SPECIAL INVITATION
Advanced Training in Open and Endoscopic Surgery: A Hands-on Skull Base Training Program
A comprehensive dissection experience including 2 lab days.

October 23-24, 2020

RESERVE YOUR SEAT TODAY.

REGISTER ONLINE: www.nmskullbase.org/advanced-training
Advanced Training in Open and Endoscopic Surgery: A Hands-on Skull Base Training Program

Course Directors: James P. Chandler, MD, and Robert C. Kern, MD

Bringing together the skill sets of neurosurgery and otolaryngology, this comprehensive 2-day course offers a unique opportunity to collaborate and learn complex surgical techniques from some of the top experts in the field of skull-based pathologies, and to take advantage of the leading-edge technologies and cadaver dissection available in our lab.

The Skull Base team will teach by didactic presentations, 3D and virtual reality (VR) anatomy demonstrations and guided cadaveric dissection. By incorporating 3D visualizations, we are able to fully illustrate the complexities of the human brain in a way that we believe will further cement your visuospatial knowledge. Our comprehensive and translational approach using real surgical techniques will also better equip your residents and fellows with the skills they need in the OR.

Invited Faculty include, Omar Arnaout, MD, Timothy R. Smith, MD, PhD, MPH, of Harvard University, Jean Anderson Eloy, MD, of Rutgers New Jersey Medical School, and Stephen Shafizadeh, MD, PhD, of Arkansas Neuroscience Institute.

PROGRAM OBJECTIVES
The objective of this course is to improve patient care through didactic instruction and 3D visualization. Participating surgeons will have hands-on dissection experience utilizing specimens to rehearse several complex approaches in both open and endoscopic cranial base surgery.

Upon completion of the course, participants will be able to:

1) Review the surgical approaches (open and endoscopic) for complex, skull base pathologies.
2) Recognize the advantages of a team-based approach for managing pre-, peri- and postoperative skull base pathologies.
3) Demonstrate proficient endoscopic instrument handling and performing standard open skull base approaches.
4) Master minimally invasive endoscopic endonasal approaches to the sellar and peri-sellar area, advancedorbital-zygomatic craniotomy.
5) Identify complex skull base pathologies.

For more information, please contact Mary Smessaert, at mary.smessaert@nm.org, or visit www.nmskullbase.org/advanced-training.

- COMPREHENSIVE 2-DAY DISSECTION EXPERIENCE
- OPEN AND ENDOSCOPIC SURGICAL APPROACHES
- 3D AND VIRTUAL REALITY (VR) ANATOMY GUIDED DEMONSTRATIONS

DUE TO THE COVID CRISIS, COURSE DETAILS MAY CHANGE TO ALIGN WITH CDC RECOMMENDATIONS AND REGULATORY REQUIREMENTS.
## Agenda Day 1

**Friday, October 23, 2020**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 am</td>
<td>Breakfast and Registration</td>
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</table>
| 7:15 am    | Welcome/Course Overview  
*James P. Chandler, MD* |
| **MODULE 1:** | SELLAR/PARASELLAR/SUPRASELLAR APPROACHES  
| 7:30 am    | 3D Anatomy  
*Michael Walsh, MD* |
| 8:00 am    | Endoscopic Endonasal Sellar with Nasoseptal Flap  
*R. C. Kern, MD* |
| 8:30 am    | LAB: Endoscopic Dissection                                             |
| 10:00 am   | Transcranial Suprasellar Approaches  
*Osaama Khan, MD* |
| 10:30 am   | LAB: Transcranial Dissection                                           |
| 12:00 pm   | Lunch with Case Presentations                                          |
| **MODULE 2:** | ANTERIOR CRANIAL BASE  
| 1:00 pm    | 3D Anatomy  
*Michael Walsh, MD* |
| 1:30 pm    | Endoscopic Anterior Cranial Base Resection: Suprasellar Approach  
*David B. Conley, MD* |
| 2:00 pm    | LAB: Endoscopic Dissection                                             |
| 3:30 pm    | Anterior Cranial Base Resection: Subfrontal Approach w/ Pericranial Flap  
*James P. Chandler, MD* |
<p>| 4:00 pm    | LAB: Open Dissection                                                  |
| 5:00 pm    | Review and Adjournment                                                |
| 7:00 pm    | Dinner with Faculty and Participants                                  |</p>
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<tr>
<td>7:00 am</td>
<td>Breakfast</td>
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<td><strong>MODULE 3:</strong> MIDDLE CRANIAL FOSSA, INFRATEMPORAL SKULL BASE</td>
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<tr>
<td>7:30 am</td>
<td>3D Anatomy</td>
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<td>Michael Walsh, MD</td>
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<tr>
<td>8:00 am</td>
<td>Endoscopic Endonasal Transpterygoid/Transmaxillary Approach to the Middle Cranial Fossa</td>
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<td>Jean Anderson Eloy, MD, and Robert C. Kern, MD</td>
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<tr>
<td>8:30 am</td>
<td>LAB: Endoscopic Dissection</td>
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<tr>
<td>10:00 am</td>
<td>Lateral Subtemporal Approach to the Middle Cranial Fossa</td>
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<td>Alan G. Micco, MD, and Timothy R. Smith, MD</td>
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<tr>
<td>10:30 am</td>
<td>Middle Fossa Transcavernous Exposures</td>
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<td>Stephen Shafizadeh, MD</td>
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<tr>
<td>11:30 am</td>
<td>LAB: Subtemporal Dissection</td>
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<td>12:00 pm</td>
<td>Lunch with Case Presentations</td>
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<td><strong>MODULE 4:</strong> TRANSCLIVAL APPROACHES</td>
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<tr>
<td>1:00 pm</td>
<td>3D Anatomy</td>
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<td></td>
<td>James P. Chandler, MD, David B. Conley, MD, and Michael Walsh, MD</td>
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<td>1:30 pm</td>
<td>Endoscopic Endonasal Transclival Approach</td>
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<td>James P. Chandler, MD, David B. Conley, MD, Jean Anderson Eloy, MD, and Michael Walsh, MD</td>
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<td>2:00 pm</td>
<td>LAB: Endoscopic Dissection</td>
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<tr>
<td>3:30 pm</td>
<td>Transpetrosal/Far Lateral Approach to the Clivus</td>
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<td>Omar Arnaout, MD</td>
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<tr>
<td>4:00 pm</td>
<td>LAB: Far Lateral Dissection</td>
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<tr>
<td>5:30 pm</td>
<td>Review and Adjournment</td>
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Program Course Directors

James P. Chandler, MD
Vice Chair, Department of Neurological Surgery
Lavin/Fates Professor of Neurological Surgery
Director, Skull Base Laboratory
Co-director, Lou and Jean Malnati Brain Tumor Institute of the Robert H. Lurie Comprehensive Cancer Center
Professor of Neurosurgery and Otolaryngology – Head and Neck Surgery
Northwestern University
Feinberg School of Medicine

Robert C. Kern, MD
Chair, Department of Otolaryngology – Head and Neck Surgery
George A. Sisson, MD, Professor of Otolaryngology
Professor of Otolaryngology – Head and Neck Surgery and Medicine (Allergy and Immunology)
Northwestern University
Feinberg School of Medicine

Invited Faculty

Omar Arnaout, MD
Center for Skull Base and Pituitary Surgery
Co-Director, Computational Neuroscience Outcomes Center (CNOC)
Assistant Professor of Neurosurgery, Harvard Medical School Department of Neurosurgery, Brigham and Women’s Hospital

Jean Anderson Eloy, MD, FACS, FARS
Professor and Vice Chairman
Department of Otolaryngology - Head and Neck Surgery
Director, Rhinology and Sinus Surgery; Director, Otolaryngology Research Co-Director, Endoscopic Skull Base Surgery Program
Professor of Neurological Surgery; Professor of Ophthalmology and Visual Science
Rutgers New Jersey Medical School

Timothy R. Smith, MD, PhD, MPH
Computational Neurosurgical Outcomes Center
Assistant Professor of Neurosurgery
Harvard Medical School, Department of Neurosurgery, Brigham and Women’s Hospital

Stephen Shafizadeh, MD, PhD, DC, FAANS
Neurosurgeon Cerebrovascular and Skull Base and Complex Spine Surgery
Arkansas Neuroscience Institute

Program Faculty

David B. Conley, MD
Associate Professor, Otolaryngology – Head and Neck Surgery
Northwestern University
Feinberg School of Medicine

Osaama H. Khan, MD, MSc
Oncology and Skull Base Neurosurgeon
Director, Surgical Neuro- oncology
Director, Brain Tumor Bank
Northwestern Medicine
Central DuPage Hospital
Northwestern Medicine
Cancer Center Warrenville
Assistant Professor, Department of Neurosurgery
Northwestern University
Feinberg School of Medicine

Alan G. Micco, MD
Professor, Otolaryngology, Head and Neck Surgery Medical Education and Neurological Surgery
Northwestern University
Feinberg School of Medicine

Michael Walsh, MD
Health System Clinician, Neurological Surgery
Northwestern University
Feinberg School of Medicine

Due to the COVID crisis, course details may change to align with CDC recommendations and regulatory requirements.
Program Location
The program will be held at Northwestern Skull Base Laboratory, on Northwestern Medicine's downtown campus,

Skull Base Laboratory
Northwestern University
Tarry Building
300 E. Superior Street
Room 2-750
Chicago, IL 60611

Parking
Discounted day and overnight parking will be available at 222 East Huron Street.

Hotel Accommodations
We have a limited number of rooms reserved for out of town attendees. Please call Mary Smessaert at 312.695.0491 or email mary.smessaert@nm.org for more information.

Audience
This comprehensive 2-day course is designed for both novice and experienced surgeons, residents and fellows in neurosurgery and otolaryngology.

Registration Fee
The fee is $2,000 for physicians, $1,000 for trainees, $3,500 for pair registration (neurosurgery and otolaryngology - head and neck surgery), and $1,500 for Northwestern Alumni. Breakfast, refreshments and lunch are provided. Space is limited. Registration closes October 19, 2020.

Registration Procedure
To register online, please visit www.nmskullbase.org/advanced-training. If paying with check, please mail your check, made payable to Northwestern University - Department of Neurological Surgery, to the address below. Registration closes October 19, 2020.

Mary Smessaert
c/o Northwestern Memorial HealthCare
676 North St. Clair, Suite 1300
Chicago, Illinois 60611

Accreditation Statement
The Northwestern University Feinberg School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Designation Statement
The Northwestern University Feinberg School of Medicine designates this educational activity for a maximum of 19.25 AMA PRA Category 1 Credit(s)™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Family Attractions
Northwestern Medicine’s downtown campus is located in the heart of Chicago, within walking distance of a variety of restaurants, Navy Pier and the Magnificent Mile, Chicago’s premier shopping area. For a listing of all Chicago has to offer, visit cityofchicago.org

Register as a pair (neurosurgery and otolaryngology - head and neck surgery) and receive a discount.
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Registration Form

Registration Category
- Attending Physician $2,000
- Trainee $1,000
- Pair registration (neurosurgery and otolaryngology - head and neck surgery) $3,500
- Northwestern Alumni $1,500

How to Register
- Online: [www.nmskullbase.org/advanced-training](http://www.nmskullbase.org/advanced-training)
- Mail with check (payable to Department of Neurological Surgery)
  Mary Smessaert
c/o Northwestern Memorial HealthCare
676 North St. Clair Street
Suite 1300
Chicago, Illinois 60611

For Questions:
- Email: Mary.Smessaert@nm.org
- Phone: 312.695.0491

Your registration confirmation will be emailed

Please advise us of your needs

How did you hear about our program?
- Brochure
- Email
- Website
- Twitter
- Word of Mouth
- Previous Attendee
- Other

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