
(Neuro-oncology, blood brain barrier program)

Lissa Baird, M.D.
Associate professor, neurological surgery; Head, Division of functional neurosurgery, Doernbecher Children's Hospital
(Pediatric neurological surgery, skull base and endoscopic neurosurgery)

Jacqueline T. Bernard, M.D., F.A.A.N.
Vice chair, associate professor, neurology
(Multiple sclerosis, neuro-immunology, neurology)

Dennis Bourdette, M.D., F.A.A.N., F.A.N.A.
Chair and Roy and Eulalia Swank Family Research Professor, neurology
Executive director, OHSU Multiple Sclerosis Center
(Multiple sclerosis, neuroimmunology, neurology)

Hormozd Bozorgchami, M.D.
Assistant professor, neurology
(Neurology, stroke, interventional neuroradiology)

Matthew Brodsky, M.D.
Associate professor, neurology
(Parkinson's and movement disorders)

Kim Burchiel, M.D., F.A.C.S.
John Raaf Professor, neurological surgery
(Movement disorders and Parkinson's, neurological surgery)

Justin Cetas, M.D., Ph.D.
Associate professor, neurological surgery, OHSU; program director, OHSU neurosurgery residency program; chief, neurological surgery, Portland Veterans Medical Center
(Cerebrovascular, neuro-oncology skull base, neurological surgery)

Nizar Chahin, M.D.
Assistant professor, neurology
( Neuromuscular, peripheral nerve disorders, ALS/MDA)

Jason Chang, M.D.
Assistant professor, neurological surgery
(Complex spine surgery, spine oncology, neurological surgery)

Kathryn Chung, M.D.
Associate professor, neurology
(Parkinson's and movement disorders)

Jeremy Ciporen, M.D.
Assistant professor, neurological surgery, OHSU Tuality Healthcare
(Endoscopic, open neurological surgery)

Wayne Clark, M.D.
Professor, neurology; director, OHSU Stroke Program
(Neurology, stroke)

Alexandra Dimitrova, M.D., M.A.
Assistant professor, neurology
(Neurology, pain, integrative neurology)
Aclan Dogan, M.D.  
Associate professor, neurological surgery; head, cerebrovascular and skull base division  
(Cerebrovascular, skull base neurological surgery, interventional neuro-radiology)

Julia Durrant, M.D.  
Assistant professor, neurology  
(Neurocritical care)

Lia deLeon Ernst, M.D.  
Assistant professor, neurology  
(Neurology, epilepsy, seizure disorders, clinical neurophysiology)

Maria Fleseriu, M.D., F.A.C.E.  
Professor, medicine, endocrinology, and neurological surgery;  
director, OHSU Pituitary Center  
(Neuroendocrinology, pituitary and adrenal disorders)

Meredith Frederick, M.D.  
Assistant professor, neurology  
(Multiple sclerosis, neuro-immunology, neurology and neurohospitalist)

Seunggu Jude Han, M.D.  
Assistant professor, neurological surgery  
(Neurological surgery, neuro-oncology)

Amie Hiller, M.D.  
Assistant professor, neurology  
(Parkinson's and movement disorders)

Kimberly Hutchison, M.D.  
Associate professor, neurology  
(Comprehensive neurology, sleep medicine)

Chafic Karam, M.D.  
Assistant professor, neurology; director, ALS & Neuromuscular Program  
(Neuromuscular, peripheral nerve disorders, ALS/MDA)

Jeffrey Kaye, M.D.  
Professor, neurology and biomedical engineering;  
director, OHSU Layton Aging and Alzheimer’s Disease Center; director, Oregon Center for Aging and Technology  
(Aging and Alzheimer’s)

Marissa Kellogg, M.D., M.P.H  
Assistant professor, neurology  
(Neurology, epilepsy, seizure disorders, clinical neurophysiology)

Edward Kim, M.D.  
Associate professor, neurology  
(Multiple sclerosis and neuroimmunology)

Jeff Kraakevik, M.D.  
Associate professor, neurology  
(Parkinson's and movement disorders)

Helmi Lutsep, M.D.  
Professor and vice chair, neurology; associate director, OHSU Stroke Program;  
Chief of Neurology, VA Portland Health Care System  
(Stroke, neurology)

Matthew McCaskill, D.O.  
Assistant professor, neurology  
(Neurohospitalist, epilepsy, seizure disorders, clinical neurophysiology)

Paul Motika, M.D.  
Associate professor, neurology  
(Neurology, epilepsy, seizure disorders, clinical neurophysiology)
Gary Nesbit, M.D.
Professor, Dotter Institute and interventional radiology
(Neurology, stroke, interventional radiology)

John Nutt, M.D.
Professor, neurology; director emeritus, OHSU Parkinson Center
(Parkinson's and movement disorders)

Josiah Orina, M.D.
Assistant professor, neurological surgery
(Neurosurgery, neurological spine surgery, minimally invasive spine surgery, spine oncology, spine trauma)

Ronald Pfeiffer, M.D.
Professor, neurology
(Parkinson's and movement disorders)

Juliette Preston, M.D.
Assistant professor, neurology; director, OHSU Headache Center
(Headache, pain, migraine)

Joseph Quinn, M.D.
Professor, neurology; director, OHSU Parkinson Center
(Parkinson's and movement disorders, aging and Alzheimer's)

Ahmed Raslan, M.D.
Associate professor, neurological surgery
(Pain and epilepsy surgery, neurological surgery)

Colin Roberts, M.D.
Associate professor, neurology, Doernbecher Children's Hospital
(Pediatric neurology, epilepsy)

Delaram Safarpour, M.D.
Assistant professor, neurology
(Parkinson's and movement disorders)

Christina Sayama, M.D., M.P.H.
Assistant professor, neurological surgery
(Pediatric neurological surgery, neuro-oncology, spinal surgery)

Nathan Selden, M.D., Ph.D., F.A.C.S., F.A.A.P.
Campagna Professor and chair, neurological surgery
(Pediatric neurological surgery, epilepsy and craniofacial surgery)

Lynne Shinto, N.D., M.P.H.
Associate professor, neurology
(Naturopathic medicine, neurology and women's health)

Lisa Silbert, M.D., M.C.R.
Associate professor, neurology
(Aging and Alzheimer's, clinical neurophysiology)

Asha Singh, M.D.
Assistant professor, neurology
(Sleep medicine)

David Spencer, M.D.
Professor, neurology; director, OHSU Comprehensive Epilepsy Center
(Neurology, epilepsy, seizure disorders, clinical neurophysiology)

Michelle Stacey, M.D.
Assistant professor, neurology
(Comprehensive neurology)
Khoi Than, M.D.
Assistant professor, neurological surgery
(Complex spine surgery, minimally invasive spine surgery, spine oncology, spine trauma, neurological surgery)

Elena Varlamov, M.D.
Assistant professor, medicine, endocrinology, and neurological surgery
(Neuroendocrinology, pituitary and adrenal disorders)

Amy Visser, M.D.
Assistant professor, neurology
(Neuromuscular, peripheral nerve disorders, ALS/MDA)

Vijayshree Yadav, M.D., M.C.R.
Associate professor, neurology; clinical director, OHSU Multiple Sclerosis Center
(Multiple sclerosis, neuroimmunology)

Chris Yedinak, M.N., F.N.P., D.N.P.
Assistant professor, neurological surgery; family nurse practitioner, OHSU NW Pituitary Center
(Neuroendocrinology, pituitary and adrenal disorders)
Session selection

Aging, Alzheimer’s and dementia

Dementia: Overview and Management
Jeffrey Kaye, M.D.; Joseph Quinn, M.D.; Lisa Silbert, M.D., M.C.R.

Learning objectives
- Conduct basic diagnostic evaluation of cognitive disorders.
- Identify appropriate candidates for specialty referral.
- Review medical options for managing cognitive decline and common behavioral problems in dementia.
- Identify resources for providing ancillary services (e.g., education, support groups, driving evaluations) for dementia.

ALS and neuromuscular

The Multiple Faces of Diabetic Neuropathies
Nizar Chahin, M.D.; Chafic Karam, M.D.; Amy Visser, M.D.

Learning objectives
- Recognize the presentation of diabetes-related autonomic neuropathy, small fiber neuropathy, radiculoplexus neuropathy and others.

Neuromuscular Neurology for the Primary Care Physician: Case Presentations
Nizar Chahin, M.D.; Chafic Karam, M.D.; Amy Visser, M.D.

Learning objectives
- Review symptoms of common and some uncommon neuromuscular disorders.
- Recognize the important physical examination findings in these disorders.
- Review laboratory, imaging and EMG findings as well as treatment.

Neuromuscular Emergencies
Nizar Chahin, M.D.; Chafic Karam, M.D.; Amy Visser, M.D.

Learning objectives
- Recognize and diagnose the neuromuscular conditions that cause respiratory failure such as Guillain-Barre syndrome and myasthenic crisis.

Dystrophic and Non-Dystrophic Myotonic Disorders
Nizar Chahin, M.D.; Chafic Karam, M.D.; Amy Visser, M.D.

Learning objectives
- Discuss the presenting symptoms and physical examination findings of myotonic disorders.
- Review the genetic basis of these diseases and discuss symptomatic treatment for myotonic disorders.

Recognizing the Muscular Dystrophies
Nizar Chahin, M.D.; Chafic Karam, M.D.; Amy Visser, M.D.

Learning objectives
- Review the typical presentations of adult onset muscular dystrophies and approach to diagnostic evaluation when muscular dystrophy is suspected.
- Describe recent updates in treatment of Duchenne muscular dystrophy.

Proximal Weakness: Approach with the Adult Patient
Nizar Chahin, M.D.; Chafic Karam, M.D.; Amy Visser, M.D.

Learning objectives
- Review cases of patients presenting with proximal weakness with focus on differential diagnosis and diagnostic evaluation.

Cerebrovascular

Subarachnoid Hemorrhage and Cerebral Vasospasm
Justin Cetas, M.D., Ph.D.

Learning objectives
- Define the terms delayed ischemic neurological deficits (DIND) and cerebral vasospasm in the setting of subarachnoid hemorrhage.
- Describe the time course and associated signs of DIND.
- Describe the current medical therapies for the prevention of DIND.
- Describe the interventional therapies available for the treatment of cerebral vasospasm and DIND.
The Un-Ruptured Cerebral Aneurysm
Gary Nesbit, M.D.

Learning objectives
- Explain the imaging and risk analysis of an unruptured aneurysm.
- Discuss the management options and outcomes data of surgical and interventional therapy, and the decision-making strategy of a multidisciplinary team.

Carotid Stenosis and the Prevention of Stroke
Gary Nesbit, M.D.

Learning objectives
- Explain the variety of non-invasive methods of evaluation and risk analysis of symptomatic and asymptomatic carotid stenosis.
- Discuss the management options and outcomes of data medical therapy, endarterectomy and angioplasty and stenting.

Painful Vertebral Compression Fractures
Gary Nesbit, M.D.

Learning objectives
- Explain the clinical and imaging methods of evaluation of vertebral compression fractures to determine their relationship to severe back pain.
- Discuss the management options and outcomes of data medical therapy, kyphoplasty and vertebroplasty in osteoporotic and pathologic compression fractures.

Cerebral and Spinal AV Fistula: Understanding a Complex Disease
Gary Nesbit, M.D.

Learning objectives
- Explain the variety of arteriovenous fistula of the brain and spine, and their confusing clinical presentation.
- Discuss imaging strategies, treatment paradigms and outcome expectations.

Subarachnoid Hemorrhages: Treatment for Aneurysms
Justin Cetas, M.D., Ph.D.; Aclan Dogan, M.D.

Learning objectives
- Analyze individual patients and develop more informed treatment recommendations.
- Evaluate latest advances and available outcomes data to determine their significance for ruptured and un-ruptured intracranial aneurysms.
- Assess treatment failures in intra-cranial aneurysms treated with either modality.
- Assemble strategies for treatment and salvage of recurrent and difficult intracranial aneurysms.

Acute Stroke Treatment
Hormozd Bozorgchami, M.D.; Wayne Clark, M.D.; Helmi Lutsep, M.D.

Learning objectives
- Describe current selection of patients for intravenous rtPA treatment.
- Review the results of major intra-arterial mechanical embolectomy device trials in acute stroke.
- Discuss potential future approaches to acute stroke care, including imaging selection.

Stroke Prevention
Hormozd Bozorgchami, M.D.; Wayne Clark, M.D.; Helmi Lutsep, M.D.

Learning objectives
- Review current stroke prevention strategies in intracranial and extracranial large vessel disease.
- Describe recent changes in the management of atrial fibrillation.
- Review possible new mechanisms of cardio embolic and cryptogenic stroke.

Epilepsy

Surgery for Epilepsy
Kim Burchiel, M.D., F.A.C.S.; Ahmed Raslan, M.D.

Learning objectives
- Explain the role of surgery in the management of medically intractable seizures.
- Describe the common types of epilepsy surgery.
Seizure Types and Epilepsy Syndromes
Lia deLeon Ernst, M.D.; Marissa Kellogg, M.D., M.P.H.; Matthew McCaskill, D.O.; Paul Motika, M.D.; David Spencer, M.D.

Learning objectives
- Differentiate between and recognize different types of seizures and epilepsy syndromes (as well as seizure mimics).
- Apply basic principles of epilepsy management including use of anti-seizure medications, additional treatment options, and knowing when to refer to a specialist.
- Appropriately counsel patients with epilepsy on common topics such as prognosis, seizure precautions and pregnancy.

Surgical Treatment of Epilepsy for Neurologists
Lia deLeon Ernst, M.D.; Marissa Kellogg, M.D., M.P.H.; Matthew McCaskill, D.O.; Paul Motika, M.D.; David Spencer, M.D.

Learning objectives
- Recognize medically refractory epilepsy early and identify patients who should be referred for surgical management of epilepsy.
- Describe the range of surgical options for treatment of epilepsy including the risks and benefits.
- Explain the risks of surgery in comparison with risks of ineffective ongoing medical therapy.
- Explain barriers to effective surgical treatment of epilepsy.

Medication Management for Epilepsy
Lia deLeon Ernst, M.D.; Marissa Kellogg, M.D., M.P.H.; Matthew McCaskill, D.O.; Paul Motika, M.D.; David Spencer, M.D.

Learning objectives
- Review currently available anti-epileptic medications.
- Discuss the importance of defining the seizure syndrome when choosing a medication.
- Discuss medication selection.
- Discuss the importance of considering side effect profiles.

General wellness

Wellness and neurological diseases
Lynne Shinto, N.D., M.P.H.
Learning objectives
- Review diet, physical activity and stress reduction.
- Discuss commonly used dietary supplements (e.g. omega-3 fatty acids, vitamins and minerals).

Headaches

NEW Headaches
Juliette Preston, M.D.
Learning objectives
- Describe the most common headache syndromes.
- Explain current treatment options.
- Identify cases where imaging and/or specialist referral is warranted.

Multiple sclerosis

Overview and Symptomatic Treatment of Multiple Sclerosis for Neurologists
Jacqueline T. Bernard, M.D., F.A.A.N.; Dennis Bourdette, M.D., F.A.A.N., F.A.N.A.; Meredith Frederick, M.D.; Edward Kim, M.D.; Vijayshree Yadav, M.D., M.C.R.
Learning objectives
- Describe common symptoms and current pathogenesis.
- Become familiar with the newer approved treatment options and how to effectively manage those symptoms.

Imaging and Multiple Sclerosis for Neurologists
Jacqueline T. Bernard, M.D., F.A.A.N.; Dennis Bourdette, M.D., F.A.A.N., F.A.N.A.; Meredith Frederick, M.D.; Edward Kim, M.D.; Vijayshree Yadav, M.D., M.C.R.
Learning objectives
- Explain the key imaging technologies utilized in MS diagnosis and disease monitoring.
Peripheral Nerve
Kim Burchiel, M.D., F.A.C.S.

Learning objectives
• List common peripheral nerve entrapment syndromes and their surgical management.
• Describe the principle of nerve transfer and describe the role of surgery in nerve tumors.

Neurocritical care

Update on Neurocritical Care
Julia Durrant, M.D.

Learning objectives
• Explain up-to-date evidence-based guidelines for management in neurocritical care.
• Explain novel and ongoing research in acute brain injury including ischemic and hemorrhagic injury, global ischemia and traumatic brain injury.

Neurological trauma

Traumatic Brain Injury
Justin Cetas, M.D., Ph.D.; Jason Chang, M.D.; Ahmed Raslan, M.D.

Learning objectives
• Discuss radiographic predictors of outcomes.
• Explain the radiographic concerns for intracranial pressure elevation.
• Explain the evidence-based fundamentals of the acute management of moderate to severe brain injuries.

Neuro-oncology / skull base

Advances in the Management of High-Grade Glioma
Prakash Ambady, M.D.; Seunggu Jude Han, M.D.

Learning objectives
• Discuss the updates in the classification of high-grade gliomas with emphasis on the importance of molecular classification.
• Review the standard of care and emerging therapies for treatment of high-grade gliomas.

NEW Advances in the Management of Low Grade Glioma
Seunggu Jude Han, M.D.

Learning objectives
• Review the latest evidence in natural history, the benefit of aggressive surgical resection, the role of mapping and the role of molecular classification.
• Discuss the evidence for adjuvant therapy in management of low-grade gliomas.

NEW Novel Multi-Modality Treatment of Brain Tumors: Role of Clinical Trials
Seunggu Jude Han, M.D.

Learning objectives
• Review the latest advances in each step along the disease course for patients with brain tumors, from diagnosis to salvage therapy.
• Discuss the importance of clinical trials in care of the brain tumor patient.

Role of Novel Imaging Biomarkers in Management of Brain Tumors
Prakash Ambady, M.D.

Learning objectives
• Review the role of various imaging modalities for diagnosis, follow-up and response assessment in brain tumors.
• Discuss high-resolution steady-state MRI with ferumoxytol and its role in the management of brain tumors.

NEW Immunotherapy for Brain Tumors
Prakash Ambady, M.D.; Seunggu Jude Han, M.D.

Learning objectives
• Review the role of novel immunotherapy approaches in the management of brain tumors.
Minimally Invasive Approaches to Brain Tumors
Jeremy Ciporen, M.D.

Learning objectives
• Discuss initial diagnosis and work up.
• Identify the sometimes subtle clinical presentations patients may have with a serious neurosurgical problem.
• Review the treatment options and outcomes these patients can expect.
• Explain resources to better care for patients.

NEW Treatment Options and Approaches to Primary Brain Tumors, Metastatic Disease and Infections
Jeremy Ciporen, M.D.; Aclan Dogan, M.D.; Seunggu Jude Han, M.D.

Learning objectives
• Discuss initial diagnosis and work up.
• Identify the sometimes subtle clinical presentations patients may have with a serious neurosurgical problem.
• Review the treatment options and outcomes these patients can expect.
• Summarize and answer questions.
• Provide resources to better care for patients.

Acoustic Neuromas
Aclan Dogan, M.D.

Learning objectives
• Identify the indications for operative treatment, radiation treatment, drug treatment and observation.
• Apply technical details of acoustic tumor surgery.
• Discuss how to avoid complications and study the outcome of surgery, radiation treatment and observation.

Neurosurgery Update: What to Expect for Brain Tumor Surgery
Jeremy Ciporen, M.D.; Seunggu Jude Han, M.D.

Learning objectives
• Discuss initial diagnosis and work up.
• Identify the sometimes subtle clinical presentations patients may have with a serious neurosurgical problem.
• Review treatment options and outcomes.
• Explain resources to better care for patients.

NEW Latest Advances in Surgical Management of Brain Tumors
Seunggu Jude Han, M.D.

Learning objectives
• Review the latest technological advances being utilized during resection of brain tumors that are designed to improve outcomes, minimize morbidity and enhance safety of the procedures. (Techniques include intraoperative MRI, fluorescence guided resection, stimulation brain mapping and others.)

NEW Transorbital Approaches
Jeremy Ciporen, M.D.

Learning objectives
• Discuss the differential of orbital lesions.
• Explain minimally invasive approaches for optic nerve decompression.
• Discuss cases in which transorbital approach may be used instead of craniotomy.
• Explain transorbital approaches for skull base lesions.
• Discuss multi portal approaches to the skull base.

Pain

NEW Medical Acupuncture for the Treatment of Pain: Applications and Mechanism of Action
Alexandra Dimitrova, M.D., M.A.

Learning objectives
Discuss various evidence-based applications of acupuncture for the treatment of headache and pain, as well as its mechanism of action at the level of the peripheral and central nervous system.

Surgical Management of Cancer Pain
Ahmed Raslan, M.D.

Learning objectives
• Review the anatomy and prevalence of cancer pain and the guidelines for treatment of cancer pain.
• Surgical indications for ablative neurosurgery for cancer pain.
• Review the candidacy and the available ablative neurosurgical options for cancer pain and review.
• Analyze the existing data to support ablative neurosurgery for cancer pain.
Neuromodulation and Chronic Pain: Can Neurosurgeons Help?
Ahmed Raslan, M.D.

Learning objectives
• Explain the history of neurosurgery and pain.
• Review the anatomy and physiology of pain perception and the physiology of neuromodulation of pain.
• Describe the two main neurosurgical approaches to pain treatment (modulation and ablation).
• Review indications and candidacy for neurosurgical management.

Facial Pain
Kim Burchiel, M.D., F.A.C.S.

Learning objectives
• Describe how facial pain is classified.
• Describe the role of advance imaging in facial pain.
• Describe the major surgical approaches to facial pain.

Parkinson’s and Movement Disorders

Deep Brain Stimulation (DBS) Surgery
Kim Burchiel, M.D., F.A.C.S.; Ahmed Raslan, M.D.

Learning objectives
• Describe the history of movement disorders surgery.
• Explain the difference between destructive surgery and DBS.
• Describe DBS, indications and patient candidate selection.
• Explain initial programming of DBS and follow-up programming visits.
• Describe DBS surgery—the nuts and bolts and benefits of asleep DBS.

Clinical Assessment of Falls
Jeff Kraakevik, M.D.

Learning objectives
• Identify common causes of falls in neurologic diseases.
• Describe necessary components of the history and physical examination in a person with balance complaints.
• Clinically differentiate classic gait patterns on examination.
• Appropriately outline a tailored treatment plan for future fall prevention.

Comprehensive Care for Parkinson’s Disease
Matthew Brodsky, M.D.; Kathryn Chung, M.D.; Amie Hiller, M.D.; Jeff Kraakevik, M.D.; Ronald Pfeiffer, M.D.; Joseph Quinn, M.D.; Delaram Safarpour, M.D.

Learning objectives
• Identify diagnostic criteria for Parkinson’s disease.
• Identify appropriate medical therapy options at different stages of disease.
• Describe recent developments and indications for surgical therapy.
• Discuss team approach for rehab therapy.

NEW Diagnosis and Management of Tremor
Matthew Brodsky, M.D.; Kathryn Chung, M.D.; Amie Hiller, M.D.; Jeff Kraakevik, M.D.; Ronald Pfeiffer, M.D.; Joseph Quinn, M.D.; Delaram Safarpour, M.D.

Learning objectives
• Clinically diagnose common types of tremor.
• Initiate management of common types of tremor.
• Select appropriate cases of tremor for referral to neurology.

Pediatrics

Hydrocephalus, Shunts and Neuroendoscopy
Lissa Baird, M.D.

Learning objectives
• Explain the causes and pathophysiology of hydrocephalus.
• Differentiate hydrocephalus from familial macrocephaly.
• Describe the latest endoscopic treatments available.

Lumps and Bumps on the Pediatric Head
Lissa Baird, M.D.

Learning objectives
• Recognize incidental and symptomatic lumps and bumps on the head: When to worry, when to watch and when to refer.

NEW Craniofacial surgery for synostosis in children
Leo Urbinelli, M.D.; Nathan Selden, M.D., Ph.D., F.A.C.S., F.A.A.P.

Learning objectives
• Differentiate synostosis and positional head deformity.
• Determine optimal age of referral and prepare parents for consultation.
• Learn about the latest surgical options and technology.
Brain Tumors
Lissa Baird, M.D.; Christina Sayama, M.D., M.P.H.; Nathan Selden, M.D., Ph.D., F.A.C.S., F.A.A.P.

Learning objectives
- Identify common brain tumors in children.
- Identify the common signs and symptoms of children presenting with brain tumors.
- Describe the latest standards and outcomes in pediatric brain tumor therapy.

NEW iMRI and advances in Pediatric Neurosurgery
Lissa Baird, M.D.; Christina Sayama, M.D., M.P.H.; Nathan Selden, M.D., Ph.D., F.A.C.S., F.A.A.P.

Learning objectives
- Learn how intra-operative MRI improves outcomes for pediatric brain surgery.
- Identify indications for neurosurgical referral in children.
- Explain uses of modern imaging and computer navigation.
- Learn how best to counsel children and parents about expectations.

Epilepsy in Children
Colin Roberts, M.D.; Nathan Selden, M.D., Ph.D., F.A.C.S., F.A.A.P.

Learning objectives
- Identify common presentations of epilepsy in children and their medical therapy.
- Describe features of medically refractory epilepsy in children.
- Review types of and outcomes from surgical therapy for pediatric refractory epilepsy.

Tethered Spinal Cord and Chiari Malformation
Lissa Baird, M.D.; Christina Sayama, M.D., M.P.H.; Nathan Selden, M.D., Ph.D., F.A.C.S., F.A.A.P.

Learning objectives
- Identify common clinical presentations of tethered cord and Chiari I malformation.
- Identify common skin and skeletal markers of dysraphism.
- Explain indications for imaging and neurosurgical referral.

Traumatic Brain Injury in Pediatrics
Lissa Baird, M.D.; Christina Sayama, M.D., M.P.H.; Nathan Selden, M.D., Ph.D., F.A.C.S., F.A.A.P.

Learning objectives
- Identify the causes and manifestations of traumatic brain injury in children.
- Learn the latest recommendations for TBI management.
- Discuss the prognosis after various degrees of TBI.

NEW Pediatric Intracranial Mass Lesions
Lissa Baird, M.D.

Learning objectives
- Identify common mass lesions in children, including cysts, tumors, vascular lesions, infections, and congenital lesions.
- Identify the common signs and symptoms of children presenting with mass lesions.
- Explain how to evaluate for intracranial mass lesions, when to obtain imaging, and when to refer to appropriate specialists.

Pituitary-/neuroendocrinology

David and Goliath: Approaches to Pituitary Tumors
Justin Cetas, M.D., Ph.D.; Jeremy Ciporen, M.D.

Learning objectives
- Discuss initial diagnosis and work up.
- Identify the sometimes subtle clinical presentations patients may have with a serious neurological problem.
- Learn treatment options and outcomes these patients can expect.
- Provide resources to better care for patients.

NEW Pituitary Dysfunction After Mild and Severe Traumatic Brain Injury
Elena Varlamov, M.D.

Learning objectives
- Explain the prevalence of hypopituitarism after traumatic brain injury (TBI).
- Review who, when and how to screen for hypopituitarism in patients with TBI.
- Describe treatment and outcomes for patients with pituitary deficiencies after TBI.

Pituitary Tumors and Dysfunction
Maria Fleseriu, M.D., F.A.C.E.; Elena Varlamov, M.D.; Chris Yedinak, M.N., F.N.P., D.N.P.

Learning objectives
- Explain pituitary incidentaloma.
- Radiographically identify the subtleties of sellar and parasellar masses.
- Diagnose pituitary dysfunction in patients with sellar and parasellar masses.
- Assess the long-term risks of dopamine agonist therapy for prolactinomas and when to withdraw therapy.
Cushing’s Syndrome
Maria Fleseriu, M.D., F.A.C.E.; Elena Varlamov, M.D.; Chris Yedinak, M.N., F.N.P., D.N.P.

Learning objectives
• Review pathophysiology, morbidity and mortality associated with excess cortisol exposure.
• Learn updated recommendations for the screening and diagnosis of patients who potentially have Cushing’s disease.

Acromegaly
Maria Fleseriu, M.D., F.A.C.E.; Elena Varlamov, M.D.; Chris Yedinak, M.N., F.N.P., D.N.P.

Learning objectives
• Review pathophysiology, morbidity and mortality associated with excess growth hormone exposure.
• Summarize the current criteria for cure in patients with acromegaly, including associated considerations on the interpretation of relevant assays, biochemical measures and clinical outcomes.

New Chronic Management and Transition of Care for Pituitary Dysfunction
Chris Yedinak, M.N., F.N.P., D.N.P.

Learning objectives
• Outline the process and clinical support for care transition back to referring and local providers.

Sleep

New “I Can’t Sleep” Insomnia: A Review of Behavioral and Pharmacologic Therapies
Kimberly Hutchison, M.D.; Asha Singh, M.D.

Learning objectives
• Identify the prevalence and consequences of insomnia.
• Identify causes of insomnia.
• Describe components of Cognitive Behavior Therapy (CBTI).
• Define sleep efficiency.
• Explain pharmacological treatment options for insomnia.

New “I Snore, Now What?” What is Sleep Apnea and How Do I Screen For It?
Kimberly Hutchison, M.D.; Asha Singh, M.D.

Learning objectives
• Explain the underlying causes of, risk factors for, and comorbid conditions associated with obstructive sleep apnea.
• Describe screening tools for OSA.
• Discuss treatment options for snoring and mild, moderate and severe OSA.
• Describe methods for supporting patient adherence with OSA treatment.

Spine

Spine Tumors
Jason Chang, M.D.; Khoi Than, M.D.

Learning objectives
• Define spine tumors.
• Identify primary versus metastatic tumors of the spine.
• Understand current guidelines for treatment with outcomes.

Spinal Cord Injury
Jason Chang, M.D.; Khoi Than, M.D.

Learning objectives
• Define and identify mechanisms of spinal cord injury and current guidelines for treatment and outcomes.
• Discuss surgical and nonsurgical management.
• Describe algorithm for assessment and stabilization.
• Discuss the appropriate spine precautions and transfer.

Spine Surgery
Jason Chang, M.D.; Khoi Than, M.D.

Learning objectives
• Identify new innovations in treatment.
• Discuss revision spine surgery, complication avoidance and management and minimally invasive spine surgery.

Current Evaluation and Treatment of Lumbar Spinal Stenosis
Jason Chang, M.D.; Khoi Than, M.D.

Learning objectives
• Define lumbar stenosis.
• Describe the several etiologies of lumbar stenosis.
• Learn how to evaluate and refer patients for treatment.
NEW Degenerative Diseases of the Cervical Spine
Jason Chang, M.D.; Khoi Than, M.D.
Learning objectives
• Describe the spectrum of degenerative diseases of the cervical spine.
• Describe surgically relevant neurological deficits relative to outcomes.
• Review the radiographic correlates for cervical spondylotic myelopathy.

NEW Minimally Invasive Spine Surgery
Khoi Than, M.D.
Learning objectives
• Explain minimally invasive techniques for lumbar disc herniation, lumbar spondylolisthesis, scoliosis and intradural extramedullary spinal cord tumors.

NEW Degenerative Conditions of the Spine
Khoi Than, M.D.
Learning objectives
• Explain the public health of back pain.
• Describe basic spinal anatomy.
• Explain the epidemiology, presentation and management of disc herniation (cervical and lumbar), spinal stenosis (cervical and lumbar), lumbar spondylolisthesis and adult degenerative kyphoscoliosis.

NEW Cervical Radiculopathy
Khoi Than, M.D.
Learning objectives
• Explain the anatomy, pathophysiology, epidemiology and history.
• Describe an examination, explain the diagnosis, describe treatment options, and review some case examples.

NEW When to Do Spine Surgery
Jason Chang, M.D.
Learning objectives
• Explain the anatomic pathologic basis of myelopathy, foot drop and cauda equine syndrome.
• Discuss common radiographic descriptions of spinal imaging.
• Explain the current understanding of timing of interventions and possible outcomes.

NEW Adult Spinal Deformity: Evaluation and Management in the Sagittal Plane
Josia Orina, M.D.
Learning objectives
• Explain spine alignment.
• Define normal and abnormal alignment.
• Review epidemiology and clinical impact of adult deformity.
• Discuss patient presentation and evaluation.
• Explain the role of surgery and techniques for deformity correction.

NEW Spine Pediatrics
Cerebral Palsy and Spasticity
Christina Sayama, M.D., M.P.H.
Learning objectives
• Describe cerebral palsy, spasticity and other movement disorders.
• Learn about baclofen pumps and other surgical treatment options for spasticity.

Pediatric Spine Problems
Christina Sayama, M.D., M.P.H.
Learning objectives
• Identify common spine problems in the pediatric patient: Presentation and detection, when to obtain imaging, when to refer and treatment options.

Pediatric Scoliosis and Other Complex Spine Issues
Christina Sayama, M.D., M.P.H.
Learning objectives
• Introduction and overview of more complex pediatric spine issues and how they can be detected, when to refer and treatment overview.

Other topics are possible depending on speaker availability: Please ask.
OHSU accepts most major health plans.
OHSU is an equal opportunity, affirmative action institution.
NEU 21487401 6/17