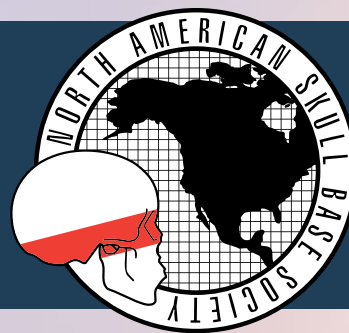


NORTH AMERICAN SKULL BASE SOCIETY
25th Annual Meeting



"Skull Base: The Whole is Greater
Than the Sum of the Parts"

February 20-22, 2015

Tampa Convention Center, Tampa, FL

Pre-Meeting Course February 18-19, 2015

USF Health Center for Advanced Medical Learning and Simulation



FINAL PROGRAM

PRESIDENT: Michael Link, MD

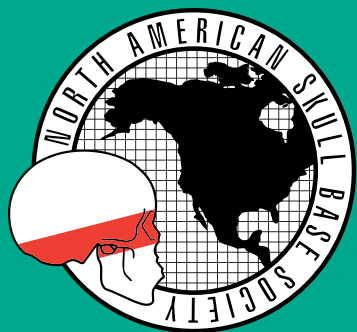
PROGRAM CHAIR: Siviero Agazzi, MD, MBA

SCIENTIFIC PROGRAM COMMITTEE: President, Michael Link, MD, President Elect, Carl Snyderman, MD, MBA, Secretary, James Evans, MD, Treasurer, Ian Witterick, MSc, FRCS, Meeting Chairman, Siviero Agazzi, MD, MBA, Co-Chairman for Neurosurgery, Vikram Prabhu, MD, Co-Chairman for Neurosurgery, Manuel Ferreira, MD, Co-Chairman for Head and Neck, Chris Rassekh, MD, Co-Chairman for Head and Neck, Ian Witterick, MSc, FRCS, Co-Chairman for Neuro-Otology, Matt Carlson, MD, MS, and Co-Chairman for Neuro-Otology, George Wanna, MD

PRE-MEETING COURSE CHAIRS: Bharat Guthikonda, MD, Eric Moore, MD, Philip Theodosopoulos MD, and Lee Zimmer, MD, PhD

TABLE OF CONTENTS

General/CME Information	1
Meeting Leadership	1
Meeting Hours	2
Award Winners	3
Distinguished Service Award	3
Honored Guest Lecturers	4
Speaker Highlight	6
Meeting Faculty & Disclosures	7
Disclosures	8
Faculty Listing	11
Exhibit Hall Floor Plan	14
Exhibitor Profiles	15
Convention Center Floor Plan	18
Schedule-at-a-Glance	19
Pre-Meeting Workshop	22
Scientific Program	24
Poster Sessions	46



CONTACT

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PHONE: 310-424-3326
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www.nasbs.org

HOTEL CONTACT

**Tampa Marriott Waterside
Hotel and Marina**
700 South Florida Ave.
Tampa, Florida 33602
PHONE: 813-221-4900

Welcome

Dear Colleagues:

Welcome to the **25th Annual NASBS Meeting** at the Tampa Convention Center in Tampa, Florida.

This year's pre-meeting practical course, held at the nearby, state-of-the-art Center for Advanced Medical Learning and Simulation (CAMLs) lab emphasizes the extremely varied skills necessary in skull base surgery. The first day includes cadaveric hands-on trans-nasal endoscopic dissections emphasizing techniques to identify and avoid vascular injury with the afternoon dedicated to temporal bone drilling and the access to the petroclival region. For the first time, the second day of the pre-meeting practical course is entirely devoted to learning microvascular anastomosis, necessary for cerebral bypass and vascularized free tissue transfers. Participants are able to perform microanastomoses on live rat vessels to hone their skills.

The theme of this year's meeting is, "The Whole is Greater than the Sum of the Parts." The multidisciplinary nature of the NASBS makes it unique among professional scientific organizations. The scientific program this year is meant to emphasize the rich interaction that occurs among the different specialties and how it greatly benefits patients battling difficult skull base pathologies. This year's Scientific Program Committee chaired by Dr. Siviero Agazzi, has put together a very exciting program. As in previous years, this year's meeting promises in-depth discussions via breakfast seminars, expert panel sessions, proffered papers and posters. This year's honored guests include Harry van Loveren (University of South Florida), L. Dade Lunsford (University of Pittsburgh) and Edward R. Laws (Brigham and Women's). Each of these pioneers has contributed greatly to advancing skull base surgery and has a very unique perspective on the past 25 years. This year's non-medical keynote speaker is retired Astronaut Fred Haise who was on Apollo 13 during the aborted attempt to land on the moon. As portrayed in the award-winning movie of the same name, disaster was averted thanks to inspired and dedicated teamwork among the astronauts on the command module Odyssey, and the staff at Mission Control.

We are looking forward to a collegial opening reception on Friday evening and a relaxing cruise on the waters of Tampa Bay with food and drinks Saturday evening; still leaving time for anyone interested in taking the trolley to Ybor City to participate in the night parade!

Enjoy your time in Tampa!



Michael J. Link, MD
President, North American Skull Base Society

ANNUAL MEETING OBJECTIVES

At the conclusion of this activity, participants should be able to:

- Understand and explain the most recent recommendations for the management of skull base pathologies.
- Express knowledge of the technical aspects of the surgical and radiosurgical management of these pathologies as learned from the experience of leaders in the field.
- Describe the 3D anatomy of the skull base and neurovascular structures pertaining to the management of skull base pathologies.
- List and apply the fundamentals of quality measurement and their specific application to the skull base pathologies.
- Express knowledge about recent developments in the management of skull base pathologies as presented.

WHO SHOULD ATTEND

The NASBS meeting is open to NASBS members and non-members.

TARGET AUDIENCE

- Head and neck surgeons, neurosurgeons, reconstructive surgeons, radiotherapists, radiologists, medical oncologists, physical rehabilitation physicians, ophthalmologists, neurologists, maxillofacial surgeons, maxillofacial prosthodontists and endocrinologists.
- Targeted allied health professionals will include physical therapists, oncology nurses, oral health specialists, occupational therapists, speech and language pathologists, optometrists, psychologists and anaplasologists.

ACCREDITATION STATEMENT

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint providership of the American College of Surgeons and the North American Skull Base Society. The American College Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA CATEGORY 1 CREDITS™

The American College of Surgeons designates this live activity for a maximum of **23.25 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

TRANSPORTATION

Explore Historic Ybor City, Channel District and Downtown Tampa on the **TECO Line Streetcar System for 50% off 1-Day unlimited rides and the One-Way Cash Fare**. Take advantage of this great savings and tour Tampa's downtown attractions, restaurants, retail shops, and bars along the Streetcar line. **Simply show your convention credentials to the motorperson upon boarding the Streetcar.**

This 50% savings is good for the convention delegate only. Guests may choose from several fare options conveniently located at Ticket Vending Machines at each station stop. Convention delegates can purchase the discounted passes at the Ticket Vending Machines at each station stop with a credit card, or with exact change directly from the Motorperson.

THE FINAL
PROGRAM AND
ABSTRACTS CAN
BE VIEWED BY
VISITING
NASBS.ORG



American College of Surgeons
Division of Education

MEETING LEADERSHIP

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Co-Chairman for Neurosurgery
Maneul Ferreira, MD
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Chris Rassekh, MD
Co-Chairman for Head and Neck
Ian Witterick, MSc, FRCS
Co-Chairman for Head and Neck
Matt Carlson, MD, MS
Co-Chairman for Neuro-Otology
George Wanna, MD
Co-Chairman for Neuro-Otology
Lee Zimmer, MD, PhD
Pre-Course Co-Chairman
Bharat Guthikonda, MD
Pre-Course Co-Chairman
Philip Theodosopoulos, MD
Pre-Course Co-Chairman
Eric Moore, MD
Pre-Course Co-Chairman

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Scientific Program Chair – Tampa, FL

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2000	Robert F. Spetzler, MD
2001	Ian T. Jackson, MD
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2003	Jon H. Robertson, MD
2004	Jatin Shah, MD
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2006	Anil Nanda, MD
2007	Guy J. Petruzzelli, MD
2008	Franco DeMonte, MD
2009	Daniel Nuss, MD
2010	Peter Neligan, MD
2011	Dennis Kraus, MD
2012	Carl Heilman, MD
2013	Ehab Hanna, MD, FACS
2014	Michael Link, MD

MEMBERSHIP BENEFITS

- **Scientific Journal:** Members will receive the official journal of the society, *The Journal of Neurological Surgery*, a biyearly publication that contains peer reviewed original articles, review articles, and position papers. It will also present news and information on an international scope to keep members aware of recent and upcoming events, activities, and evolving developments in skull base surgery.
- **Continuing Medical Education:** Members will receive listings of continuing medical educational opportunities in skull base surgery, as well as scientific courses sponsored by NASBS and will receive reduced registration fees for national scientific meetings.
- **Membership Directory:** An annual directory of the membership will be provided.
- **NASBS Website Access:** Members will have access to Member-Only discussion areas on the Society's website.

Please visit www.nasbs.org/about/membershipinfo.php for more information or email membership@nasbs.org.

WHY JOIN NASBS?

Membership is based on an interest in skull base surgery and related sciences. Individuals with backgrounds in neurosurgery, otolaryngology-head and neck surgery, radiology, neuroradiology, otology, neurotology, plastic and reconstructive surgery, and others interested in skull base diseases are welcome to apply.

REGISTRATION HOURS

Pre-Function Ballroom A & B

Thursday, February 19, 2015

2:00 pm – 6:00 pm

Friday, February 20, 2015

6:30 am – 7:45 pm

Saturday, February 21, 2015

6:30 am – 6:00 pm

Sunday, February 22, 2015

6:30 am – 12:30 pm

EXHIBIT HALL/POSTER HOURS

Ballroom B

Friday, February 20, 2015

9:00 am – 4:00 pm

Hall Open

6:30 pm – 7:45 pm

Hall Open

9:00 am – 9:30 am

Break in Exhibit Hall

12:00 pm – 1:00 pm

Lunch for Non-Members and Poster Viewing in Exhibit Hall

3:30 pm – 4:00 pm

Refreshment Break in Exhibit Hall

6:30 pm – 7:45 pm

Reception in Exhibit Hall

Saturday, February 21, 2015

9:00 am – 4:30 pm

Hall Open

9:00 am – 9:30 am

Refreshment Break in Exhibit Hall

12:15 pm – 1:30 pm

Lunch/Poster Viewing

4:00 pm – 4:30 pm

Refreshment Break in Exhibit Hall

Sunday, February 22, 2015

8:00 am – 11:00 am

Hall Open

10:00 am – 10:30 am

Refreshment Break in Exhibit Hall

DISTINGUISHED SERVICE AWARD

Jon Hobson Robertson, MD

Dr. Jon Hobson Robertson graduated from the University of Tennessee Medical School in 1971. He completed his residency in Neurosurgery at the University of Tennessee in 1979. Following his residency he joined the Semmes-Murphey Clinic and was appointed Assistant Professor in the UT Department of Neurosurgery. He was promoted to Associate Professor in 1984, and became Professor and Chairman of the UT Department of Neurosurgery in 1997. He stepped down as Chair of the UT program in July, 2011. Although he has limited his clinical practice in skull base surgery, he continues to enjoy his teaching role as a senior faculty member.

Dr. Robertson was President of the North American Skull Base Society in 2002, President of the Society of University Neurosurgeons in 2005, President of the American Association of Neurological Surgeons in 2008, and a Director on the American Board of Neurological Surgeons 2000-2006. In April 2013, the American Association of Neurological Surgeons awarded Dr. Robertson, with its highest member honor, the Harvey Cushing Medal. He currently continues in the service of organized neurosurgery as the Chairman of the Neurosurgery Research and Education Foundation.

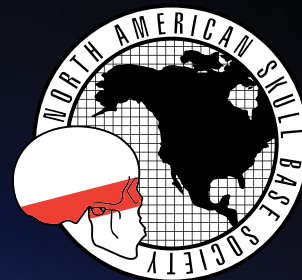
Parents of five children and grandparents of twelve, Dr. Robertson and his wife, Carol Ann, have been married for 47 years. Dr. Robertson enjoys fly-fishing, music, and spending time with his family.



Jon Hobson
Robertson, MD

NASBS Skull Base Surgery SUMMER WORKSHOP

July 9-12, 2015 • LSU Health Sciences Center, New Orleans, LA



SAVE
THE
DATE

**Do you have a Neurosurgery Resident or Head & Neck Fellow
in need of Skull Base Surgery hands-on training?**

Then send them to the NASBS Skull Base Summer Workshop at LSU.

This course is not to be missed!

Registration will be first-come, first served and will open in April.

For more information, visit www.nasbs.org/future_meetings or contact Course Coordinator, Paula Kupiec at 310-424-3326, ext. 161 or paula@nasbs.org.

HARRY VAN LOVEREN, MD

Friday, February 20, 9:30 am

Harry van Loveren was born in the Netherlands in 1953, the natural product of a Marine Corps master-sergeant father and an Asian mother. He immigrated to the United States with his family and maintained immigrant values. His college education was varied, ranging from political science at Holy Cross to Chemistry at the University of Cincinnati (UC), with time off in between to try a traditional family career as a carpenter. Medical school was a very late decision. After completing medical school, he trained with the Mayfield Clinic (then the Mayfield Neurological Institute) because Frank Mayfield, M.D. represented all that was good about being a physician, and because of John Tew, M.D., the chairman. A fellowship rotation in the neurophysiology laboratory of Jean Sigfried and Helmut Haas in Zurich convinced him that personal success in Neuroscience would best be achieved by collaboration rather than competition, a recognition that resulted in a continuing collaboration with Jeffrey Keller, Ph.D., an anatomist at Mayfield. He remained at the Mayfield Clinic and participated in its amalgamation with the University of Cincinnati Department of Neurosurgery. His clinical and research interests include pain, functional neurosurgery, trauma, vascular neurosurgery, and skull base surgery.

Dr. van Loveren moved to Tampa in 2002 to accept a position as Professor of Neurosurgery and Program Director for the Department of Neurosurgery Residency Program at the University of South Florida. He was subsequently appointed Chair of the USF Department of Neurosurgery in 2003. In 2013, Dr. van Loveren was appointed Interim Dean of the USF Morsani College of Medicine while the University conducted a National search for a permanent Dean. He filled this position until May 2014. Dr. van Loveren presently serves as the David W. Cahill Professor and Chairman of the Department of Neurosurgery and Brain Repair at the University of South Florida and was recently appointed Associate Dean of Surgical Sub-Specialties to provide additional administrative and clinical leadership to the Departments of Urology, Otolaryngology, and Ophthalmology in addition to his continued role in Neurosurgery. Since 1982, Dr. van Loveren has contributed over 115 academic papers in various publications. He has also written 36 book chapters, and in 1993, he and his mentor, Dr. John Tew wrote the Atlas of Operative Microneurosurgery, Volume I, Aneurysms and Arteriovenous Malformations, the first-place winner of the Association of Medical Illustrators award for a medical atlas. Atlas of Operative Microneurosurgery, Volume II, was released in January 2001. Dr. van Loveren has lectured at more than 200 conferences across the United States and around the world. In addition, he has had 17 visiting professorships in seven countries, conducted over 60 practical courses, and organized more than 20 professional symposia. He has mentored 24 skull base fellows and six post-graduate fellows, and has served as an investigator or co-investigator in more than 30 clinical research projects. Dr. van Loveren has served in many professional and scientific societies, including the AMA, AANS, AACNS, CNS, North American Skull Base Society, Academy of Medicine of Cincinnati, Frank H. Mayfield Society, Ohio State Medical Association, AANS/CNS Joint Section on Cerebrovascular Surgery, AANS/CNS Joint Section on Tumors, and the American Heart Association.



Harry van Loveren,
MD

Honored Guest Lecturers

L. DADE LUNSFORD, MD, FACS

Saturday, February 21, 9:30 am

Dr. Lunsford is the Lars Leksell Professor of Neurological Surgery and Distinguished Professor at the University of Pittsburgh. He currently is Director of the Center For Image-Guided Neurosurgery at the University of Pittsburgh Medical Center, and Director of the Neurological Surgery Residency Training Program. Dr. Lunsford's primary scholarly and patient care interests have been related to the combination of imaging and brain surgery for tumors, vascular malformations, and functional disorders. This includes stereotactic surgery, stereotactic radiosurgery, and image-guided brain surgery.

A native of Roanoke, Virginia, Dr. Lunsford received his B.A. with high honors at the University of Virginia in 1970. He received his medical degree from the Columbia University College of Physicians and Surgeons in 1974. He completed his surgical internship at the University of Virginia Hospital, and his residency in neurosurgery at the University of Pittsburgh under Dr. Peter Jannetta in 1980. Dr. Lunsford then undertook a one year AANS Van Wagenen fellowship in stereotactic and functional neurosurgery and radiosurgery at the Karolinska Institute in Stockholm, Sweden. After stepping down as the Department chair in 2006, Dr. Lunsford has devoted additional time to clinical research and resident and fellow education.

Dr. Lunsford has authored or co-authored more than 550 peer-reviewed articles, 260 book chapters, and authored or edited 12 books. Dr. Lunsford also served as President of the UPMC Presbyterian Medical Staff and Chair of the Council of Clinical Chairs at the University of Pittsburgh School of Medicine. He is currently the neurosurgical consultant for the University of Pittsburgh athletic teams as well as the Pittsburgh Penguins hockey team.



L. Dade Lunsford, MD,
FACS

EDWARD LAWS, MD, FACS

Sunday, February 22, 10:30 am

Dr. Laws received his bachelor's degree from Princeton University with honors in Economics and Sociology in the Special Program in American Civilization, and then attended the Johns Hopkins University School of Medicine in Baltimore, Maryland. He did his surgical internship and neurosurgical residency at Johns Hopkins under A. Earl Walker. After completing his residency he joined the faculty at the Johns Hopkins Medical School. In 1972, he joined the staff of the Mayo Clinic in Rochester, Minnesota where ultimately he became Professor of Neurosurgery and developed major interests in pituitary surgery and epilepsy surgery along with a continuing interest in the metabolism and pathophysiology of primary brain tumors. In 1987 he became Professor and Chairman of the Department of Neurosurgery at the George Washington University in Washington, DC, and in 1992 joined the faculty of the University of Virginia as Professor of Neurosurgery and Professor of Medicine, establishing a Neuro-Endocrine Center there. Subsequently, he was Professor of Neurosurgery at Stanford University, and in 2008 established the Pituitary/Neuroendocrine Center at the Brigham and Women's Hospital in Boston where he currently is Professor of Neurosurgery at Harvard Medical School. During his surgical career he has operated upon more than 7000 brain tumors, of which 5400 have been pituitary lesions. Dr. Laws has served as President of the World Federation of Neurosurgical Societies, President of the Congress of Neurological Surgeons, Editor of Neurosurgery, Chairman of the Board of Trustees of the Foundation for International Education in Neurosurgery, Director of the American Board of Neurological Surgery, President of the American Association of Neurological Surgeons, and President of the Pituitary Society. He has authored over 500 scientific papers and book chapters, and is co-editor of the encyclopedic volume, "Brain Tumors" which is in its third edition. He has been the fifth neurosurgeon to become President of the American College of Surgeons, and was elected to membership in the Institute of Medicine of the National Academy of Science. He remains actively involved in pituitary tumor and neuroendocrine research and surgery.



Edward Laws, MD,
FACS

KEYNOTE SPEAKER: FRED HAISE

Saturday, February 21, 11:15 am

Fred Haise, portrayed by actor Bill Paxton in the blockbuster Ron Howard film, *Apollo 13*, served as the lunar module pilot during the ill-fated 1970 space mission. He retired as president of Northrop Grumman Technical Services (GTS), a wholly owned subsidiary company of The Northrop Grumman Corporation.

Born in Biloxi, Mississippi, Haise graduated with honors in aeronautical engineering from the University of Oklahoma in 1959. After completing his U.S. Navy flight training in 1954, he served as a U.S. Marine Corps fighter pilot in VMF-533 and VMF-114. He had further assignments as a tactics and all-weather flight instructor at NAS Kingsville in advanced training units 100 and 102. In 1961, he was recalled into the U.S. Air Force with the Ohio ANG 164th TAC Fighter Squadron. He completed postgraduate courses in the USAF Aerospace Test Pilot School at Edwards Air Force Base in 1964 and the Harvard Business School PMD Program in 1972. He has logged 9,100 hours of flying time in over 80 types of aircraft.

In 1973, Haise was involved in an aircraft crash of a BT 13 aircraft that had been modified for the *Tora! Tora! Tora!* movie by 20th Century Fox to look like a Japanese VAL dive-bomber. In the ensuing fire he was burned on over 65 percent of his body, and spent three months in the hospital recovering. It took him 14 months to regain flight status in 1974, and he went on to fly the Space Shuttle *Enterprise* in 1977. Other than scars, he has no physical disabilities as a result of that accident.

Haise began his 20-year NASA career as an aeronautical research pilot at Lewis Research Center in 1959. He performed further assignments as a research pilot at the NASA Flight Research Center in 1963 and as an astronaut at Johnson Space Center in 1966. He served as backup crew for the Apollo 8, 11, and 16 missions and flew as the lunar module pilot on the aborted Apollo 13 lunar mission in 1970. He also flew five flights as the commander of the Space Shuttle *Enterprise* in 1977 for the Approach and Landing Program at Edwards Air Force Base.

Fred Haise was presented with the Presidential Medal of Freedom in 1970 by President Richard Nixon. His honors include the American Institute of Aeronautics and Astronautics (AIAA) Haley Astronautics Award, the General Thomas D. White Space Trophy, the NASA Distinguished Service Medal, the NASA Exceptional Service Award, the NASA Special Achievement Award, and induction into the Astronaut Hall of Fame.

He is an associate fellow of the AIAA and a fellow of the Society of Experimental Test Pilots and The American Astronautical Society. In addition, he is a member of the Tau Beta Pi, Sigma Gamma Tau, and Phi Theta Kappa honor societies.



Fred Haise

Meeting Faculty & Disclosures

In accordance with the ACCME Accreditation Criteria, the American College of Surgeons, as the accredited provider of this activity, must ensure that anyone in a position to control the content of the educational activity has disclosed all relevant financial relationships with any commercial interest. Therefore, it is mandatory that both the program planning committee and speakers complete disclosure forms. Members of the program committee were required to disclose all financial relationships and speakers were required to disclose any financial relationship as it pertains to the content of the presentations. The ACCME defines a 'commercial interest' as "any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients". It does not consider providers of clinical service directly to patients to be commercial interests. The ACCME considers "relevant" financial relationships as financial transactions (in any amount) that may create a conflict of interest and occur within the 12 months preceding the time that the individual is being asked to assume a role controlling content of the educational activity.

ACS is also required, through our joint providership, to manage any reported conflict and eliminate the potential for bias during the activity. All program committee members and speakers were contacted and the conflicts listed below have been managed to our satisfaction. However, if you perceive a bias during a session, please report the circumstances on the session evaluation form.

Please note we have advised the speakers that it is their responsibility to disclose at the start of their presentation if they will be describing the use of a device, product, or drug that is not FDA approved or the off-label use of an approved device, product, or drug or unapproved usage.

The requirement for disclosure is not intended to imply any impropriety of such relationships, but simply to identify such relationships through full disclosure and to allow the audience to form its own judgments regarding the presentation.

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Co-Chairman for Neurosurgery

Maneul Ferreira, MD
Co-Chairman for Neurosurgery

Chris Rassekh, MD
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Ian Witterick, MSc, FRCSC
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Co-Chairman for Neuro-Otology

George Wanna, MD
Co-Chairman for Neuro-Otology

Lee Zimmer, MD, PhD
Pre-Course Co-Chairman

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Eric Moore, MD
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Disclosures

The following presenters, faculty, or planning committee members have disclosed the listed financial relationships with commercial interests associated with their participation at the **25th Annual NASBS Meeting** and **Pre Meeting Course**.

“★” behind name denotes a member of the planning committee.

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Giuseppe Lanzino	Covidien Edge Therapeutics Codman/Johnson and Johnson	Consulting Fee Other - No Compensation Consulting Fee	Consultant Consultant Consultant
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Andrew S. Little	Kogent Surgical Spiway	Ownership Interest Ownership Interest	Investor/Stock Holder Consultant
James K. Liu	Biomet	Honoraria	Speaking/Teaching

NAME	COMPANY	RECEIVED	ROLE
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Marc Schwartz	Cochlear Americas	Consulting Fee	Consultant
Laligam Sekhar	SPI Surgical, Inc. Viket Medical, Inc.	Ownership Interest Ownership Interest	Stockholder Stockholder
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Carl Snyderman	SPIWay, LLC	Ownership Interest	Consultant
Mark Tabor	Medtronic	Consulting Fee	Consultant

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The following faculty, presenters or planning committee members do not have any relevant financial relationships or significant commercial interest associated with their participation at the **25th Annual NASBS Meeting** and **Pre Meeting Course**.

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Shamsul Alam	Robert Behr	Lola B. Chambless	Mohamed Samy Elhammady
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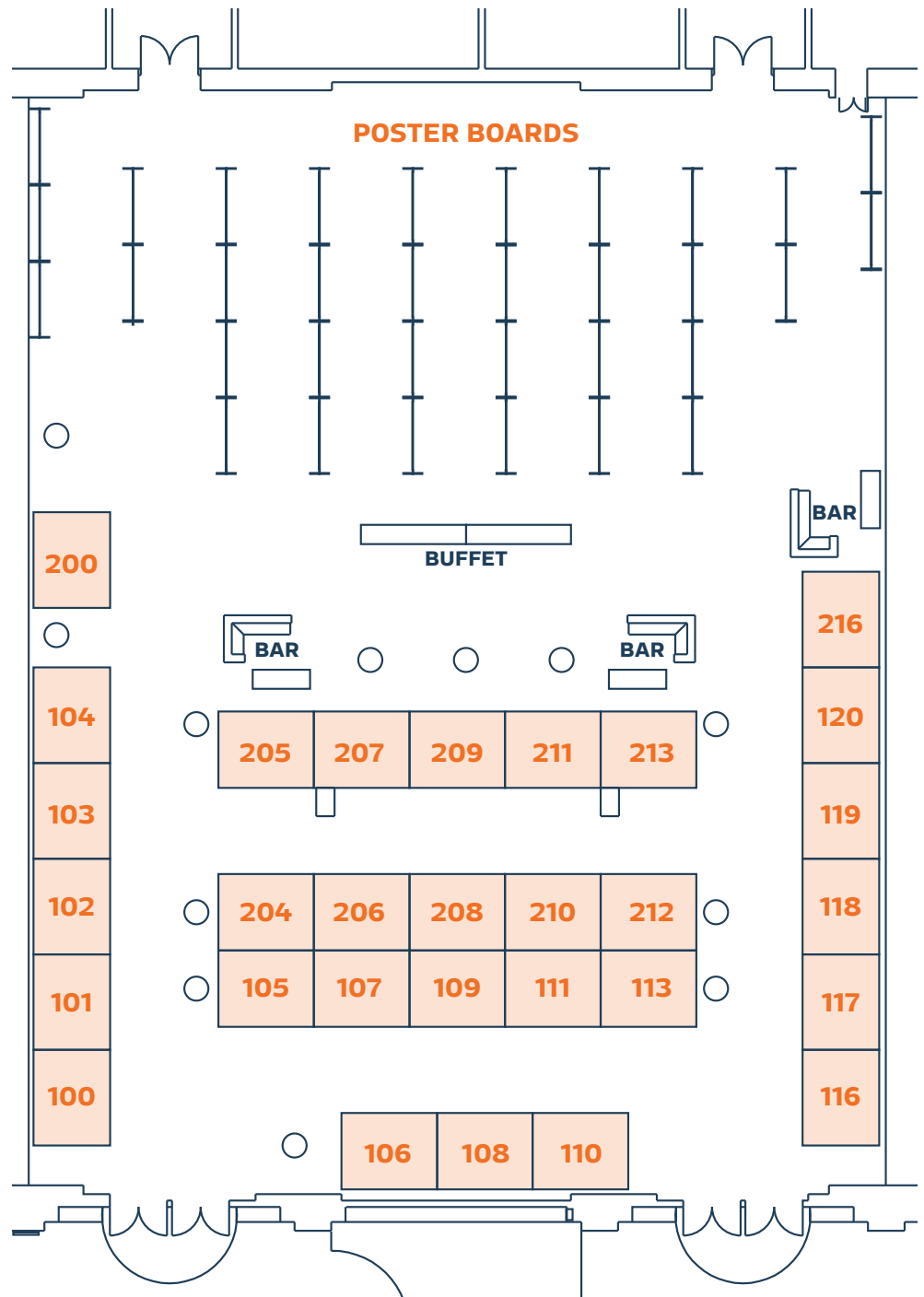
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100, 101, 102	Stryker
103	Bromedicon
105	Biomet Microfixation
106	KARL STORZ Endoscopy-America, Inc.
107	Surgical Theater
108	Hummingbird Neuromonitoring
109	Integra LifeSciences
110	Leica Microsystems
111	Medtronic Surgical Technologies – ENT and Neurosurgery
113	Medtronic Surgical Technologies – Advanced Energy
116	Mizuho America, Inc.
117	pro med instruments
118	IMRIS
119	Kelyniam Global, Inc.
120	Thieme
200	Accuray
204	Cook Medical
205	OsteoMed
206	Synaptive Medical
207, 209	DePuy Synthes/Codman
208	NICO CORPORATION
210	Fehling Surgical Instruments
211	Monteris Medical
212	Apex Medical, Inc.
213	Elekta, Inc.
216	KLS Martin



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1310 Chesapeake Terrace
Sunnyvale, CA 94089
PHONE: 408-716-4600
FAX: 408-716-4601
WEB: www accuray.com

Accuray is a radiation oncology company that develops, manufactures and sells personalized, innovative treatment solutions that set the standard of care with the aim of helping patients live longer, better lives.

BOOTH #200

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FAX: 610-240-4757
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FAX: 904-741-4500
WEB: www.biometmicrofixation.com

Biomet Microfixation is a global medical device company specializing in the design and manufacture of state of the art, clinically proven products. Biomet is an innovative leader in creating real solutions in the areas of neuro, craniomaxillofacial, and thoracic implants and devices.

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FAX: 215-860-2703
WEB: www.bromedicon.com

With more than 25 years experience we've gained as a international provider, Bromedicon has established itself as the professional team in IONM Services. Utilizing the most advanced monitoring techniques and equipment turns our vision into reality one patient at a time, and one surgeon at a time including ENT surgeons.

BOOTH #103

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PHONE: 800-468-1379 or 812-339-2235
FAX: 812-339-2235
WEB: www.cookmedical.com

Cook Medical, a global pioneer in medical breakthroughs, launched an Otolaryngology/Head & Neck Surgery (OHNS) clinical division in 2012 after recognizing the need for better minimally invasive products and procedures in otolaryngology. Today, product development and improvement is focused on soft tissue repair, obstructive salivary gland disease, chronic sinusitis, vocal fold paralysis, obstructive sleep apnea, and interventional airway and esophageal procedures.

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FAX: 610-719-6533
WEB: www.depuyssynthes.com

DePuy Synthes/Codman, part of the Medical & Diagnostics (MD&D) segment of Johnson & Johnson, offers an unparalleled breadth of products, services, programs and research and development capabilities, that are designed to advance patient care and deliver clinical and economic value to health care systems throughout the world.

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Elekta, Inc.

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Atlanta, GA 30346
PHONE: 770-300-9725
FAX: 770-448-6338
WEB: www.elekta.com

Elekta pioneers significant innovations and clinical solutions for treating neurological disorders and cancer. The company develops advanced tools and treatment planning systems for radiosurgery, functional neurosurgery and radiation therapy including Gamma Knife® surgery. Through its products and services, Elekta aims to improve, prolong and save patient lives.

BOOTH #213

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509 Broadstone Lane
Acworth, GA 30101
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FAX: 770-794-0122
WEB: www.fehlingsurgical.com

Fehling Surgical is a leader in specialized neurosurgical instrumentation and bipolars. Our instruments are designed for delicate intracranial dissection, maximum visibility, control, and variable access depths. Our top of the line SuperGliss bipolar is available in four different styles to tailor to the exact need of the surgeon.

BOOTH #210

Hummingbird Neuromonitoring

1622 Edinger Avenue, Suite C
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PHONE: 877-486-2473
FAX: 888-391-5238
WEB: www.hummingbirdneuromonitoring.com

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BOOTH #108

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PHONE: 612-803-2120
WEB: integrallife.com

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El Segundo, CA 90245
PHONE: 800-421-0837
FAX: 424-218-8537
WEB: www.karlstorz.com

KARL STORZ is a leader in endoscopy solutions for a range of specialties including otorhinolaryngology and neurosurgery. We offer products for the latest minimally invasive neurosurgery procedures. And, for over 70 years, KARL STORZ has produced a full range of precision instruments and telescopes of superior quality for state-of-the-art otorhinolaryngology.

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PHONE: 800-280-8192
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Kelyniam is an innovator in patient specific Cranial Bone Replacement. As leaders we prioritize the patient and their surgeons allowing them options for quicker surgery (sometimes in as little as 24 hours). Our expert knowledge and utilization of 3D technology leads to a service that is tangible and rewarding.

KLS Martin

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PHONE: 904-641-7746
FAX: 904-641-7378
WEB: www.klsmartinnorthamerica.com

KLS Martin is a company dedicated to providing innovative medical devices and power systems for craniomaxillofacial surgery. The company's rich history began with surgical instrument production in Tuttlingen, Germany in 1896 and continued with miniplate production in 1975. KLS Martin has advanced the capabilities of distraction osteogenesis, and revolutionized resorbable fixation with the SonicWeld Rx system.

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FAX: 847-405-2075
WEB: www.leica-microsystems.com

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Medtronic Surgical Technologies – ENT and Neurosurgery

6743 Southpoint Drive North
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FAX: 904-281-2771
WEB: www.medtronic.com

Medtronic ENT is a leading developer, manufacturer and marketer of surgical products for use by ENT specialists. Medtronic ENT markets over 5,000 surgical products worldwide addressing the major ENT subspecialties – Sinus, Rhinology, Laryngology, Otolaryngology, Pediatric ENT and Image Guided Surgery.

Mizuho America, Inc.

30057 Ahern Avenue
Union City, CA 94587
PHONE: 510-324-4500
FAX: 510-324-4545
WEB: www.mizuho.com

Mizuho America, Inc. is a cerebrovascular focused instrumentation company whose main products include Sugita T2 Aneurysm Clips, 7201B Operating Table, Cranial Stabilization Systems, Micro Instruments, Kelly Endonasal Set, Lawton Neurovascular Bypass Set, Evans Rotatable Set, Day-Bailes Suction Tubes, NSK Surgical Drill System, ICP-Monitoring System, and Intracranial & Vascular Dopplers. Mizuho. Confidence.

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PHONE: 719-649-6967
FAX: 732-399-8070
WEB: www.monteris.com

Monteris Medical manufactures minimally-invasive devices for MR-guided neurosurgery including: The NeuroBlate® System for robotic laser thermotherapy of brain tumors/lesions; AXiiiS® Stereotactic Miniframe skull-mounted platform for image-guided trajectory alignment; AtamA™ Patient Transfer & Head Stabilization System.

BOOTH #211

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2825 Airview Blvd.
Kalamazoo, MI 49002
PHONE: 269-385-2600
FAX: 269-385-1062
WEB: www.stryker.com

Stryker is one of the world's leading medical technology companies and together with our customers, we are driven to make healthcare better. The Company offers a diverse array of innovative medical technologies, including reconstructive, medical and surgical, and neurotechnology and spine products to help people lead more active and more satisfying lives.

BOOTHS #100, 101, 102

NICO CORPORATION

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PHONE: 317-660-7118
FAX: 317-682-0305
WEB: www.niconeuro.com

NICO Corporation is progressing corridor surgery by creating instruments that allow for access through smaller openings and resection of soft tissue abnormalities. NICO's goal is to develop new technology for corridor surgery in market segments including ENT, Spinal, Cranial and Otolaryngology that comprise approximately 500,000 procedures in the U.S. annually and 2.3 million worldwide.

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PHONE: 972-677-4600
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Synaptive Medical

101 College Street, Suite 200
Toronto, ON M5G 1L7, CANADA
PHONE: 416-673-6679
WEB: www.synaptivemedical.com

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BOOTH #206

pro med instruments

4529 SE 16th Place, Suite 101
Cape Coral, FL 33904
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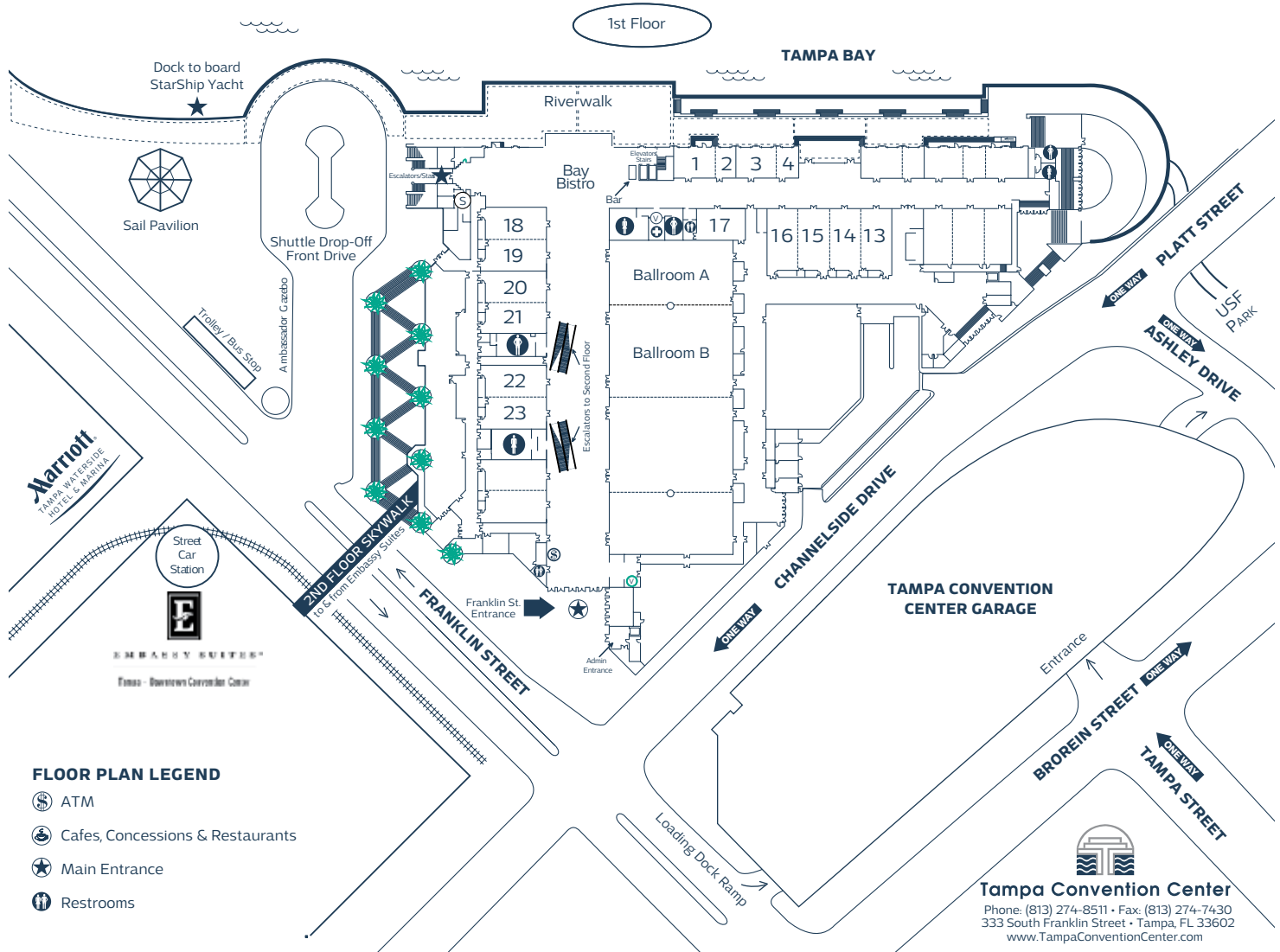
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BOOTH #120

Convention Center Floor Plan



Schedule – at – a – Glance

FRIDAY, FEBRUARY 20, 2015

6:30 am	Registration Open	Pre-Function Ballroom A & B
6:45 am	Continental Breakfast	Located in all Breakfast Seminar Rooms 13/14, 15/16, 18/19, and 20/21
7:00 am – 8:00 am	BREAKFAST SEMINARS	

BS1: Vestibular Schwannoma: Best Treatment for Small and Medium Size Tumors	Room 13/14
BS2: Orbital Exenteration: When, Why and How	Room 15/16
BS3: Craniopharyngiomas	Room 18/19
BS4: Challenging Pituitary Tumors: Large, Small Secreting, Recurring	Room 20/21

8:00 am – 9:00 am CONCURRENT SESSIONS

CS1: Reconstruction of Large Craniofacial Defects	Room 13/14
CS2: Role of Bypass Surgery in Skull Base Pathology	Room 15/16
CS3: Proton Beam Radiation – Not Just for Chordoma Any More	Room 18/19
CS4: Trigeminal Schwannomas	Room 20/21

9:00 am – 9:30 am Break with Exhibitors Ballroom B

9:30 am – 12:00 pm PLENARY SESSION Ballroom A

9:30 am	Honored Guest Lecturer: “Skull Base Surgery Teams: The Critical Role of the Leader” – Harry van Loveren, MD
10:00 am	NF-2 Panel – Derald Brackmann, MD, Fred Barker, MD & Douglas Kondziolka, MD
11:00 am	3D Anatomy – Albert Rhoton, MD

12:00 pm – 1:00 pm NASBS Annual Business Meeting & Lunch Room 22/23 for All Members

Lunch in the Exhibit Hall Ballroom B for Non-Members, with Industry

1:00 pm – 2:00 pm CONCURRENT SESSIONS

CS5: Decision Making in Facial Re-Animation	Room 13/14
CS6: Mucocoeles or Infectious Sinus Disease	Room 15/16
CS7: The Supermatrix – Managing Complex Complications in Skull Base Surgery	Room 18/19
CS8: Management of Orbital Tumors Complications and Difficult Diagnoses	Room 20/21

2:00 pm – 3:30 pm PROFFERED PAPERS

PROFFERED PAPER I: Meningioma I	Room 13/14
PROFFERED PAPER II: Pituitary I	Room 15/16
PROFFERED PAPER III: Vestibular Schwannoma I	Room 18/19
PROFFERED PAPER IV: Reconstruction/CSF Leak I	Room 20/21
PROFFERED PAPER V: Miscellaneous I	Room 22/23

3:30 pm – 4:00 pm Break with Exhibitors Ballroom B

4:00 pm – 5:30 pm PROFFERED PAPERS

PROFFERED PAPER VI: Endonasal Meningiomas	Room 13/14
PROFFERED PAPER VII: PEDS/Suprasellar	Room 15/16
PROFFERED PAPER VIII: Endoscopic Surgery	Room 18/19
PROFFERED PAPER IX: Reconstruction/CSF Leak II	Room 20/21
PROFFERED PAPER X: Miscellaneous II	Room 22/23

5:30 pm – 6:30 pm Skull Base Jeopardy Ballroom A

6:30 pm – 7:45 pm Welcome Reception & Poster Viewing in Exhibit Hall Ballroom B

Schedule – at – a – Glance

SATURDAY, FEBRUARY 21, 2015

6:30 am	Registration Open	Pre-Function Ballroom A & B
6:45 am	Continental Breakfast	Located in all Breakfast Seminar Rooms 13/14, 15/16, 18/19, and 20/21
7:00 am – 8:00 am	BREAKFAST SEMINARS	

BS5: Vestibular Schwannoma: Management of the Most Challenging Cases	Room 13/14
BS6: Esthesioneuroblastomas	Room 15/16
BS7: Management of Challenging Aneurysms	Room 18/19
BS8: CSF Leak Management in Anterior and Lateral Skull Base Surgery	Room 20/21

8:00 am – 9:00 am CONCURRENT SESSIONS

CS9: Avoiding Complications in Lateral Skullbase Surgery	Room 13/14
CS10: Diagnosis and Management of Intracranial Hypertension	Room 15/16
CS11: Competency of Future Skull Base Surgeons: More Surgeons, Fewer Surgeries, Tougher Cases	Room 18/19
CS12: Clival Chordomas Management Strategies	Room 20/21

9:00 am – 9:30 am	Break with Exhibitors	Ballroom B
9:30 am – 12:15 pm	PLENARY SESSION	Ballroom A

9:30 am	Honored Guest Speaker: “Stereotatic Radiosurgery: Birth to Midlife Crisis?” – L. Dade Lunsford, MD
10:00 am	Presidential Address: “25 Years of NASBS: The Whole Is Greater Than the Sum of the Parts” – Michael Link, MD
10:45 am	International Guest: “Constructing Skull Base Centers of Excellence, What Are the Key Ingredients?” – Mario Sanna, MD
11:15 am	Keynote Speaker: “Failure Is Not an Option” – Fred Haise

12:15 pm – 1:30 pm	Lunch & Poster Viewing in the Exhibit Hall	Ballroom B
1:30 pm – 2:30 pm	CONCURRENT SESSIONS	

CS13: Novel Technologies and Imaging in Skull Base Surgery	Room 13/14
CS14: Outcomes in Lateral Skull Base Surgery: What Really Matters	Room 15/16
CS15: Multidisciplinary Approach to Perineural Invasion	Room 18/19
CS16: Controversies in Skull Base Pathologic Interpretations	Room 20/21

2:30 pm – 4:00 pm PROFFERED PAPERS

PROFFERED PAPER XI: Meningioma II	Room 13/14
PROFFERED PAPER XII: Pituitary II	Room 15/16
PROFFERED PAPER XIII: Vestibular Schwannoma II	Room 18/19
PROFFERED PAPER XIV: Vascular	Room 20/21

4:00 pm – 4:30 pm	Break with Exhibitors	Ballroom B
4:30 pm – 6:00 pm	PROFFERED PAPERS	

PROFFERED PAPER XV: Skull Base Malignancies	Room 13/14
PROFFERED PAPER XVI: Imaging	Room 15/16
PROFFERED PAPER XVII: Vestibular Schwannoma/QOL/TORS	Room 18/19
PROFFERED PAPER XVIII: Vascular/Trauma/Infectious Diseases/SSC	Room 20/21

6:00 pm – 7:00 pm	New Member Reception with Leadership	On board the StarShip docked outside the Convention Center Boarding for the New Member Reception is at 6:00 pm. You must have your badge to board.
7:00 pm	President’s Reception on the StarShip Yacht	On board the StarShip docked outside the Convention Center Enjoy a beautiful evening twilight cruise of Tampa Bay while networking with your peers. Boarding for the President’s Reception will begin at 7:00 pm. You must have your name badge or guest ticket with you to board. The yacht will set sail at 7:45 pm and return to dock at 9:00 pm. Cocktail/Business Attire (Bring a sweater or jacket).

Schedule – at – a – Glance

SUNDAY, FEBRUARY 22, 2015

6:30 am	Registration Open	Pre-Function Ballroom A & B
6:45 am	Continental Breakfast	Located in all Breakfast Seminar Rooms 13/14, 15/16, 18/19, and 20/21
7:00 am – 8:00 am	BREAKFAST SEMINARS	

BS9: Primary Tumors of the Facial Nerve	Room 13/14
BS10: Contemporary Management of SNUC	Room 15/16
BS11: Petroclival Meningiomas	Room 18/19
BS12: Management of Cervical Paragangliomas – Carotid Body Tumors and Glomus Vagale	Room 20/21

8:00 am – 9:00 am CONCURRENT SESSIONS

CS17: The Da Vinci Code: Seeking Truth in Traditional Dogma of Lateral Skull Base Surgery	Room 13/14
CS18: Chemotherapy – Where is it Useful in Skull Base Tumors	Room 15/16
CS19: Skull Base Surgery in Private Practice – How to Make it Work? How to Build a Practice?	Room 18/19
CS20: Skull Base Tumors in Pediatric Patients	Room 20/21

9:00 am – 10:00 am CONCURRENT SESSIONS

CS21: Jugular Foramen Tumors	Room 13/14
CS22: Temporal Bone Tumors	Room 15/16
CS23: Skull Base Surgery in Developing Countries – What Is Our Role?	Room 18/19
CS24: Cochlear Implants, Auditory Brainstem Implants, Auditory Midbrain Implants, What Does the Future Hold?	Room 20/21

10:00 am – 10:30 am **Break with Exhibitors** Ballroom B

10:30 am – 12:30 pm **PLENARY SESSION** Ballroom A

10:30 am	Poster Awards Announcement – Chris Rassekh, MD
10:30 am	Honored Guest Speaker: “The Evolution of Transsphenoidal Surgery, and Lessons Learned Along the Way” – Edward Laws, MD
11:00 am	Radiology – Jonathan Morris, MD
11:30 am	Medical Malpractice Special Session: “So, You Have Been Sued...Now What?” – The Honorable Gregory Holder, Circuit Court Judge, 13th Judicial Circuit of Florida, Henry Valenzuela Esq, Personal Injury Attorney, and Ronald Bush Esq, Medical Malpractice Defense Attorney

12:30 pm **Meeting Adjourned**

Pre-Meeting Workshop

Accreditation Statement: This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint providership of the American College of Surgeons and the North American Skull Base Society. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA Category 1 Credits™: The American College of Surgeons designates this live activity for a maximum of **19.75 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Of the **AMA PRA Category 1 Credits™** listed above, a maximum of 19.75 credits meet the requirements for Self-Assessment.

PRE-MEETING SURGICAL SIMULATION COURSE

Wednesday, February 18 & Thursday, February 19, 2015

COURSE DIRECTORS: Bharat Guthikonda, MD, Eric Moore, MD, Philip Theodosopoulos MD, & Lee Zimmer, MD, PhD

USF Health Center for Advanced Medical Learning and Simulation

The address for the USF Health Center for Advanced Medical Learning and Simulation is 124 South Franklin Street, Tampa, Florida 33602. It is a 6 minute walk from the Marriott Tampa Waterside Hotel and Marina. Leaving the Tampa Marriott Waterside Hotel & Marina, head towards the Tampa Convention Center and take a right onto S Franklin Street. Walking two blocks up S Franklin Street, CAMLS will be located on the right at the cross streets of S Franklin St and E Brorein St.

Pre-Meeting Course Objectives:

- Demonstrate knowledge of decision making for diagnosis of skull base lesions
- Apply open and endoscopic surgical techniques in the diagnosis of skull base tumors
- Understand the nuances of vascular anastomosis
- Explain various ways of reconstruction of the skull base to avoid complications

DAY ONE: WEDNESDAY, FEBRUARY 18, 2015

Endoscopic Skull Base Workshop & Temporal Bone Workshop

- 7:00 am – 7:15 am **Registration, Breakfast, & Course Overview** – Bharat Guthikonda, MD
- 7:15 am – 8:00 am **Endoscopic Endonasal Skull Base Surgery: From the Lab to the OR** – Juan C. Fernandez-Miranda, MD
- 8:00 am – 8:15 am **Skull Base Reconstruction** – Adam Zanation, MD
- 8:20 am – 9:00 am **Exposure & Management of Carotid Artery**
- 8:20 am **Cavernous & Parasellar Carotid** – Daniel Prevadello, MD
- 8:40 am **Endoscopic Endonasal Approaches to the Petrous Carotid** – Paul Gardner, MD
- 9:00 am – 12:30 pm **Endoscopic Lab**
- 9:00 am **Nasoseptal Flap Harvest**
- 9:30 am **Sellar & Parasellar Exposure**
- 11:00 am **Paraclival & Vidian Exposure**
- 12:30 pm – 1:30 pm **Lunch Session: Vascular Complications & CSF Leak Cases**
 Carl Snyderman, MD, MBA, James Liu, MD, and James Evans, MD
- 1:30 pm – 2:00 pm **Temporal Bone Anatomy** – Jeff Sorensen, MD
- 2:00 pm – 2:30 pm **Anterior Petrosectomy, Cavernous Sinus, & Mid Fossa** – Harry van Loveren, MD
- 2:30 pm – 3:00 pm **Posterior Petrosectomy** – Myles Pensak, MD
- 3:00 pm – 6:00 pm **Lateral Skull Base Lab**
- Cavernous Sinus
 - Middle Fossa & Anterior Petrosectomy
 - Posterior Petrosectomy & Trans Lab
 - Retrosigmoid
- 6:00 pm **Adjournment**

Pre-Meeting Workshop

DAY TWO: THURSDAY, FEBRUARY 19, 2015

Bypass For Revascularization & Free Flap Reconstruction & Anastomosis

- 7:00 am – 7:15 am **Breakfast, Course Overview, & Faculty Introductions** – Philip Theodosopoulos, MD
- 7:20 am – 7:40 am **Bypass Selection for Aneurysm Surgery** – Fady Charbel, MD
- 7:45 am – 8:05 am **Pre-operative Workup** – Sepideh Amin-Hanjani, MD
- 8:10 am – 8:30 am **Selecting a Bypass Graft** – Jacques Morcos, MD FRCS
- 8:35 am – 8:55 am **Treatment of Complex MCA Aneurysms: From Clipping to Non-Occlusive Bypass Options** – Luca Regli, MD
- 9:00 am – 9:20 am **Step by Step Technique of Rat Dissection & Bypass** – Mario Zuccarello, MD
- 9:20 am – 9:30 am **Transition to Lab**
- 9:30 am – 12:00 pm **Microvascular Lab Session #1** – All Faculty
- Rat Femoral Vessels Anastomosis
 - Biomet Anastomosis with Loupes
- 12:00 pm – 12:30 pm **Lunch Session: Techniques for Posterior Circulation Bypass** – Amir Dehdashti, MD
- 12:30 pm – 2:00 pm **Free Flap & Reconstruction Lectures**
- 12:30 pm **Principles of Microvascular Anastomosis** – Eric Moore, MD
- 12:50 pm **Common and Uncommon Donor & Recipient Vessels** – Jeffery Janus, MD
- 1:05 pm **ALTF** – Thomas Nagel, MD
- 1:20 pm **RFFF** – Eric Moore, MD
- 2:35 pm **Latissimus & Serratus** – Daniel Price, MD
- 1:50 pm **Questions & Case Discussion** – All Free Flap Faculty
- 2:00 pm – 5:00 pm **Microvascular Lab Session #2** – All Faculty
- Rat Femoral Vessels Anastomosis
 - Deep Bypass
- 5:00 pm **Complete Activity Post Test**
- 5:30 pm **Adjournment**

ACKNOWLEDGEMENT OF SUPPORTERS

The North American Skull Base Society would like to recognize and thank the following companies for their support through educational grants:

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FRIDAY, FEBRUARY 20, 2015

6:30 am **Registration Open**

Pre-Function Ballroom A & B

6:45 am **Continental Breakfast**

Located in all Breakfast Seminar Rooms 13/14, 15/16, 18/19, and 20/21

7:00 am – 8:00 am **BREAKFAST SEMINARS**

BS1: Vestibular Schwannoma: Best Treatment for Small and Medium Size Tumors

Room 13/14

MODERATOR: L. Dade Lunsford, MD – *Shifting the Paradigm*

SPEAKERS:

- John G. Golfinos, MD – *Why I Still Do Microsurgery*
- Bruce J. Gantz, MD – *Long Term Hearing Preservation*
- David S. Haynes, MD – *Observation: Benefits and Risks*

At the conclusion of this session, participants will be able to:

1. Evaluate options for VS management
2. Differentiate goals and results of management
3. Compare cranial nerve outcomes depending on management

BS2: Orbital Exenteration: When, Why and How

Room 15/16

MODERATOR: Patrick Gullane, MB, FRCS, FACS, FRACS

SPEAKERS:

- Dennis Kraus, MD, FACS – *Sino-Nasal Cancers, Extent of Pre-Operative Evaluation, Role of Imaging, Decision Making on When and How to Preserve the Orbit to Include Current Surgical Ablative and Reconstructive Options and Complications Associated with Preservation or Sacrifice. How to Decide?*
- Vikram Prabhu, MD – *Intra-Cranial Neoplasms Including Meningioma's Involving the Orbit- Role of the Neurosurgeon in Determining When to Sacrifice the Eye and Whether Prior Radiation Limits the Potential to Preserve the Globe?*
- Howard Krauss, MD – *Determine the Appropriate Pre-Operative Orbital and Ophthalmic Evaluation that Help Determine When Vision is Truly Salvageable Prior to Embarking on Complex Eye Sparing Procedures with Innovative Orbital Reconstructive Techniques Including Prosthetic Rehabilitation*

At the conclusion of this session, participants will be able to:

1. Understand the pre and intra-operative challenges associated in the decision making of orbital preservation in cancers arising in the sinus and surrounding structures that involve or invade the orbit
2. Be aware of intracranial neoplasms that potentially involve the orbit necessitating its sacrifice
3. Understand the many complex eye- sparing procedures with innovative orbital reconstructive techniques including prosthetic reconstruction

BS3: Craniopharyngiomas

Room 18/19

MODERATOR: Fred Gentili, MD – *Introduction*

SPEAKERS:

- James Liu, MD – *Choosing the Optimal Approach: Above or Below, Combined Approaches*
- Ossama Al-Mefty, MD – *Approach to Retrochiasmatic Craniopharyngiomas*
- Sebastien Froelich, MD

At the conclusion of this session, participants will be able to:

1. Be aware of the different surgical approaches for excision of craniopharyngioma
2. Determine the indications and limitations of open and endoscopic approaches
3. Formulate an action plan for the overall management plan to deal with these challenging lesions

BS4: Challenging Pituitary Tumors: Large, Small Secreting, Recurring

Room 20/21

MODERATOR: Roukoz Chamoun

SPEAKERS:

- William Couldwell – *Pituitary Adenomas: Surgical Nuances*
- Pete Batra – *Management of Challenging Pituitary Tumors: A Rhinologic Perspective*
- Bruce Pollock – *Pituitary Adenoma Radiosurgery: Expected Outcomes Based on a 25-year Experience*

At the conclusion of this session, participants will be able to:

1. Recognize the challenges of complex pituitary tumors
2. Formulate a therapeutic plan that includes surgery and/or radiosurgery
3. Learn surgical pearls to deal with challenging pituitary tumor cases

8:00 am – 9:00 am CONCURRENT SESSIONS

CS1: Reconstruction of Large Craniofacial Defects

Room 13/14

MODERATOR: Michael Harrington, MD, MPH – *Introduction*

SPEAKERS:

- Philippe Pasche, MD – *Microvascular Reconstruction of Anterior Craniofacial Defects*
- Eric Moore, MD – *Reconstruction of Lateral and Extended Skull Base Defects*
- *Questions and Answers*

At the conclusion of this session, participants will be able to:

1. Discuss reconstruction of anterior craniofacial defects
2. Discuss reconstruction of lateral skull base defects
3. Discuss reconstruction of extended skull base defects

CS2: Role of Bypass Surgery in Skull Base Pathology

Room 15/16

MODERATOR: Mario Zuccarello, MD

SPEAKERS:

- Andrew Carlson, MD – *Bypass Physiology and Decision-Making*
- Luca Regli, MD – *How to Construct the Ideal Bypass for Flow Replacement: Occlusive and None Occlusive Techniques*
- Laligam Sekhar, MD – *Revascularization for Posterior Circulation Aneurysms*
- Amir Dehdashti, MD – *Nuances of Subcranial-Intracranial Bypass*

At the conclusion of this session, participants will be able to:

1. Identify the physiology of cerebral bypass surgery
2. Apply current indications of cerebral bypass surgery
3. Select surgical techniques appropriate for cerebral bypass surgery

CS3: Proton Beam Radiation – Not Just for Chordoma Any More

Room 18/19

MODERATOR: Vinai Gondi

SPEAKERS:

- Pat Sweeney, MD – *Comparison of Proton Therapy versus Radiosurgery for Benign Tumors*
- Michelle Alonso-Basanta, MD, PhD – *Emerging Role of Proton Therapy for Low-Grade Glioma*
- Vinai Gondi, MD – *Clinical Trials of Proton Therapy for Newly Diagnosed Glioblastoma and Recurrent Malignant Glioma*

At the conclusion of this session, participants will be able to:

1. Understand the basic concepts of proton therapy
2. Identify potential non-chordoma clinical indications for considering proton therapy
3. Learn about ongoing clinical trials for proton therapy for novel non-chordoma indications

CS4: Trigeminal Schwannomas

Room 20/21

MODERATOR: Siviero Agazzi, MD, MBA – *Middle Fossa and Meckel's Cave: Transcranial and Transnasal Anatomical Pearls*

SPEAKERS:

- Samuel Barnett, MD – *Trigeminal Schwannomas: One Tumor, Multiple Compartments: How to Choose an Open Approach*
- Vijay Anand, MD – *Transnasal Endoscopic Resection of Trigeminal Schwannomas: Technical Pearls and Case Selection*
- Ajay Niranjana, MD – *Radiosurgery for Trigeminal Schwannomas: Dose, Results and Morbidity, The Pittsburgh Experience*

At the conclusion of this session, participants will be able to:

1. Discuss the pertinent anatomy and classification of trigeminal schwannomas
2. Recognize the role of radiosurgery in the management of trigeminal schwannomas
3. Evaluate the benefit of open versus endonasal endoscopic approaches for the resection of trigeminal schwannomas

9:00 am – 9:30 am Break with Exhibitors

Ballroom B

9:30 am – 12:00 pm **PLENARY SESSION**

Ballroom A

9:30 am **Honored Guest Lecturer: “Skull Base Surgery Teams: The Critical Role of the Leader”** – Harry van Loveren, MD
Introduction by Michael Link, MD

The North American Skull Base Society gratefully acknowledges an unrestricted educational grant from Tampa General Hospital in support of this session.

10:00 am **NF-2 Panel**
MODERATOR: Michael Link, MD

SPEAKERS:

- Derald Brackmann, MD – *Surgical Management of NF2 Related Vestibular Schwannomas*
- Douglas Kondziolka, MD – *Radiosurgical Management of NF2 Related Vestibular Schwannomas*
- Fred Barker, MD – *Chemotherapeutic Options for NF2 Related Vestibular Schwannomas*

At the conclusion of this session, participants will be able to:

1. Demonstrate an understanding of the different treatment options available for NF2 related tumors.
2. Hypothesize about the chance for hearing preservation or rehabilitation among the different treatment options.
3. Formulate a long-term treatment strategy for patients with NF2.

The North American Skull Base Society gratefully acknowledges an unrestricted educational grant from Tampa General Hospital in support of this session.

11:00 am **3D Anatomy** – Albert Rhoton, MD
Introduction by Michael Link, MD

12:00 pm – 1:00 pm **NASBS Annual Business Meeting & Lunch**
for All Members

Room 22/23

Lunch in the Exhibit Hall
for Non-Members, with Industry

Ballroom B

1:00 pm – 2:00 pm **CONCURRENT SESSIONS**

CS5: Decision Making in Facial Re-Animation

Room 13/14

MODERATOR: Mark Varvares, MD – *Introduction and Overview*

SPEAKERS:

- Samir Mardini, MD – *The Role of Nerve Transfer, Cross Facial Nerve Grafts for Restoration of the Blink, “Baby Sitter” Procedures and the Management Of Synkinesis in Patients with Facial Nerve Injuries*
- Peter Neligan, MD – *The Management of Marginal Nerve Weakness, the Eye and the Role and Approaches for Gracilis Free Flaps in Facial Nerve Injuries*
- Steven Cannady, MD – *Intraoperative Decision Making and Management of the Acute Facial Nerve Defect*

At the conclusion of this session, participants will be able to:

1. Demonstrate how the specific point of injury drives options available for reanimation
2. Recommend the proper use of nerve transfer procedures based upon the level of facial nerve injury
3. Recognize when the use of gracilis free flap is the most appropriate method for facial reanimation know how to select the recipient nerve for muscle innervation

CS6: Mucocoeles or Infectious Sinus Disease

Room 15/16

MODERATOR: Mark Tabor, MD

SPEAKERS:

- David Kennedy, MD – *Endoscopic Marsupialization of Mucocoeles: Pearls and Pitfalls*
- Roy Casiano, MD – *Management of the Frontal Sinus Using Extended or Combined Approaches*
- Nithin Adappa, MD – *Maximal Endoscopic Surgical Treatment for Recalcitrant Sinus Disease*

At the conclusion of this session, participants will be able to:

1. Evaluate and treat sinus mucocoeles
2. Manage advanced frontal sinus disease with extended or combined approaches
3. Employ maximal endoscopic treatment for recalcitrant sinus disease

CS7: The Supermatrix – Managing Complex Complications in Skull Base Surgery

Room 18/19

MODERATOR: Fred Gentili, MD – *Introduction and General Overview of the Types and Incidence of Complications in Skull Base Surgery*

SPEAKERS:

- Carl Snyderman, MD, MBA – *Carotid Injury, Failed Reconstruction with CSF Leak, Scalp Necrosis, Causes and Avoidance*
- John Golfinos, MD – *Venous Sinus Thrombosis and Occlusion in Skull Base Approaches*

At the conclusion of this session, participants will be able to:

1. Categorize and recognize the different types of complex complications that can occur in skull base surgery
2. Evaluate and formulate appropriate management plans to deal with the complications
3. Identify critical techniques for complication avoidance

CS8: Management of Orbital Tumors, Complications and Difficult Diagnoses

Room 20/21

MODERATOR: Jason Newman, MD

SPEAKERS:

- Steven Newman, MD – *Orbital Surgery: Evolution & Revolution*
- Khaled Aziz, MD – *Fronto Orbital Craniotomy for Tumors Involving Orbital Structures*
- Ilya Leyngold, MD – *Orbital Tumors: Diagnostic and Treatment Challenges*

At the conclusion of this session, participants will be able to:

1. Describe common surgical complications of skull base surgery involving the orbit
2. Understand the workup and treatment of complex orbital tumors
3. Understand how to incorporate the techniques of front-orbital craniotomy into clinical practice

2:00 pm – 3:30 pm **PROFFERED PAPERS**

PROFFERED PAPER I: Meningioma I

Room 13/14

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Kenneth De Los Reyes, MD & Osama Al-Mefty, MD

001: DESCRIPTIVE EPIDEMIOLOGY OF WORLD HEALTH ORGANIZATION GRADE II AND III INTRACRANIAL MENINGIOMAS IN THE UNITED STATES – Varun R Kshetty, MD, Quinn T Ostrom, MPH, Carol Kruchko, Ossama Al-Mefty, MD, Gene H Barnett, MD, Jill S Barnholtz-Sloan, PhD; Cleveland Clinic, Case Western Reserve University, Brigham and Womens Hospital

002: FACTORS AFFECTING PATIENT OUTCOMES OF ATYPICAL MENINGIOMAS IN A MODERN COHORT – Vijay Agarwal, MD, Ranjith Babu, MD, Amitoz Manhas, MD, Edgar Perez, MD, Allan Friedman, MD, David C Adamson, MD; Duke University Medical Center

003: INTRACRANIAL RADIATION INDUCED MENINGIOMAS – Wael Hassaneen, MD, PhD, Vikram C Prabhu, MD, Edward Melian, MD, Jawed Fareed, PhD, Ewa Borys, MD, Omer Iqbal, MD, Douglas E Anderson, MD; Loyola University Medical Center

Questions & Answers

004: DIFFUSE PARASELLAR MENINGIOMAS: WATCHFUL WAITING AS A BEST MANAGEMENT STRATEGY? – James Glasbey, MD, BSc, Feras Sharouf, BSc, Pablo Goetz, MD, FRCS, John Martin, MD, FRCS, Hayhurst Caroline, MD, FRCS; University Hospital of Wales, Cardiff

005: LONG-TERM BEHAVIOR OF RESIDUAL TUMOR ON THE BRAINSTEM IN PETROUS/PETROCLIVAL MENINGIOMAS WITH BRAIN STEM ADHESION: THE EFFECT OF DURAL DETACHMENT ON TUMOR CONTROL – Soichi Oya, MD, PhD, Toru Matsui; Saitama Medical Center/University

006: “POSTOPERATIVE VISUAL OUTCOME IN PATIENTS OF PARASELLAR MENINGIOMAS” – Rajesh Chhabra, MCh, NeuroSurgery, Satish Kumar, MS, Sunil K Gupta, MCh; PGIMER, Chandigarh

Questions & Answers

007: DELAY IN THE DIAGNOSIS OF MENINGIOMAS INVOLVING THE OPTIC APPARATUS: EXPERIENCE WITH 100 PATIENTS – Nevo Margalit, MD, Gal Barkai, MD, Lior Gonen, MD, Nir Shimoni; Tel Aviv Medical Center

008: IS PTERIONAL CRANIOTOMY ADEQUATE FOR COMPLETE EXCISION OF OLFACTORY GROOVE MENINGIOMA – Sherif M Elwatidy, Professor, FRCSSN, MD, Zain Jamjoom, Safdar Malik, MRCS; King Saud University

009: NEUROPSYCHOLOGICAL OUTCOMES FOLLOWING MICROSURGICAL RESECTION OF OLFACTORY GROOVE MENINGIOMAS – Vincent A DiNapoli, MD, PhD, Franco DeMonte, MD; MD Anderson Cancer Center

Questions & Answers

PROFFERED PAPER II: Pituitary I

Room 15/16

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Edward Laws, MD & Cedric Shorter, MD

010: COMPLICATIONS AFTER TRANSSPHEOIDAL SURGERY FOR CUSHING DISEASE – [Timothy R Smith, MD, PhD, MPH](#), M. Maher Hulou, BS, Kevin T Huang, MD, Breno Nery, MD, Edward R Laws, MD, FACS; Brigham and Womens Hospital

011: ENDOSCOPIC ENDONASAL TRANSSPHEOIDAL SURGERY FOR MICROPROLACTINOMAS AND MESOPROLACTINOMAS AS AN ALTERNATIVE TO DOPAMINE AGONIST THERAPY – Anni Wong, MS, Zachary S Mendelson, BS, Tareq Azad, BS, Jean A Eloy, MD, [James K Liu, MD](#); Rutgers New Jersey Medical School

012: CURRENT INDICATIONS FOR THE SURGICAL TREATMENT OF PROLACTINOMAS – [Timothy R Smith, MD, PhD, MPH](#), M. Maher Hulou, BS, Kevin T Huang, Abdulkerim Gokoglu, MD, Edward R Laws, MD, FACS; Brigham and Womens Hospital

Questions & Answers

013: THE BARROW NEUROLOGICAL INSTITUTE EXPERIENCE TREATING PATIENTS WITH RECURRENT OR RESIDUAL PITUITARY ADENOMA USING CYBERKNIFE STEREOTACTIC RADIOSURGERY – Yashar Kalani, [Emad Youssef](#), Andrew Little, David Brachman, Heyoung McBride, Laura Knecht, William White; Barrow Neurological Institute

014: PRESERVATION OF NORMAL PITUITARY FUNCTION AFTER ENDOSCOPIC SURGERY FOR PITUITARY MACROADENOMAS – [Edward R Laws, MD](#), Sherry L Iuliano, NP, Whitney W Woodmansee, MD, Liangge Hsu, MD, Charles Cho, MD; BWH

015: ANATOMICAL VARIATIONS OF ACROMEGALIC PATIENTS IN TRANSPHEOIDAL SURGERY – [Osama Ahmed, MD](#), Elainea Smith, BA, Christopher Storey, MD, PhD, Richard Menger, MD, Matt Hefner, MD, Vikas Mehta, MD, FACS, Anil Nanda, MD, MPH, FACS, Hugo Cuellar, MD, Bharat Guthikonda, MD; Louisiana State University Health Sciences Center Shreveport

Questions & Answers

016: PREDICTORS OF MORTALITY AND MORBIDITY IN PATIENTS UNDERGOING TRANSSPHEOIDAL SURGERY FOR TREATMENT OF ACROMEGALY – [Andrew Platt](#), Diana Jin, Timothy Wen, John Carmichael, William J Mack, Gabriel Zada; Keck School of Medicine, University of Southern California

017: COMPARISON OF SINONASAL QUALITY OF LIFE BETWEEN PATIENTS UNDERGOING MICROSCOPIC AND ENDOSCOPIC TRANSSPHEOIDAL SURGERY FOR PITUITARY LESIONS: A PROSPECTIVE COHORT STUDY – [Andrew Little](#)¹, Daniel Kelly², Daniel Prevedello³, Ricardo Carrau³, Chester Griffiths², Gail Rosseau⁴, Barkhoudarian Garni², Heidi Jahnke¹, Kathryn Jelinek³, John Milligan¹, William White¹; ¹Barrow Neurological Associated, ²John Wayne Cancer Institute, ³The Ohio State University, ⁴NorthShore University HealthSystem

018: OTOLARYNGIC MANIFESTATIONS OF CUSHING DISEASE – [Edward C Kuan, MD, MBA](#), Kevin A Peng, MD, Marvin Bergsneider, MD, Jeffrey D Suh, MD, Marilene B Wang, MD; UCLA

Questions & Answers

PROFFERED PAPER III: Vestibular Schwannoma I

Room 18/19

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Samuel Barnett, MD & Michael Huang, MD

019: INITIAL SURGICAL OUTCOMES FOR VESTIBULAR SCHWANNOMA IN THE ERA OF LESS HANDS-ON TRAINING – [Brian Milligan, MD](#)¹, Joseph Ursick, MD², Robert Cullen, MD², Bradley Thedinger, MD²; ¹St. Luke's Marion Bloch Neuroscience Institute, ²Midwest Ear Institute at St. Luke's Hospital

020: ACHIEVING EXCELLENT SURGICAL RESULTS IN VESTIBULAR SCHWANNOMA SURGERY FROM THE BEGINNING. A STEP-BY-STEP EDUCATIONAL APPROACH IN THE 21ST CENTURY – [Florian Roser, MD, PhD](#)¹, Marcos S Tatagiba, MD, PhD²; ¹Cleveland Clinic Abu Dhabi, ²University of Tuebingen

021: VESTIBULAR SCHWANNOMA GROWTH RATE IN LONG TERM FOLLOW UP – [Richard Locke, MB, ChB, PhD, FRCS](#)¹, John Crowther, MB, ChB, FRCS¹, William Taylor, MB, ChB, FRCS², Georgios Kontorinis, MB, ChB, FRCS¹; ¹ENT Dept, Institute of Neurosciences, Glasgow, ²Neurosurgery Dept, Institute of Neurosciences, Glasgow

Questions & Answers

022: INCIDENCE AND RISK FACTORS OF DELAYED FACIAL PALSY AFTER VESTIBULAR SCHWANNOMA RESECTION – [Lucas P Carlstrom, PhD](#), William R Copeland, MD, Brian A Neff, MD, Colin Driscoll, MD, Michael J Link, MD; Mayo Clinic

023: LONG-TERM FACIAL NERVE FUNCTION IN PATIENTS WITH VESTIBULAR SCHWANNOMA – [Oystein V Tveiten, MD](#)¹, Matthew L Carlson, MD², Michael J Link, MD³, Morten Lund-Johansen, MD, PhD¹; ¹Department of Neurosurgery, Haukeland University Hospital, Bergen, Norway, ²Department of Otorhinolaryngology, Mayo Clinic School of Medicine, Rochester, MN, USA, ³Department of Neurologic Surgery, Mayo Clinic School of Medicine, Rochester, MN, USA

024: A MANAGEMENT OF FACIAL NERVE IN THE LATERAL SKULL BASE SURGERY – [Atsunobu Tsunoda, MD, PhD](#); Tokyo Medical and Dental University

Questions & Answers

025: TUMOR CONTROL AND FACIAL NERVE OUTCOMES FOLLOWING SUB/NEAR-TOTAL RESECTION FOR VESTIBULAR SCHWANNOMAS – [Jeffrey T Jacob, MD](#), Matthew L Carlson, MD, Colin L Driscoll, MD, Michael J Link, MD; Mayo Clinic

026: FACIAL NERVE AND HEARING OUTCOMES AFTER MIDDLE CRANIAL FOSSA VESTIBULAR SCHWANNOMA SURGERY – [Heather A Koehn, BS](#), Claire Iseli, MBBS, MS, Benjamin Huang, MD, MPH, Deanna Sasaki-Adams, MD, Oliver Adunka, MD, Matthew Ewend, MD, Craig Buchman, MD; University of North Carolina, Chapel Hill, NC

027: LONG-TERM QUALITY OF LIFE IN VESTIBULAR SCHWANNOMA: IMPACT OF DISEASE AND TREATMENT – [Matthew L Carlson, MD](#)², Øystein V Tveiten, MD¹, Colin L Driscoll, MD², Morten Lund-Johansen, MD, PhD¹, Michael J Link, MD²; ²Mayo Clinic, ¹Haukeland University Hospital, Bergen, Norway

Questions & Answers

PROFFERED PAPER IV: Reconstruction/CSF Leak I

Room 20/21

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Peter Neligan, MD & Justin M. Sweeney, MD

028: ETIOLOGY OF VASCULARIZED SKULL BASE RECONSTRUCTIVE FAILURES AND OUTCOMES OF SECONDARY REPAIR – [Cristine Klatt-Cromwell, MD](#), Brian Thorp, MD, Charles Ebert, MD, MPH, Matthew Ewend, MD, MPH, Deanna Sasaki-Adams, MD, Adam Zanation, MD; University of North Carolina

029: NASAL DEFORMITIES FOLLOWING NASOSEPTAL FLAP RECONSTRUCTION OF SKULL BASE DEFECTS – [Nicholas R Rowan, MD](#), Eric W Wang, MD, Carl H Snyderman, MD, MBA; University of Pittsburgh Medical Center, Department of Otolaryngology-Head & Neck Surgery

030: MORBIDITY FOLLOWING ENDOSCOPIC SURGERY OF THE SELLA – [Colin Edwards, MD](#), Tasneem Shikary, MD, Lee A Zimmer, MD, PhD; University of Cincinnati Dept of Otolaryngology

Questions & Answers

031: INCIDENCE OF EPISTAXIS FOLLOWING ENDOSCOPIC SELLAR SURGERY: PROPOSED TREATMENT ALGORITHM – [Lee A Zimmer](#), Tasneem Shikary, Colin Edwards; University of Cincinnati

032: TORN NASOSEPTAL FLAP, DOES REPAIR OF THE PERFORATION AFFECT POSTOPERATIVE CEREBROSPINAL FLUID LEAK? – [Colin Huntley, MD](#), Gurston G Nyquist, MD, Alfred M Illoreta, MD, Marc Otten, MD, Hermes Garcia, MD, Chris Farrell, MD, Marc R Rosen, MD, James J Evans, MD; Thomas Jefferson University

033: ENDOSCOPIC ANTERIOR HEMI-SKULL BASE RESECTION AND RECONSTRUCTION – [Mohammad H Al-Bar, MD](#), Ralph Abi-Hachim, MD, Mallory Raymond, Zoukaa Sargi, Roy R Casiano, MD; University of Miami

Questions & Answers

034: COMPLICATIONS OF ENDOSCOPIC ENDONASAL SKULL BASE SURGERY IN THE ERA OF VASCULARIZED RECONSTRUCTION – [Robert J Taylor, MD](#)¹, Emily C Ambrose, MD², Justin D Miller, MD³, Adam M Zanation³; ¹Medical University of South Carolina, ²University of Colorado at Denver, ³University of North Carolina at Chapel Hill

035: ANTERIOR SKULL RECONSTRUCTION: DOES FAT PREPARATION MATTER? – [Joshua W Wood, MD](#), Caleb D Wilson, MD, Jaron Densky, Merry Sebelik, MD, Courtney Shires, MD; University of Tennessee Health Science Center

036: TRANSSPHENOIDAL PITUITARY SURGERY, SLEEP APNEA, AND PNEUMOCEPHALUS: IS THERE A LINK? – Ken Maynard, MD, Scott L Zuckerman, MD, Gabrielle White-Dzuro, BS, Matthew Clavenna, MD, Paul Russell, MD, [Lola B Chambless, MD](#); Vanderbilt University

Questions & Answers

PROFFERED PAPER V: Miscellaneous I

Room 22/23

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Jeroen R. Coppens, MD & Daniel Price, MD

037: SURGICAL EXPERIENCE IN TREATMENT OF ORBITAL TUMORS – [Alejandro Monroy Sosa, MD](#)¹, Gervith Reyes, MD¹, Ángel Herrera, MD¹, Martin Granados¹, Bernardo Cacho¹, Jessica Daniela Valencia, MD², José Francisco Carrillo, MD¹; ¹Institute National of Cancerology, ²Institute National of Neurology and Neurosurgery

038: LATERAL ORBITAL APPROACH FOR LESIONS INVOLVING THE MIDDLE FOSSA – [Joseph D Chabot, DO](#), Susan Stefkó, MD, Eric Wang, MD, Carl Snyderman, MD, Juan Carlos Fernandez-Miranda, MD, Paul Gardner, MD; University of Pittsburgh Medical Center

039: INVERTED PAPILLOMA OF THE TEMPORAL BONE: A MULTI-CENTER CASE SERIES – [Mara C Modest, MD¹](#), Matthew L Carlson, MD¹, Jeffrey R Janus, MD¹, Alex D Sweeney, MD², Jamie J Van Gompel¹, David S Haynes, MD², Brian A Neff, MD¹; ¹The Mayo Clinic, ²Vanderbilt University

Questions & Answers

040: RESECTION OF CEREBELLO PONTINE ANGLE (CPA) TUMORS BY EXCLUSIVELY ENDOSCOPIC APPROACH – [Robert Behr, PhD](#), Konrad Schwager, PhD, Erich Hofmann; Klinikum Fulda

041: COULD ENDOSCOPIC ENDONASAL APPROACH CONTRIBUTE TO IMPROVE SKULL BASE CHONDROSARCOMA PROGNOSIS? – [Anne Laure Bernat, MD](#), Damien Bresson, MD, PhD, Marc Polivka, MD, Homa Adle-Biasette, MD, PhD, Patricia De Cremoux, MD, PhD, Jean Pierre Guichard, MD, Loic Feuvret, MD, Bernard George, MD, PhD, Sébastien Froelich, MD, PhD; LARIBOISIERE

042: RESECTION OF SCHWANNOMAS ARISING PTERYGOPALATINE FOSSA WITH TRANS-ZYGOMATIC TRANSCRANIAL APPROACH – [Yiqun Wu, MD¹](#), Baohua Fan, BS¹, Huayi Cheng, MD¹, Chenping Zhang, MD², Tong Ji, MD², Zhiyuan Zhang, MD²; ¹Neurosurgery, Shanghai 9th Hospital, Shanghai Jiaotong University School of Medicine, ²Department of Oral Maxillary and Head and Neck Oncology, Shanghai 9th Hospital, Shanghai Jiaotong Un

Questions & Answers

043: QUANTIFIED VOLUMETRIC ANALYSIS AND CLINICAL OUTCOMES OF ENDOSCOPIC ENDONASAL TRANSSPHENOIDAL PITUITARY MACROADENOMA RESECTION – [Charles P Couturier, MD](#), Solon Schur, Marc Tewfik, MD, FRCSC, Zeitouni Anthony, MD, FRCSC, Denis Sirhan, MD, FRCSC, DABNS; McGill University Health Center

044: SURGICAL RESULTS OF ENDOSCOPIC SKULL BASE APPROACH FOR GIANT PITUITARY ADENOMAS – [Shigetoshi Yano, MD, PhD](#), Takuichiro Hide, MD, PhD, Naoki Shinojima, MD, PhD, Jun-ichi Kuratsu, MD, PhD; Neurosurgery, Kumamoto University

045: OPTICAL COHERENCE TOMOGRAPHY NAVIGATED SURGERY FOR DIFFERENT INTERNAL AUDITORY CANAL TUMOR APPROACHES – [Saleh Mohebbi, MD¹](#), Alexander Fuchs², Sebastian Tauscher², Tobias Ortmaier², Lüder A Kahrs², Johannes Gaa², Thomas Rau¹, Thomas Lenarz¹, Omid Majdani¹; ¹Hannover Medical School, ²Hannover Leibniz University

Questions & Answers

3:30 pm – 4:00 pm **Break with Exhibitors**

Ballroom B

4:00 pm – 5:30 pm **PROFFERED PAPERS**

PROFFERED PAPER VI: Endonasal Meningiomas

Room 13/14

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: James Evans, MD & Carl Snyderman, MD, MBA

046: SINONASAL OUTCOMES FOLLOWING ENDOSCOPIC ENDONASAL RESECTION OF ANTERIOR SKULL BASE MENINGIOMAS: SURGICAL EXPERIENCE & OUTCOME EVALUATION – [Mihir Gupta, BA](#), Omar A Choudhri, MD, Arjun Pendharkar, MD, Abdullah Feroze, BS, Abdulrazag Ajlan, MD, Griffith Harsh IV, MD, Peter Hwang, MD; Stanford University School of Medicine

047: SUITABILITY OF SUPRASELLAR MENINGIOMAS FOR ENDOSCOPIC ENDONASAL SURGERY: ANATOMY AND SURGICAL OUTCOMES – [Serge Makarenko](#), Ryojo Akagami, MD, Erick Carreras, BSc, Angela Brevner; University of British Columbia

048: ENDONASAL ENDOSCOPIC RESECTION OF SUPRASELLAR/INFRASELLAR MENINGIOMAS, AN INSTITUTIONAL EXPERIENCE – [Edward Yap, MD](#), Deanna Sasaki-Adams, MD; University of North Carolina

Questions & Answers

049: ENDONASAL ENDOSCOPIC BONY DECOMPRESSION AND CONSERVATIVE DEBULKING OF INVASIVE PARA-SELLAR MENINGIOMAS – Xin Zhang, MD, Wei Hua, MD, [Bjorn Lobo, MD](#), Amy Eisenberg, NP, Garni Barkhoudarian, MD, Chester F Griffiths, MD, Daniel F Kelly, MD; John Wayne Cancer Institute at Providence Saint John's Health Center

050: SKULLBASE HERNIATION FOLLOWING ENDOSCOPIC ENDONASAL RESECTION OF TUBERCULUM AND PLANUM MENINGIOMAS – EXPERIENCE OF 91 PATIENTS – [Ali Kooshkabadi, MD¹](#), Phillip A Choi, BS², Xiaoran Zhang, MS², Eric Wang, MD³, Carl H Snyderman, MD, MBA¹, Paul A Gardner, MD¹, Juan C Fernandez-Miranda, MD¹; ¹Department of Neurological Surgery, University of Pittsburgh Medical Center, ²University of Pittsburgh School of Medicine, ³Department of Otolaryngology, University of Pittsburgh Medical Center

051: ENDOSCOPIC ENDONASAL SURGERY FOR OLFACTORY GROOVE MENINGIOMAS: OUTCOMES AND LIMITATIONS IN 50 PATIENTS – [Maria Koutourousiou, MD¹](#), Juan C Fernandez-Miranda, MD², Eric W Wang, MD², Carl H Snyderman, MD, MBA², Paul A Gardner²; ¹University of Louisville, ²University of Pittsburgh School of Medicine

Questions & Answers

052: ENDOSCOPIC ENDONASAL TRANSCRIBIFORM APPROACH FOR ANTERIOR SKULL BASE LESIONS INVOLVING THE CRIBRIFORM PLATE: INDICATIONS, TECHNIQUES, AND RESULTS IN 24 PATIENTS – Zachary S Mendelson, BS, Ahmed B Sheikh, Jean A Eloy, MD, James K Liu, MD; Rutgers New Jersey Medical School

053: ENDOSCOPIC ENDONASAL AND TRANSCRANIAL SURGERY FOR MICROSURGICAL RESECTION OF VENTRAL FORAMEN MAGNUM MENINGIOMAS – Nicolas K Khattar, MD¹, Maria Koutourousiou, MD¹, Juan C Fernandez-Miranda, MD¹, Eric W Wang, MD², Carl H Snyderman, MD, MBA², Aaron A Cohen-Gadol, MD, MS³, Paul A Gardner, MD¹; ¹Department of Neurological Surgery, University of Pittsburgh School of Medicine, ²Department of Otolaryngology, University of Pittsburgh School of Medicine, ³Goodman Campbell Brain and Spine, Indiana University Department of Neurosurgery

054: A CHECKLIST FOR ENDONASAL TRANSSPHENOIDAL ANTERIOR SKULL BASE SURGERY – Edward R Laws, MD, FACS¹, Judith M Wong, MD, MPH², Timothy R Smith, MD, PhD¹, Kenneth de los Reyes, MD³, Linda S Aglio, MD, MS¹, Alison J Thorne, RN¹, David J Cote, BS¹, Atul Gawande, MD, MPH¹; ¹BWH, ²USC, ³Loma Linda U

Questions & Answers

PROFFERED PAPER VII: PEDS/Suprasellar

Room 15/16

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: William C. Gump, MD & Raul Olivera, MD

055: WHAT HAVE BEEN CHANGING IN CRANIOPHARYNGIOMAS SURGERY – Matteo Zoli, MD¹, Diego Mazzatenta, MD¹, Adelaide Valluzzi, MD¹, Marco Faustini-Fustini, MD¹, Ernesto Pasquini, MD², Giorgio Frank, MD¹; ¹Center of pituitary and skull base tumors, IRCCS Istituto delle Scienze Neurologiche, Bologna, Italy, ²ENT Department, Azienda USL Bologna, Italy

056: PEDIATRIC NASOSEPTAL FLAP RECONSTRUCTION OF SUPRASELLAR APPROACHES – Ankona Ghosh, MD¹, Kyle Hatten, MD¹, James Palmer, MD¹, Jay B Storm, MD², John Y Lee, MD³, Kim Learned, MD⁴, Nithin Adappa, MD¹; ¹Department of ORL, Hospital of the University of Pennsylvania, ²Department of Neurosurgery, Childrens Hospital of Philadelphia, ³Department of Neurosurgery, Hospital of the University of Pennsylvania, ⁴Department of Neuroradiology, Hospital of the University of Pennsylvania

057: PEDIATRIC ENDOSCOPIC ENDONASAL SKULL BASE SURGERY: THE CHILDREN'S HOSPITAL OF PHILADELPHIA EXPERIENCE – Zarina S Ali, MD², Rosemary E Henn, BS¹, Nithin D Adappa, MD², James N Palmer, MD², John Y K Lee, MD², Phillip B Storm, MD¹; ²University of Pennsylvania, ¹The Childrens Hospital of Philadelphia

Questions & Answers

058: COMPLICATION RATE OF ENDOSCOPIC ENDONASAL RESECTION OF PEDIATRIC VERSUS ADULT CRANIOPHARYNGIOMA – Marvin Bergsneider, MD, Marilene B Wang, MD, Jeffrey D Suh, MD; UCLA David Geffen School of Medicine

059: ENDONASAL TRANSSPHENOIDAL SURGERY OF CRANIOPHARYNGIOMAS: A CASE SERIES – Bakhtiyar Pashaev, M. D.¹, Valeriy Danilov, M, D², Gulnar Vagapova³, Andrey Alekseev¹, Dmitriy Bochkarev¹, Farida Nasibullina, M, D³; ¹Department of Neurosurgery, Interregional Clinical Diagnostic Center, Kazan, ²Kazan Medical State University, ³Kazan Medical state Academy

060: CEREBROSPINAL FLUID LEAK RISK FACTORS IN PEDIATRIC PATIENTS UNDERGOING ENDOSCOPIC ENDONASAL SKULL BASE SURGERY – Amanda L Stapleton, MD¹, Elizabeth C Tyler-Kabara, MD, PHD², Paul A Gardner, MD², Snyderman H Carl, MD, MBA¹, Wang W Eric, MD¹; ¹University of Pittsburgh Medical Center: Department of Otolaryngology, ²University of Pittsburgh Medical Center: Department of Neurological Surgery

Questions & Answers

061: OUTCOMES FOLLOWING PURELY ENDOSCOPIC, EXTENDED ENDONASAL RESECTION OF NON-PITUITARY SELLER AND SUPRASELLER LESIONS: A CASE SERIES – Shamsul Alam, MD; B S M Medical University

062: RATHKE'S CLEFT CYST: CHARACTERISTICS BASED ON THE CYST LOCATION WITH PRIMARY FOCUS ON RECURRENCE – Silky Chotai, Yi Liu, Jun Pan, Songtao Qi, MD, PhD; Nanfang Hospital, Southern Medical University, Guangzhou, China

063: BIFRONTAL BASAL INTERHEMISPHERIC TRANSLAMINATERMINALIS APPROACH FOR RESECTION OF SUPRASELLAR LESIONS: ANALYSIS OF 17 CASES – Shamsul Alam, MD; B S M Medical University

Questions & Answers

PROFFERED PAPER VIII: Endoscopic Surgery

Room 18/19

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Mohamed Elhammady, MD & Andrew Little, MD

064: COMPARISON OF OPEN AND TRANSNASAL ENDOSCOPIC APPROACHES TO THE SKULL BASE IN THE ENDOSCOPIC SKULL BASE ERA – Justin Miller, MD¹, Rounak Rawal, MD¹, Robert Taylor, MD², Emily Ambrose³, Charles Ebert¹, Adam Zanation¹; ¹UNC Dept of Otolaryngology, ²MUSC Dept of Otolaryngology, ³Colorado Dept of Otolaryngology

065: PREDICTORS OF SINONASAL QUALITY OF LIFE AND NASAL MORBIDITY AFTER ENDOSCOPIC TRANSSPHENOIDAL SURGERY: A MULTICENTER STUDY – [Andrew S Little¹](#), Daniel Kelly², John Milligan¹, Chester Griffiths², Ricardo Carrau³, Daniel Prevedello³, Gail Rosseau⁴, Garni Barkhoudarian², William White¹; ¹Barrow Neurological Institute, ²John Wayne Cancer Institute, ³The Ohio State University, ⁴NorthShore University Health System

066: THE ENDOSCOPIC ENDONASAL APPROACH FOR ORBITAL AND ORBITAL APEX LESIONS: A SERIES OF 77 PATIENTS – [Nathan T Zwagerman, MD](#), Susan Stefkó, MD, Eric Wang, Juan Fernandez-Miranda, Carl Snyderman, MD, Paul A Gardner; University of Pittsburgh Medical Center

Questions & Answers

067: WHAT IS THE ROLE OF ENDOSCOPE DURING MICROSURGERY IN THE POSTERIOR CRANIAL FOSSA? – [Guilherme R Montibeller](#), Joachim Oertel; Department of Neurosurgery, Saarland University

068: ENDOSCOPIC SURGERY OF THE CEREBELLOPONTINE ANGLE: BARRIERS TO ADOPTION – [John Y Lee, MD](#), Kalil Abdullah, MD, Jayesh P Thawani, Dmitry Petrov, MD, Jason Brant, MD, Douglas Bigelow, MD, Michael Ruckenstein, MD; University of Pennsylvania

069: ENDOSCOPIC ENDONASAL APPROACH TO PETROUS APEX CHOLESTEROL GRANULOMAS: OUTCOMES OF A SERIES OF 28 PATIENTS – [Chirag R Patel, MD](#), Carl H Snyderman, MD, MBA, Juan C Fernandez-Miranda, MD, Paul A Gardner, MD, Eric W Wang, MD; University of Pittsburgh Medical Center

Questions & Answers

070: TRANSSPHENOIDAL APPROACH FOR PITUITARY METASTASES – [Matteo Zoli, MD¹](#), Diego Mazzatenta¹, Adelaide Valluzzi¹, Marco Faustini-Fustini¹, Ernesto Pasquini, MD², Giorgio Frank, MD¹; ¹Center of pituitary and endoscopic skull base surgery, IRCCS delle Scienze Neurologiche, Bologna (IT), ²ENT Department, Azienda USL, Bologna, Italy

071: ENDOSCOPIC ENDONASAL APPROACH TO THE PETROUS APEX, A RETROSPECTIVE STUDY AND OUTCOMES – [Robert A Miller, MD](#), Maria Koutourosiou, MD, Eric W Wang, MD, Juan C Fernandez-Miranda, MD, Carl H Snyderman, MD, MPH, Paul A Gardner, MD; University of Pittsburgh Medical Center

072: ENDOSCOPIC ENDONASAL SURGERY FOR CLIVAL CHORDOMA – [Matteo Zoli, MD¹](#), Diego Mazzatenta, MD¹, Adelaide Valluzzi¹, Pasquini Ernesto², Giorgio Frank¹; ¹Center of pituitary and endoscopic skull base surgery, IRCCS delle Scienze Neurologiche, Bologna (IT), ²ENT Department, Azienda USL Bologna, Italy

Questions & Answers

PROFFERED PAPER IX: Reconstruction/CSF Leak II

Room 20/21

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Mark Varvares, MD & Eric W. Wang, MD

073: AUTOLOGOUS FAT GRAFT-ASSISTED INTERNAL AUDITORY CANAL CLOSURE TECHNIQUE AFTER RETROSIGMOID TRANSMETAL RESECTION OF ACOUSTIC NEUROMA – Tareq Azad, BS, Zachary S Mendelson, BS, Anni Wong, MS, Robert W Jyung, MD, [James K Liu, MD](#); Rutgers New Jersey Medical School

074: THE REVERSE-FLOW FACIAL ARTERY BUCCINATOR FLAP FOR SKULL BASE RECONSTRUCTION: KEY ANATOMIC AND TECHNICAL CONSIDERATIONS – [Zainab Farzal, BS](#), Ana M Lemos, MD, Rounak B Rawal, MD, Lewis J Overton, MD, Satyan B Sreenath, BS, Adam M Zanation, MD; University of North Carolina at Chapel Hill

075: PERIOPERATIVE AND LONG-TERM OUTCOME COMPARISON OF PERICRANIAL VS FREE TISSUE TRANSFER RECONSTRUCTION OF THE ANTERIOR CRANIAL BASE – [Andrew Kroeker, MD](#), Erin McKean, MD, MBA, Kyle VanKoeveering, MD, Stephen Sullivan, MD, Lawrence Marentette, MD; University of Michigan

Questions & Answers

076: BILATERAL NASOSEPTAL RESCUE FLAP WITH OLFACTORY EPITHELIUM PRESERVATION: A PROSPECTIVE STUDY ANALYZING POSTOPERATIVE OLFACTION AND EPISTAXIS – [Chester F Griffiths¹](#), Garni Barkhoudarian, MD¹, Aaron Cutler, MD¹, Huy Duong, MD¹, Bjorn Lobo, MD¹, Kian Karimi, MD², Olivia Doyle, PAC², Ricardo Carrau, MD³, Daniel F Kelly, MD¹; ¹John Wayne Cancer Institute at Providence Saint Johns Health Center, ²Pacific Eye and Ear Specialists, ³Ohio State University Medical Center

077: ENDOSCOPIC RECONSTRUCTION OF LARGE ANTERIOR SKULL BASE DEFECTS USING SINGLE LAYER OF ACELLULAR DERMAL ALLOGRAFT – [Ralph Abi Hachem, MD](#), Mallory Raymond, BA, Mohammad Al-Bar, MD, Zoukaa Sargi, MD, Roy R Casiano, MD; Department of Otolaryngology Head and Neck Surgery, Miller School of Medicine, University of Miami

078: RELAXING SPHENOIDAL SLIT INCISION: A SIMPLE TECHNIQUE TO EXTEND THE ANTERIOR AND POSTERIOR REACH OF PEDICLED NASOSEPTAL FLAPS DURING ENDOSCOPIC SKULL BASE RECONSTRUCTION OF TRANSCRIBIFORM DEFECTS – [James K Liu, MD](#), Zachary S Mendelson, BS, Jean A Eloy, MD; Rutgers New Jersey Medical School

Questions & Answers

079: CRANIAL BASE RECONSTRUCTION AFTER ENDOSCOPIC ENDONASAL SURGERY: VALIDATION OF AN ALGORITHM IN 832 CASES – Tyler J Kenning, MD¹, Maria Peris-Celda, MD, PhD¹, Carlos D Pinheiro-Neto, MD, PhD¹, Saurabh Singhal, MS², Jay Agarwal¹, Marc R Rosen, MD², James J Evans, MD²; ¹Albany Medical Center, ²Thomas Jefferson University Hospital

080: RISK FACTORS OF POSTOPERATIVE CSF LEAK IN PERI-SELLAR PATHOLOGIES: CLINICAL AND STATISTICAL STUDY – Akram Awadalla; Zagazig university

081: PROMINENT INFERIOR INTERCAVERNOUS SINUS IN INTRACRANIAL HYPOTENSION – Lyne Noel de Tilly¹, Paula Alcaide-Leon¹, E Fanou², Aditya Bhartha¹, Walter Kucharczyk³; ¹St Michels Hospital, ²Toronto Western Hospital, ³Toronto General Hospital

Questions & Answers

PROFFERED PAPER X: Miscellaneous II

Room 22/23

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Florian Roser, MD & Tonya Stefkó, MD

082: FRACTIONATED STEREOTACTIC RADIOTHERAPY FOR FACIAL NERVE SCHWANNOMA – Wenxin Shi, MD, PhD¹, Hyun Kim, MD¹, Colin Champ, MD², Haisong Liu, PhD¹, Maria Werner-wasik, MD¹, David Andrews, MD¹, Gregory Artz¹, James Evans, MD¹; ¹Thomas Jefferson University, ²University of Pittsburgh

083: RESPECTIVE REVIEW OF NON-VESTIBULAR SCHWANNOMAS TREATED WITH STEREOTACTIC RADIOSURGERY – Perry Mansfield, MD, FRCSC¹, Tahir Ijaz, MD, FRCPC², Jocelyn Tisch³; ¹Senta Clinic, ²Cyberknife Centers of San Diego, ³Clemson University

084: SURGICAL MANAGEMENT OF JUGULAR FORAMEN TUMORS: A SERIES OF 255 CONSECUTIVE CASES – Zhen Wu; Beijing Tiantan Hospital, Capital Medical University, China

Questions & Answers

085: LONG TERM OUTCOMES FOLLOWING SURGICAL RESECTION OF SKULL BASE ESTHESIONEUROBLASTOMAS – Naweed Chowdhury, MD, Joshua Mark, David Beahm, MD, Roukous Chamoun, MD, Terry T Tsue, MD, Paul Camarata, MD, Larry Hoover, MD; University of Kansas Medical Center

086: COMPARISON OF OUTCOMES FOR OPEN VERSUS ENDOSCOPIC APPROACHES FOR ESTHESIONEUROBLASTOMA: A SYSTEMATIC REVIEW AND INDIVIDUAL PATIENT-LEVEL POOLED ANALYSIS – Terence S Fu, MBA¹, Eric Monteiro, MD², David P Goldstein, MD², Nidal Muhanna, MD, PhD², John de Almeida, MD²; ¹University of Toronto, Faculty of Medicine, ²Department of Otolaryngology – Head and Neck Surgery, University of Toronto

087: GENE EXPRESSION PROFILING OF FIBROUS DYSPLASIA REVEALS ADAMTS2 OVEREXPRESSION AS A POTENTIAL MARKER – Shanghui Zhou, PhD¹, Wenjun Yang¹, Shengwen Liu¹, Jiang Li², Chunye Zhang², Yun Zhu¹, Chenping Zhang¹; ¹Department of Oral & Maxillofacial-Head & Neck Oncology, Ninth Peoples Hospital, Shanghai Jiao Tong, ²Department of Oral Pathology, Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine

Questions & Answers

088: IDENTIFICATION OF NOVEL GERMLINE AND TUMOR-SPECIFIC NUCLEOTIDE VARIANTS AND COPY NUMBER VARIATION IN CLIVAL CHORDOMAS BY EXOME SEQUENCING – Georgios Zenonos, MD¹, Peter G Howard, BS³, Maureen A Lyons-Weiler, BS³, Wang Eric, MD², William A LaFambroise, PhD³, Paul Gardner, MD¹; ¹University of Pittsburgh Department of Neurosurgery, ²Department of Pathology, University of Pittsburgh Cancer Genomics Facility, ³University of Pittsburgh Department of Otorhinolaryngology

089: FACTORS PREDICTING RECURRENCE AFTER RESECTION OF CLIVAL CHORDOMA USING VARIABLE SURGICAL APPROACHES AND RADIATION MODALITIES – Arman Jahangiri, BS, Aaron Chin, Jeffrey R Wagner, Sandeep Kunwar, Christopher Ames, Dean Chou, Igor Barani, Andrew T Parsa, Arnau Benet, Michael W McDermott, Ivan El-Sayed, Manish K Aghi; UCSF

165: CAVERNOUS SINUS COMPARTMENTS FROM AN ENDOSCOPIC ENDONASAL APPROACH: PROPOSED ANATOMICAL COMPARTMENTS AND SURGICAL RELEVANCE – Juan C Fernandez-Miranda, MD, Kumar Abhinav, MD, Eugenio Cardenas, MD, Eric W Wang, MD, Carl H Synderman, MD, MBA, Paul A Gardner; University of Pittsburgh Medical Center

Questions & Answers

5:30 pm – 6:30 pm **Skull Base Jeopardy**
HOST: John Golfinos, MD

Ballroom A

6:30 pm – 7:45 pm **Welcome Reception & Poster Viewing in Exhibit Hall**

Ballroom B

SATURDAY, FEBRUARY 21, 2015

6:30 am **Registration Open**

Pre-Function Ballroom A & B

6:45 am **Continental Breakfast**

Located in all Breakfast Seminar Rooms 13/14, 15/16, 18/19, and 20/21

7:00 am – 8:00 am **BREAKFAST SEMINARS**

BS5: Vestibular Schwannoma: Management of the Most Challenging Cases

Room 13/14

MODERATOR: Matthew Carlson, MD

SPEAKERS:

- Derald E Brackmann, MD – *Management of VS in the Only Hearing Ear*
- Mario Sanna, MD – *Salvage Surgery for Recurrent VS Following Prior Microsurgery or Radiotherapy*
- Johnny B. Delashaw, MD – *Management of Very Large VS*
- All – *Case Presentations*

At the conclusion of this session, participants will be able to:

1. Identify the controversies associated with VS management in the three presented areas
2. Demonstrate an understanding of treatment options for patients with complex VS
3. Develop management strategies aimed at reducing treatment-associated morbidity while optimizing tumor control

The North American Skull Base Society gratefully acknowledges an unrestricted educational grant from DePuy Synthes/Codman in support of this session.

BS6: Esthesioneuroblastomas

Room 15/16

MODERATOR: Abraham Boskovitz, MD – *Esthesioneuroblastomas: Introduction*

SPEAKERS:

- Jamie Van Gompel, MD – *Esthesioneuroblastoma: Mayo Treatment Algorithms for Primary and Recurrent Tumors*
- Paul Levine, MD – *Principles of Treatment for Esthesioneuroblastoma; The University of Virginia Experience*
- Andrew Little, MD – *Surgical Options and Approach Selection in Esthesioneuroblastoma*
- Abraham Boskovitz, MD – *Discussion*

At the conclusion of this session, participants will be able to:

1. Discuss the diagnosis, treatment, and outcome of Esthesioneuroblastomas
2. Recognize and compare two broadly different medical treatment strategies for these tumors
3. Develop endoscopic versus open surgical plans to resect these tumors

BS7: Management of Challenging Aneurysms

Room 18/19

MODERATOR: Mustafa Baskaya, MD

SPEAKERS:

- Anil Nanda, MD, MPH – *Giant Aneurysms*
- Giuseppe Lanzino, MD – *Contemporary Treatment of Complex Aneurysms*
- Paul Gardner, MD – *Endoscopic Management of Challenging Aneurysms*
- All – *Case Presentations*

At the conclusion of this session, participants will be able to:

1. Distinguish challenging aneurysms from simple aneurysms
2. Recognize different modalities of treatment
3. Construct their treatment paradigms based on this seminar

BS8: CSF Leak Management in Anterior and Lateral Skull Base Surgery

Room 20/21

MODERATOR: Vijay Anand, MD – *Introduction*

SPEAKERS:

- Simon Angeli, MD – *Body Mass Index and Diagnostic Imaging Abnormalities in Spontaneous Cerebrospinal Fluid*
- Ricardo Carrau, MD – *Advances in Nasoseptal Flaps; Advantages and Effectiveness*
- James Evans, MD – *Neurosurgical Perspectives in Management of Encepheloceles*

At the conclusion of this session, participants will be able to:

1. Discuss the role of obesity in the pathophysiology of idiopathic intracranial hypertension
2. Discuss the role of nasoseptal flap to the treatment of spontaneous CSF rhinorrhea
3. Discuss the role of cerebrospinal fluid diversion in the management of medically refractory idiopathic intracranial hypertension

8:00 am – 9:00 am **CONCURRENT SESSIONS**

CS9: Avoiding Complications in Lateral Skullbase Surgery

Room 13/14

MODERATOR: K. Paul Boyev, MD – *Introduction: Complications of Lateral Skullbase Surgery and Physician Error*

SPEAKERS:

- L. Madison Michael, MD – *Complications in Retrosigmoid Surgery*
- Kyle Weaver, MD – *Complications in the Middle Fossa Approaches*
- Carl Heilman, MD – *Complications in the Translabyrinthine Approaches*
- K. Paul Boyev, MD – *Complications in Jugular Fossa Surgery*

At the conclusion of this session, participants will be able to:

1. Understand which complications are most prevalent in three major lateral skullbase approaches
2. Devise surgical strategies that proactively minimize patient risks for these foreseeable complications
3. Gain both conceptual and technical solutions to common skullbase surgery challenges

The North American Skull Base Society gratefully acknowledges an unrestricted educational grant from Stryker in support of this scientific session.

CS10: Diagnosis and Management of Intracranial Hypertension

Room 15/16

MODERATOR: Christopher H. Rassekh, MD – *Introduction of Concept and Speakers*

SPEAKERS:

- M. Sean Grady, MD – *Pathophysiology of Cerebrospinal Fluid and Clinical Applications*
- James A. Garrity, MD – *The Ophthalmologic Evaluation and Treatment of Pseudotumor Cerebri*
- Rodney J. Schlosser, MD – *The Role of Intracranial Hypertension in Spontaneous Cerebrospinal Fluid Leaks*

At the conclusion of this session, participants will be able to:

1. Recognize risk factors for altered CSF physiology and identify signs and symptoms of intracranial hypertension
2. Coordinate an evaluation of patients with suspected increased intracranial pressure
3. Classify and explain the major causes of increased intracranial pressure
4. Understand management options for patients with increased intracranial pressure in different clinical settings
5. Recommend evaluation by colleagues in other specialties and subspecialties for help with difficult intracranial pressure problems when appropriate
6. Choose and integrate appropriate medical and surgical treatments for patients with increased intracranial pressure

CS11: Competency of Future Skull Base Surgeons: More Surgeons, Fewer Surgeries, Tougher Cases

Room 18/19

MODERATOR: Daniel Nuss, MD, FACS

SPEAKERS:

- Carl Snyderman, MD, MBA – *Who Should Be Doing Skull Base Surgery?*
- Ian Witterick, MD, MSc, FRCSC – *Measuring Competency*
- Harry van Loveren, MD – *Increasing Complexity of Skull Base Cases*

At the conclusion of this session, participants will know about the following current and future concerns of skull base surgery:

1. The growing number of “skull base fellowships” in ENT and Neurosurgery and the diversity of backgrounds from which they are offered (Rhinology, Neurotology, Interventional Radiology, etc.)
2. The increasing management of skull base cases by individuals who have the technology and the interest, but not necessarily the expertise (i.e., “cherry-picking” of cases that ought to be done in major centers)
3. The increased pressure from third-party payers to avoid expensive skull base care
4. The pressure we are facing to show evidence that our treatments are clinically effective and cost-effective as well
5. The degree to which skull base practitioners pay attention to Quality and Safety metrics

CS12: Clival Chordomas Management Strategies

Room 20/21

MODERATOR: Mario Ammirati, MD

SPEAKERS:

- Robert Malyapa, MD, PhD – *Intensity-Modulated Proton Therapy (IMPT) for Skull Base Chordomas*
- Jean Anderson Eloy, MD – *Endoscopic Endonasal Strategies for Skull Base Chordomas: Technical Pearls and Pitfalls*
- John Grecula, MD – *Emerging Radiotherapy Techniques in the Management of Chordomas/Chondrosarcomas*

At the conclusion of this session, participants will be able to:

1. Understand the role of surgery in the management of chordomas
2. Understand the role of Radiation Therapy in the management of chordomas
3. Understand the role of emerging Radiotherapy techniques (i.e. carbon ions) in the management of chordomas

9:00 am – 9:30 am **Break with Exhibitors**

Ballroom B

9:30 am – 12:15 pm **PLENARY SESSION**

Ballroom A

- 9:30 am **Honored Guest Speaker: “Stereotatic Radiosurgery: Birth to Midlife Crisis”** – L. Dade Lunsford, MD
Introduction by Michael Link, MD
- 10:00 am **Distinguished Service Award** – Presented to Jon Robertson, MD
Presidential Address: “25 Years of NASBS: The Whole Is Greater Than the Sum of the Parts” – Michael Link, MD
- 10:45 am **International Guest: “Constructing Skull Base Centers of Excellence, What Are the Key Ingredients?”** – Mario Sanna, MD
Introduction by Siverio Agazzi, MD, MBA
- 11:15 am **Keynote Speaker: “Failure Is Not an Option”** – Fred Haise
Introduction by Michael Link, MD

12:15 pm – 1:30 pm **Lunch & Poster Viewing in the Exhibit Hall**

Ballroom B

1:30 pm – 2:30 pm **CONCURRENT SESSIONS**

CS13: Novel Technologies and Imaging in Skull Base Surgery

Room 13/14

MODERATOR: Lee Zimmer, MD, PhD – *Introduction*

SPEAKERS:

- Robert Labadie, MD – *Role of Image-Guided Surgery in Skull Base Applications*
- Eugene Yu, MD – *Dual Energy CT*
- Ossama Al-Mefty, MD – *The Value of Multi-Modality, Intra-Operative Imaging in Skull Base Surgery*
- Ian Dunn, MD – *Dynamic CT Angiography*

At the conclusion of this session, participants will be able to:

1. Understand the different systems available
2. Recognize errors that distort the accuracy of the systems
3. Review the basics of CT image generation and demonstrate the concept dual energy CT imaging and its potential use
4. Gain knowledge of the appropriate indications and benefits of dual energy CT imaging in head and neck oncology

The North American Skull Base Society gratefully acknowledges an unrestricted educational grant from Medtronic Surgical Technologies in support of this session.

CS14: Outcomes in Lateral Skull Base Surgery: What Really Matters

Room 15/16

MODERATOR: Michael Link, MD – *Introduction and Explanation of Session Objectives*

SPEAKERS:

- Myles Pensak, MD – *Gross total vs. Near total vs. Subtotal Resection: What Does It Really Mean in Lateral Skull Base Tumors?*
- Morten Lund-Johansen, MD, PhD – *What Drives Quality of Life in Lateral Skull Base Tumors?*
- Reid Thompson, MD – *VII and VIII Nerve Outcomes, What Is Optimal Intraoperative Monitoring and What Is Optimal Postoperative Grading?*

At the conclusion of this session, participants will be able to:

1. Distinguish the difference between gross total, near total and subtotal resections of lateral skull base tumors and their implications for overall outcomes
2. Prioritize quality of life measures and recognize what factors most drive quality of life in patients with lateral skull base tumors
3. Select appropriate intraoperative monitoring techniques for lateral skull base tumors and evaluate optimal postoperative grading systems

CS15: Multidisciplinary Approach to Perineural Invasion

Room 18/19

MODERATOR: Richard Wong, MD – *Mechanisms of Perineural Invasion*

SPEAKERS:

- Clementino Solares, MD – *Surgical Management of Perineural Invasion*
- Robert Foote, MD – *Radiation Based Management of Perineural Invasion*
- Robert Sinard, MD – *Outcomes of Management of Perineural Invasion, and the Role of Systemic Therapy*
- All – *Panel Discussion of Cases*

At the conclusion of this session, participants will be able to:

1. Define perineural invasion (PNI), and describe the basic molecular and cellular mechanisms underlying PNI
2. Employ surgery, radiation, systemic therapy, or combinations of these therapies appropriately for tumors exhibiting PNI
3. Understand the different histological tumor types associated with PNI, and the morbidity associated with PNI
4. Counsel patients on outcomes for tumors with PNI, and the potential efficacy of different therapeutic interventions for PNI

CS16: Controversies in Skull Base Pathologic Interpretations

Room 20/21

MODERATOR: Diana Bell, MD – *Sinonasal Carcinomas: Updated Phenotypic and Molecular Characterization*

SPEAKERS:

- Franco DeMonte, MD – *Meningiomas - Gene Expression Analysis as a Basis for Postoperative Management Decisions*
- Mark Jentoft, MD – *Aggressive Sellar Lesions*
- Nevo Margalit, MD – *Prognostic Factors in Skull Base Tumors- When is Conservative Surgery Not Enough?*

At the conclusion of this session, participants will be able to:

1. Recognize new pathologic entities
2. Develop pertinent and discriminating immunohistochemical and molecular studies to assist in diagnosis
3. Demonstrate that histological grade is an important prognosticator
4. Integrate and apply genomics, molecular and biomarkers for further management/targeted therapy

2:30 pm – 4:00 pm **PROFFERED PAPERS**

PROFFERED PAPER XI: Meningioma II

Room 13/14

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Carlos David, MD & Carl Heilman, MD

091: SURGICAL MANAGEMENT AND OUTCOMES OF PETROCLIVAL MENINGIOMAS: SERIES OF 17 PATIENTS – Yury Shulev, PhD, Ovanes Akobyan; City Hospital #2

092: ANTERIOR TRANSPETROSAL APPROACH COMBINED WITH PARTIAL POSTERIOR PETROSECTOMY FOR PETROCLIVAL MENINGIOMAS WITH POSTERIOR EXTENSION – Shunsuke Shibao, MD², Hamid Borghei-Razavi, MD¹, Kazunari Yoshida, PhD²; ²Department of Neurosurgery, Keio University School of Medicine, Tokyo, J, ¹Department of Neurosurgery, Clemens Hospital, Münster University, Münster, Germany

093: PRESENT DAY SURGICAL STRATEGY FOR SPHENOID WING MENINGIOMAS – Devon H Haydon, MD, Manuel Ferreira, Jr., MD, PhD, Louis J Kim, MD, Laligam N Sekhar, MD; University of Washington, Department of Neurosurgery, Harborview Medical Center

Questions & Answers

094: PRE-OPERATIVE EDEMA AND IMMEDIATE POST-OPERATIVE TUMOR BED HEMORRHAGE ARE PREDICTORS OF INTRACRANIAL MENINGIOMA RECURRENCE FOLLOWING SURGICAL RESECTION – George Klironomos, Shervin Taslimi, Alireza Mansouri, Alexandra Kilian, Osaama H Khan, Fred Gentili, Gelareh Zadeh; Toronto Western Hospital

095: SURGICALLY-RESECTED SKULL BASE MENINGIOMAS DEMONSTRATE A DIVERGENT POSTOPERATIVE RECURRENCE PATTERN COMPARED WITH SUPERFICIAL MENINGIOMAS – Alireza Mansouri, George Klironomos, Shervin Taslimi, Alexandra Kilian, Osaama H Khan, Fred Gentili, Gelareh Zadeh; Toronto Western Hospital

096: GENETIC ALTERATIONS IN SKULL BASE MENINGIOMAS – Wenya Linda Bi, MD, PhD¹, Malak Abedalthagafi, MD², Yu Mei, MD, PhD¹, Brian M Alexander, MD, MPH³, Rameen Beroukhi, MD, PhD⁴, Azra H Ligon, PhD², Sandro Santagata, MD, PhD², Ossama Al-Mefty, MD¹, Ian F Dunn, MD¹; ¹Dept of Neurosurgery, Brigham and Womens Hospital, Boston, MA, ²Dept of Pathology, Brigham and Womens Hospital, Boston, MA, ³Dept of Radiation Oncology, Brigham and Womens Hospital, Boston, MA, ⁴Dept of Cancer Biology, Dana-Farber Cancer Institute, Boston, MA

Questions & Answers

097: I-125 BRACHYTHERAPY FOR RECURRENT ATYPICAL AND MALIGNANT SKULL BASE MENINGIOMAS: COMPLICATIONS AND OUTCOME – Stephen T Magill, MD, PhD, Penny K Sneed, MD, Michael W McDermott, MD; University of California, San Francisco

098: V-REX: VESTIBULAR SCHWANNOMA - RADIOSURGERY OR EXPECTATION. A PROSPECTIVE RANDOMIZED STUDY – Morten Lund-Johansen, MD, MhD; Haukeland University Hospital

099: SURGICAL OUTCOMES IN INTRACRANIAL NEURENTERIC CYSTS – RETROSPECTIVE REVIEW OF A 15-YEAR INSTITUTIONAL EXPERIENCE – Jonathan D Breshears, MD¹, Tarik Tihan, MD, PhD², Michael W McDermott, MD¹, Philip V Theodosopoulos, MD¹; ¹UCSF Department of Neurosurgery, ²UCSF Department of Neuropathology

Questions & Answers

PROFFERED PAPER XII: Pituitary II

Room 15/16

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Mario Ammirati, MD & Madison Michael, MD

100: VISUAL OUTCOMES FOR GIANT PITUITARY ADENOMAS – Gulam Zilani, MB, BChir, MRCS, MA, MSc, Cindy Yee, Pablo Goetz, Caroline Hayhurst, FRCS, SN; Cardiff

101: ENDONASAL ENDOSCOPIC VERSUS SUBLABIAL TRANSPHENOIDAL RESECTION OF PITUITARY ADENOMAS: A SINGLE SURGEON VOLUMETRIC COMPARATIVE ANALYSIS OF 272 PATIENTS – Jacques Morcos, Brandon Gaynor, Ashish Shah, Charif Sidani, Peter Amenta, Anthony Wang; University of Miami

102: FACTORS PREDICTIVE OF POSTOPERATIVE COMPLICATIONS OF TRANS-SPHENOIDAL PITUITARY SURGERY – Lewis J Overton, MD, Jose P Zevallos, MD, MPH, FACS, Zainab Farzal, BS, Charles S Ebert, Jr., MD, MPH, Brent A Senior, MD, FACS, Deanna Sasaki-Adams, MD, Matthew Ewend, MD, Adam M Zanation, MD, FACS; University of North Carolina - Chapel Hill

Questions & Answers

103: THERE IS NO DIFFERENCE IN 30-DAY UNPLANNED READMISSION RATES BETWEEN MICROSCOPIC AND ENDOSCOPIC TRANSSPHEROIDAL SURGERY FOR PITUITARY TUMORS – Andrew S Little, MD, Michael Bohl, MD, Shah Ahmad, BS, Laura Knecht, MD, William L White, MD; Barrow Neurological Institute

104: EARLY POST-OPERATIVE (POD#1) DISCHARGE IN PITUITARY ADENOMA PATIENTS: THE EFFECT OF SOCIOECONOMIC FACTORS – Christopher A Sarkiss, MD¹, James Lee, MD¹, Joseph A Papin, BS², Satish Govindaraj, MD³, Raj K Shrivastava, MD¹; ¹Icahn School of Medicine at Mount Sinai, Department of Neurosurgery, ²University of Michigan Health System, ³Icahn School of Medicine at Mount Sinai, Department of Otolaryngology

105: POST OPERATIVE MANAGEMENT TO SAFELY DISCHARGE PITUITARY ADENOMAS HOME ON POST OPERATIVE DAY 1 – Alexander A Farag, MD, Sonia Geschwindt, MD, Gurston Nyquist, MD, James Evans, MD, Marc Rosen, MD; Thomas Jefferson University

Questions & Answers

106: IMPACT OF SELECTIVE PITUITARY GLAND RESECTION OR INCISION ON HORMONAL FUNCTION IN ENDONASAL TUMOR OR CYST REMOVAL – Garni Barkhoudarian, MD¹, Aaron Cutler, MD², Sam Yost, BS, MPh³, Amy Eisenberg, RN¹, Daniel F Kelly, MD¹; ¹John Wayne Cancer Institute, ²University of Utah, ³Wayne State Medical School

107: ENDOSCOPIC ENDONASAL TREATMENT OF PITUITARY ADENOMAS INVADING THE CAVERNOUS SINUS: SURGICAL OUTCOME IN 374 PATIENTS – Matteo Zoli, MD¹, Diego Mazzatenta, MD¹, Adelaide Valluzzi¹, Marco Faustini-Fustini¹, Ernesto Pasquini², Giorgio Frank¹; ¹Center of pituitary and endoscopic skull base surgery, IRCCS delle Scienze Neurologiche, Bologna (IT), ²ENT Department, Azienda USL, Bologna, Italy

108: THE ENDONASAL MICROSCOPIC SURGERY VS FULLY ENDOSCOPIC ENDONASAL SURGERY FOR PITUITARY ADENOMAS – Aguinaldo P Catanoce¹, Feres Chaddad², Jose Campos Filho², Roberto Zuiani³, Carlos Melro³, Marcos Marins³, Augusto Amato³, Tiago F Gonçalves⁴; ¹Hospital Vera Cruz Campinas Hospital Santa Catarina São Paulo, ²Hospital Santa Catarina, ³Hospital Vera Cruz Campinas, ⁴Hospital Puc de Campinas

Questions & Answers

PROFFERED PAPER XIII: Vestibular Schwannoma II

Room 18/19

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Jacques J. Morcos, MD, FRCS & Jamie Van Gompel, MD

109: SURGICAL RESECTION OF ACOUSTIC NEUROMAS: COMPARISON OF HEARING AND FACIAL NERVE OUTCOMES BETWEEN PRIMARY AND REDO OPERATIONS – Randall W Porter, MD¹, Andrew J Meeusen, MA²; ¹Barrow Neurological Institute, ²Barrow Neurosurgical Associates

110: LESSONS LEARNED IN THE MANAGEMENT OF LARGE PREVIOUSLY TREATED VESTIBULAR SCHWANNOMAS – William R Copeland, MD, Brian A Neff, MD, Colin Driscoll, MD, Michael J Link, MD; Mayo Clinic

111: REVISION SURGERY IN AUDITORY BRAINSTEM IMPLANTATION (ABI) – Robert Behr, PhD; Klinikum Fulda

Questions & Answers

112: LONG-TERM AUDITORY SYMPTOMS IN PATIENTS WITH SPORADIC VESTIBULAR SCHWANNOMA – Oystein V Tveiten, MD¹, Matthew L Carlson, MD², Michael J Link, MD³, Morten Lund-Johansen, MD, PhD¹; ¹Department of Neurosurgery, Haukeland University Hospital, Bergen, Norway, ²Department of Otorhinolaryngology, Mayo Clinic School of Medicine, Rochester, MN, USA, ³Department of Neurologic Surgery, Mayo Clinic School of Medicine, Rochester, MN, USA

113: THE EFFECT OF GRANULOCYTE-COLONY STIMULATING FACTOR (G-CSF) ON THE COCHLEAR NERVE AFTER PARTIAL LESION. AN EXPERIMENTAL STUDY ON RATS – [Guilherme R Montibeller](#), Benjamin Schackmann, Joachim Oertel; Department of Neurosurgery, Saarland University

114: EFFECT OF VESTIBULAR NERVE LESIONING BY GENTAMICIN ON OUTCOMES OF SURGICALLY TREATED VESTIBULAR SCHWANNOMAS – [Abdulrahman AL-Shudifat, MD¹](#), Fredrik Tjernstrom, PhD², Peter Siesjo, PhD²; ¹The University of Jordan-Faculty of Medicine, ²Lund University

Questions & Answers

115: TUMOR VOLUME THRESHOLD FOR ACHIEVING IMPROVED CONFORMITY INDEX IN VMAT AND GAMMA KNIFE STEREOTACTIC RADIOSURGERY FOR VESTIBULAR SCHWANNOMA – [Hyun Kim, MD¹](#), Peter Potrebko, PhD¹, Amanda Rivera¹, Haisong Liu, PhD¹, Harriet B Eldredge-Hindy, MD¹, Vickie Gunn¹, Maria Werner-Wasik, MD¹, David W Andrews, MD², James J Evans, MD², Christopher J Farrell, MD², Kevin Judy, MD², Wenying Shi, MD, PhD¹; ¹Department of Radiation Oncology, Sidney Kimmel Medical College at Thomas Jefferson University, ²Department of Neurosurgery, Sidney Kimmel Medical College at Thomas Jefferson University

116: STEREOTACTIC RADIOSURGERY FOR CYSTIC VESTIBULAR SCHWANNOMAS – [Christopher D Frisch, MD²](#), Jeffrey T Jacob, MD¹, Matthew L Carlson, MD², Colin L Driscoll, MD², Brian A Neff, MD², Michael J Link, MD¹; ²Mayo Clinic, Department of Otolaryngology-Head and Neck Surgery, ¹Mayo Clinic, Department of Neurologic Surgery

117: WHAT IS THE ROLE OF ENDOSCOPY DURING MICROSURGICAL REMOVAL OF VESTIBULAR SCHWANNOMAS? – Joachim Oertel, [Guilherme Montibeller](#); Department of Neurosurgery, Saarland University

Questions & Answers

PROFFERED PAPER XIV: Vascular

Room 20/21

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Norberto Andaluz, MD & Andrew P. Carlson, MD

163: PICA BYPASS AND TRAPPING IN RUPTURED FUSIFORM VERTEBRO-PICA ORIGIN ANEURYSMS. RATIONALE AND CASE ILLUSTRATIONS – [Andrew P Carlson, MD](#); University of New Mexico

119: THE LATERAL MESENCEPHALIC VEIN (LMV): SURGICAL ANATOMY AND ITS ROLE IN THE DRAINAGE OF TENTORIAL DURAL ARTERIOVENOUS FISTULAE (DAVFS) – Delia Cannizzaro, MD³, Stylianos K Rammos, MD¹, Adel El-Nashar, MD², Andrew G Grande, MD², [Giuseppe Lanzino, MD³](#); ³Department of Neurological Surgery Mayo Clinic, ¹Arkansas Neuroscience Institute Little Rock, ²Department of Neurosurgery, University of Minnesota

120: ENDOVASCULAR AND SURGICAL TREATMENT OF TENTORIAL DURAL AV FISTULAS: A META-ANALYSIS – [Waleed Brinjikji, MD](#), Delia Cannizzaro, MD, Mohammad H Murad, MD, MPH, Giuseppe Lanzino, MD; Mayo Clinic

Questions & Answers

121: MINIMALLY INVASIVE TRANSPALPEBRAL “EYELID” CRANIOTOMY FOR ANTERIOR CIRCULATION ANEURYSMS: EXPERIENCE WITH 71 CASES – [Abraham Sabersky, MD](#), Kenan Alkhalili, Mohab Darwish, MD, Gasser Alshyal, MD, Khaled M Aziz, MD, PhD; Allegheny General Hospital

122: THE EXPANDED ENDOSCOPIC ENDONASAL APPROACH TO ANTERIOR COMMUNICATING ARTERY ANEURYSMS: A CADAVERIC MORPHOMETRIC STUDY – [Ajay S Unnithan, BS¹](#), Ana Maria Lemos, MD¹, Satyan B Sreenath, BS¹, Oluwaseun Omofoye, MD, MS¹, Vivian Doan, BS¹, Pablo Recinos, MD², Adam Zanation, MD¹, Deanna Sasaki-Adams, MD¹; ¹University of North Carolina- Chapel Hill, ²Cleveland Clinic

123: THE ROLE OF ANTERIOR CIRCULATION PATTERNS IN PROTECTING FROM THE DETRIMENTAL EFFECT OF VASOSPASM AFTER ANEURYSMAL SAH DUE TO ANTERIOR COMMUNICATING ARTERY RUPTURE – Piyush Kalakoti, MD, [Richard D Murray, MD](#), Shyamal Bir, MD, Osama Ahmed, MD, Papireddy Bollam, MD, Anil Nanda, MD; LSUHSC Shreveport Neurosurgery

Questions & Answers

124: MINI-PTERIONAL APPROACH FOR UNRUPTURED MIDDLE CEREBRAL AND CAROTID ARTERY BIFURCATION ANEURYSMS: EXPERIENCE IN 51 CASES – [Abraham E Sabersky, MD](#), Kenan Alkhalili, Mohab Darwish, MD, Gasser Alshyal, MD, Khaled M Aziz, MD, PhD; Allegheny General Hospital

125: ENDOVASCULAR FLOW DIVERSION FOR CAROTIDO-OPHTHALMIC ANEURYSMS – [Anthony M Burrows, MD](#), Ross C Puffer, MD, Giuseppe Lanzino, MD; Mayo Clinic

126: PREVENTION OF VISUAL FUNCTION IN THE OPERATION OF PARAOLINOID ANEURYSMS – [Yutaka Mine, MD, PhD](#); Saiseikai Yokohamashi Tobu Hospital

Questions & Answers

4:00 pm – 4:30 pm **Break with Exhibitors**

Ballroom B

4:30 pm – 6:00 pm **PROFFERED PAPERS**

PROFFERED PAPER XV: Skull Base Malignancies

Room 13/14

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Franco DeMonte, MD & Daniel Nuss, MD, FACS

127: EVOLUTION OF SKULL BASE SURGERY FOR SINONASAL MALIGNANCY AT MASSACHUSETTS EYE AND EAR INFIRMARY – Matthew R Naunheim, MD, MBA¹, Neerav Goyal, MD, MPH¹, Matthew M Dedmon, MD, PhD¹, Kyle J Chambers, MD¹, Ahmad R Sedaghat, MD, PhD¹, Benjamin S Bleier, MD¹, Eric H Holbrook, MD¹, William T Curry, MD², Stacey T Gray, MD¹, Derrick T Lin, MD¹; ¹Massachusetts Eye and Ear Infirmary, ²Massachusetts General Hospital

128: ADVANCED SINONASAL MALIGNANT TUMORS TREATED BY ENDOSCOPY-ASSISTED APPROACHES – Ronaldo N Toledo, PhD, Joao Gonçalves Filho, Sergio H Suzuki, Thiago C Chulam, Renan B Lira, Jose G Vartanian, Jose Magrin, Luiz P Kowalski; ACCamargo Cancer Hospital

129: ENDOSCOPIC VERSUS OPEN APPROACHES IN MANAGEMENT OF SINONASAL MELANOMA – Brittney N Tillman, MD¹, Tiffany A Glazer, MD¹, Andrew D Kroeker, MD¹, Katayoon Sebetsarvastani¹, Stephen E Sullivan, MD², Scott A McLean, MD, PhD¹, Lawrence J Marentette, MD, PhD¹, Erin L McKean, MD¹; ¹The University of Michigan Department of Otolaryngology - Head and Neck Surgery, ²The University of Michigan Department of Neurosurgery

Questions & Answers

130: ENDOSCOPIC ANTERIOR SKULL BASE RESECTION RESECTION FOR OLFACTORY NEUROBLASTOMA – Ralph Abi Hachem, MD, Mallory Raymond, BA, Shawn Allen, MD, Zoukaa Sargi, MD, Roy R Casiano, MD; Department of Otolaryngology Head and Neck Surgery, Miller School of Medicine, University of Miami

131: ADENOID CYSTIC CARCINOMA OF THE SKULL BASE: RESULTS WITH AN AGGRESSIVE MULTIDISCIPLINARY APPROACH – Rohan Ramakrishna, MD, Shaan Raza, Michael Kupferman, Ehab Hanna, Franco DeMonte; MD Anderson Cancer Center

132: SINONASAL ADENOID CYSTIC CARCINOMA: THE MICHIGAN EXPERIENCE – Aaron L Thatcher, MD, Katayoon Sabetsarvestani, Erin L McKean, MD; University of Michigan

Questions & Answers

133: CEREBELLO-PONTINE ANGLE CHONDROSARCOMAS: ENDOSCOPIC ENDONASAL MANAGEMENT – Paulo M Mesquita Filho, MD, Daniel M Prevedello, MD, Leo F Ditzel Filho, MD, Edward E Kerr, MD, Cristian N Martinez, MD, Mariano E Fiore, MD, Ricardo L Dolci, MD, Bradley A Otto, MD, Ricardo L Carrau, MD; Ohio State University

134: THE ROLE OF MULTIMODALITY THERAPY IN THE MANAGEMENT OF SKULL BASE CHONDROSARCOMAS – Shaan M Raza, MD, Franco DeMonte, MD; The University of Texas MD Anderson Cancer Center

135: STEREOTACTIC RADIATION FOR SKULL BASE RECURRENCES OF SALIVARY CARCINOMAS: IMPLICATIONS FOR TUMOR TARGETING – Zaid A Siddiqui, BS¹, Edward Melian, MD², Anil Sethi, PhD³, Vikhram C Prabhu, MD⁴, Bahman Emami, MD³, Iris A Rusu, MS³, John P Leonetti, MD⁵, Douglas E Anderson, MD⁶; ¹Stritch School of Medicine, ²Departments of Radiation Oncology and Neurological Surgery, Stritch School of Medicine, ³Department of Radiation Oncology, Stritch School of Medicine, ⁴Departments of Neurological Surgery and Radiation Oncology, Stritch School of Medicine, ⁵Departments of Otolaryngology and Neurological Surgery, Stritch School of Medicine, ⁶Department of Neurological Surgery, Stritch School of Medicine

Questions & Answers

PROFFERED PAPER XVI: Imaging

Room 15/16

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATOR: Jonathan Morris, MD

136: HIGH-FIELD INTRA-OPERATIVE MAGNETIC RESONANCE IMAGING DURING EXTENDED ENDONASAL ENDOSCOPIC RESECTION OF COMPLEX SKULL BASE TUMORS – Peter Sylvester, John Evans, Greg Zipfel, Richard Chole, Ravindra Uppaluri, Bruce Haughey, Keith Rich, Albert Kim, Ralph Dacey, Michael Chicoine; Washington University

137: MAGNETIC RESONANCE ELASTOGRAPHY FOR PRE-SURGICAL ASSESSMENT OF SKULL BASE LESIONS – J Huston, MD, A Arani, PhD, J Hughes, MD, N Fattahi, MD, J Van Gompel, MD, M Link, MD, R Ehman, MD; Mayo Clinic

138: RADIOLOGICAL PREDICTION OF SKULL BASE MENINGIOMA CONSISTENCY FOR ENDOSCOPIC RESECTION – Majed Aldosari, MD, Reza Forghani, Denis Sirhan, Anthony Zeitouni, Marie-Christine Guiot, Salvatore Di Maio, Marc Tewfik; McGill University Health Centre

Questions & Answers

139: HIGHER RESOLUTION MAGNETIC RESONANCE ELASTOGRAPHY (MRE) FOR THE EVALUATION OF INTRATUMORAL HETEROGENEITY IN MENINGIOMAS – [J D Hughes, MD](#), N Fattahi, MD, J Van Gompel, MD, A Arani, MD, G Lanzino, MD, M Link, MD, F Meyer, MD, R Erhman, J Huston, MD; Mayo Clinic

140: PREDICTION OF TUMOR CONSISTENCY OF MENINGIOMAS USING DIFFUSION TENSOR IMAGING – [John Y Lee, MD](#), Dmitry Petrov, MD, Kalil Abdullah, MD, Peter Syre, MD, Maria Martinez-Lage, MD, PhD, Sumei Wang, MD; University of Pennsylvania

141: PREDICTION OF CONSISTENCY OF PITUITARY ADENOMAS BY MAGNETIC RESONANCE IMAGING – [Kyle A Smith, MD](#), John D Leever, MD, Roukoz B Chamoun, MD; University of Kansas Medical Center

Questions & Answers

142: RELIABILITY OF DIFFUSION TENSOR IMAGING TRACTOGRAPHY FOR FACIAL NERVE IMAGING IN PATIENTS WITH VESTIBULAR SCHWANNOMA – [Nolan Ung, BS](#), Lawrence K Chung, BS, Nicole Cremer, BS, Monica Mathur, BS, Brittany Voth, BS, Kimberly Thill, Ishani Mathur, BS, Isaac Yang, MD; University of California, Los Angeles

143: INDIVIDUALIZED SURGICAL APPROACH PLANNING FOR PETROCLIVAL MENINGIOMAS USING A 3D PRINTER – [Thomas J Muellemann, MD](#), Alison Rasband-Lindquist, MD, Jeremy Peterson, MD, James Lin, MD, Paul Camarata, Hinrich Staecker, Roukoz Chamoun; University of Kansas

144: PRE-MOULDED CUSTOM IMPLANTS FOR SPHENO-ORBITAL RECONSTRUCTION – A NOVEL MULTI-DISCIPLINARY APPROACH – [Sam G Evans, BSc, BMBS, FRCO](#), C M Lane, S Bhatia, J Martin, D S Morris, C Hayhurst; University Hospital of Wales

Questions & Answers

PROFFERED PAPER XVII: Vestibular Schwannoma/QOL/TORS

Room 18/19

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATORS: Marc Schwartz, MD & Christopher J. Danner, MD, FACS

145: IMPACT OF EDUCATIONAL COURSES ON QUALITY OF LIFE IN VESTIBULAR SCHWANNOMA – [Monica K Finnkirke, RN](#), Oystein V Tveiten, MD, Morten Lund-Johansen, MD, PhD; Dept of Neurosurgery, Haukeland University Hospital, Bergen, Norway

146: PATTERNS AND PREDICTORS OF HEARING LOSS IN OBSERVED VESTIBULAR SCHWANNOMA – [Michael Olson, MD²](#), Matthew Carlson, MD², Oystein Tveiten, MD¹, Federik Goplen, MD, PhD¹, Morten Lund-Johansen, MD, PhD¹, Michael Link, MD², Colin Driscoll, MD²; ²Mayo Clinic, Rochester, ¹Bergen University Hospital, Bergen, Norway

147: RETRACTORLESS MICROVASCULAR DECOMPRESSION FOR TRIGEMINAL NEURALGIA: TECHNICAL NUANCES AND RESULTS IN 25 CASES – [James K Liu, MD¹](#), Zachary S Mendelson, BS¹, Ahmed B Sheikh, BA¹, Gary M Heir, DMD²; ¹Rutgers New Jersey Medical School, ²Rutgers School of Dental Medicine

Questions & Answers

148: NASOPHARYNGEAL EVALUATION IN THE TRANSORAL ROBOTIC SURGERY (TORS) APPROACH TO THE HEAD AND NECK CARCINOMA UNKNOWN PRIMARY (HNCUP) IN THE ERA OF HUMAN PAPILLOMAVIRUS (HPV) PANDEMIC: HOW WE DO IT AND WHY – [William W Thomas, MD](#), Chris Rassekh, MD, Alex Kejner, MD, Greg Weinstein, MD, Bert W O'Malley Jr., MD; Hospital of the University of Pennsylvania

149: RESECTION OF PITUITARY LESIONS IN A PHANTOM MODEL USING CONCENTRIC TUBE ROBOTS WITH ENDOSCOPIC VISUALIZATION – Philip Swaney, Hunter Gilbert, Robert Webster, Paul Russell, [Kyle Weaver](#); Vanderbilt University

150: TRANSORAL ROBOTIC SURGERY FOR PARAPHARYNGEAL SPACE TUMORS REDUCES RISK OF POSTOPERATIVE FIRST BITE SYNDROME – [Christopher H Rassekh, MD](#), Jared S Huber, Ara A Chalian, Gregory S Weinstein, Bert W O'Malley, Jr., MD; University of Pennsylvania

Questions & Answers

151: TELEOPERATION OF CONCENTRIC TUBE ROBOTS FOR SKULL BASE APPLICATIONS: PITUITARY SURGERY AT A DISTANCE? – Raul Wirz¹, Luis Torres², Philip Swaney¹, Hunter Gilbert¹, Ron Alterovitz², Robert Webster¹, [Kyle Weaver](#)¹, Paul Russell¹; ¹Vanderbilt University, ²University of North Carolina-Chapel Hill

152: OUTCOMES OF TRANSORAL ROBOTIC SURGERY FOR PARAPHARYNGEAL SPACE SALIVARY GLAND NEOPLASMS – [Christopher H Rassekh, MD](#), Gregory S Weinstein, MD, Laurie A Loevner, MD, Ara A Chalian, MD, Bert W O'Malley, Jr., MD; University of Pennsylvania

153: THE ROLE OF INTRAOPERATIVE NEUROMONITORING IN ADULTS WITH CHIARI I MALFORMATION – [Florian Roser, MD](#), PhD¹, Georgios Naros, MD², Florian H Ebner, MD, PhD², Marcos S Tatagiba, MD, PhD²; ¹Cleveland Clinic Abu Dhabi, ²University Hospital Tuebingen

Questions & Answers

PROFFERED PAPER XVIII: Vascular/Trauma/Infectious Diseases/SSC

Room 20/21

(ORAL PRESENTATIONS ARE 9 MINUTES IN LENGTH AND Q&A SESSIONS ARE 3 MINUTES)

MODERATOR: See Final Changes Flyer for Moderator

154: ENDOVASCULAR MANAGEMENT OF ACUTE AND DELAYED INTERNAL CAROTID ARTERY INJURIES SECONDARY TO TRANSSPHEOIDAL RESECTION OF PITUITARY ADENOMA – Peter Sylvester, Christopher Moran, Colin Derdeyn, Dewitte Cross, Ralph Dacey, Gregory Zipfel, Albert Kim, Ravi Uppaluri, Bruce Haughey, Rene Tempelhoff, Keith Rich, John Schneider, Richard Chole, Michael Chicoine; Washington University

155: ACCURACY OF CTA IN PREDICTING THE PRESENCE OF A FETAL PCA – Osama I Ahmed, MD¹, Benamina L Brown, MD², Shihao Zhang, MD¹, Bharat Guthikonda, MD¹, Hugo Cuellar, MD¹; ¹Louisiana State University Health Sciences Center Shreveport, ²Mayo Clinic Jacksonville

156: RESOLUTION OF OCULOMOTOR NERVE PALSY SECONDARY TO POSTERIOR COMMUNICATING ARTERY ANEURYSMS: COMPARISON BETWEEN CLIPPING AND COILING – D. Jay McCracken, MD, Brendan P Lovasik, BS, Courtney E McCracken, PhD, MS, C. Michael Cawley, MD, Daniel L Barrow, MD, Raphael Tamargo, MD, Gustavo Pradilla, MD; Emory University

Questions & Answers

157: TRAUMATIC SKULL BASE INJURIES – A RETROSPECTIVE STUDY OF INCIDENCE, MANAGEMENT, COMPLICATIONS AND OUTCOMES – Agnelio Cardentey, Daniel R Klinger, MD, Samuel L Barnett, MD; UT Southwestern Medical Center

158: EXTENSIVE ANTERIOR CRANIAL BASE FRACTURES: ANATOMIC AND SURGICAL DESCRIPTION OF COMBINATION FLAPS – Jacob Archer¹, Sam Safavi-Abbasi, MD, PhD², Noritaka Komune, MD, PhD³, Michael Sughrue, MD¹, Albert Rhoton, MD³, Andrew Little, MD², Jose Sanclement, MD⁴, Robert Spetzler², Hai Sun, MD, PhD²; ¹Department of Neurosurgery, University of Oklahoma Health Science Center, ²Barrow Neurological Institute, St Josephs Hospital, ³Department of Neurosurgery, University of Florida, ⁴Department of Otorhinolaryngology, University of Oklahoma Health Science Center

159: CLASSIFICATION AND REPAIR OF EXTENSIVE ANTERIOR SKULL BASE FRACTURES – Jacob Archer¹, Sam Safavi-Abbasi, MD, PhD², Michael Sughrue, MD¹, Jeffery James, MD, DDS³, Andrew Little, MD², Jared Heibert, MD⁴, Robert Spetzler, MD²; ¹Department of Neurosurgery, University of Oklahoma Health Sciences Center, ²Barrow Neurological Institute, St Josephs Hospital, ³Department of Oral and Maxillofacial Surgery, University of Oklahoma Health Science Center, ⁴Department of Otolaryngology, University of Oklahoma Health Science Center

Questions & Answers

160: AN EXAMINATION OF INTRACRANIAL INVOLVEMENT IN INVASIVE FUNGAL SINUSITIS PATIENTS – James Foshee, BA, Gurston Nyquist, MD, Marc Rosen, MD; Thomas Jefferson University

161: INCIDENCE AND CLINICAL IMPLICATIONS OF SUPERIOR SEMICIRCULAR CANAL DEHISCENCE WITH ENCEPHALOCELE – Aaron M Mettrailer, MD¹, Jessica LaRouere², Sean O'Leary², Seilesh Babu, MD¹, Michael LaRouere, MD¹, Bojrab Dennis¹; ¹Michigan Ear Institute, ²University of Notre Dame

162: CLINICAL OUTCOMES OF MIDDLE FOSSA CRANIOTOMY FOR SUPERIOR SEMICIRCULAR CANAL DEHISCENCE REPAIR – Lawrance K Chung, Nolan Ung, Daniel T Nagasawa, Panayiotis Pelargos, Kimberly Thill, Quinton Gopen, Isaac Yang; UCLA

Questions & Answers

6:00 pm – 7:00 pm **New Member Reception with Leadership** On board the StarShip docked outside the Convention Center
Boarding for the New Member Reception is at 6:00 pm. **You must have your badge to board.**

7:00 pm **President's Reception on the StarShip Yacht** On board the StarShip docked outside the Convention Center
Enjoy a beautiful evening twilight cruise of Tampa Bay while networking with your peers. Boarding for the President's Reception will begin at 7:00 pm. **You must have your name badge or guest ticket with you to board.** The yacht will set sail at 7:45 pm and return to dock at 9:00 pm. Cocktail/Business Attire (Bring a sweater or jacket).

SUNDAY, FEBRUARY 22, 2015

6:30 am **Registration Open**

Pre-Function Ballroom A & B

6:45 am **Continental Breakfast**

Located in all Breakfast Seminar Rooms 13/14, 15/16, 18/19, and 20/21

7:00 am – 8:00 am **BREAKFAST SEMINARS**

BS9: Primary Tumors of the Facial Nerve

Room 13/14

MODERATOR: Sam Marzo, MD

SPEAKERS:

- Simon Angeli, MD – *Clinical Anatomy and Presenting Symptoms*
- Ajay Niranjani, MD – *Differential Diagnosis and Imaging*
- John Leonetti, MD – *Surgical Approaches and Adjuvant Therapy*
- All – *Case Discussions/Questions and Answer Session*

At the conclusion of this session, participants will be able to:

1. Discuss the clinical presentation of patients with primary facial nerve neoplasms and relevant clinical anatomy
2. Describe the differential diagnosis, imaging characteristics, and role of observation in facial nerve neoplasms
3. Discuss the indications for surgical therapy, approaches, and adjuvant therapy

BS10: Contemporary Management of SNUC

Room 15/16

MODERATOR: Michael Kupferman, MD – *Overview of SNUC-gnostic Dilemmas and Biological Behavior*

SPEAKERS:

- Ehab Hanna, MD – *Role of Chemo-Radiotherapy for SNUC*
- Daniel Price, MD – *Surgical Approaches for SNUC – When and Why?*
- All – *Case Presentations*

At the conclusion of this session, participants will be able to:

1. Understand the evaluation of patients with SNUC
2. Recognize the role of chemotherapy and radiotherapy in the current management of SNUC
3. Prioritize patients for surgical treatments with SNUC

BS11: Petroclival Meningiomas

Room 18/19

MODERATOR: Ketan R. Bulsara, MD

SPEAKERS:

- Harry van Loveren, MD – *Extensive Skull Base Approaches to Petroclival Meningiomas: "and the Truth will Set you Free"*
- Jacques Morcos, MD – *A Tailored Approach to Petroclival Meningiomas: Determinants of Selection*
- Juan Fernandez-Miranda, MD – *Endoscopic Endonasal Approach for Petroclival Meningiomas*
- Panel – *Case Discussions*

At the conclusion of this session, participants will be able to:

1. Understand the different approaches for petroclival meningiomas
2. Understand the goals/rationale and different philosophies for the management of petroclival meningiomas
3. Understand the advantages, limitations, and indications of endoscopic endonasal approach for petroclival

The North American Skull Base Society gratefully acknowledges an unrestricted educational grant from Elekta, Inc. in support of this session.

BS12: Management of Cervical Paragangliomas – Carotid Body Tumors and Glomus Vagale

Room 20/21

MODERATOR: Edward Melian, MD – *Introduction of Speakers*

SPEAKERS:

- Kerry Olsen, MD, FACS – *Cervical Paragangliomas: Presentation, Anatomy*
- Michael Gleeson, MD, FRCS, FRACS, FDS – *Surgical Management of Cervical Paragangliomas*
- James Liu, MD, FACS, FAANS – *Management of Paragangliomas Involving the Jugular Foramen: Challenges, Pearls, and Pitfalls*

At the conclusion of this session, participants will be able to:

1. Understand anatomy, physiology, and histology of cervical paragangliomas
2. Obtain clarification of presentation diagnosis, and natural history of paragangliomas
3. Review factors important in decision making for management and treatment
4. Better understand the surgical management of these complex lesions
5. Recognize the inherent difficulties in dealing with tumor as it extends to the jugular foramen
6. Understand when to consider and employ non-surgical management of the cervical paragangliomas

8:00 am – 9:00 am CONCURRENT SESSIONS

CS17: The Da Vinci Code: Seeking Truth in Traditional Dogma of Lateral Skull Base Surgery

Room 13/14

MODERATOR: Michael Gluth, MD – *Introduction and Overview of an Evidence-Based Skull Base Surgical Practice*

SPEAKERS:

- Michael Gluth, MD – *Proactive Microsurgery for Acoustic Neuroma Based on Hearing Preservation Intent: Is it Justified?*
- Anil Nanda, MD – *The Far-Lateral Approach: Complications and Lessons Learned*
- John Lee, MD – *The Role of the Endoscope in Modern Cerebellopontine Angle Surgery*
- Jon Robertson, MD – *Management of Lateral Skull Base CSF Leak: Options and Evidence*

At the conclusion of this session, participants will be able to:

1. Distinguish potential benefits and avoid complications associated with the far lateral approach
2. Integrate the potential role of the endoscope as a tool in cerebellopontine angle surgery
3. Appraise the potential role of proactive acoustic neuroma surgery when hearing preservation intent is the major factor prompting intervention

CS18: Chemotherapy – Where is it Useful in Skull Base Tumors

Room 15/16

MODERATOR: Katherine Price, MD – *Chemotherapy for Sino-Nasal Undifferentiated Carcinoma and Esthesioneuroblastoma*

SPEAKERS:

- Cherie-Ann Nathan, MD, FACS – *Chemotherapy for Squamous Cell Carcinoma*
- Heather Leeper, MD – *Chemotherapy for Meningioma*

At the conclusion of this session, participants will be able to:

1. Discuss the timing of chemotherapy in the management of patients with skull base malignancies
2. Appraise the challenges for chemotherapy in meningioma in neuro-oncology
3. Review the evidence for chemotherapy in the primary treatment of sino-nasal undifferentiated carcinoma
4. Assess the value of chemotherapy for metastatic/recurrent sino-nasal undifferentiated carcinoma

CS19: Skull Base Surgery in Private Practice – How to Make it Work? How to Build a Practice?

Room 18/19

MODERATOR: George Bovis, MD

SPEAKERS:

- Hamad Farhat, MD
- Brian Milligan, MD

At the conclusion of this session, participants will be able to:

1. Describe the difference between private practice and academic practice
2. Recognize the challenge of setting up a private skull base practice
3. Understand the relationship between practitioner and the hospital

CS20: Skull Base Tumors in Pediatric Patients

Room 20/21

MODERATOR: Jeremy Greenlee, MD – *Introduction and Overview*

SPEAKERS:

- William Gump, MD – *Skull Base Tumors in Children: The Good News and the Bad News*
- Ken Kazahaya, MD, MBA, FACS – *Congenital Skull Base Masses: Presentation and Management Options*
- William Couldwell, MD, PhD – *Skull Base Tumors in Children- Technical Nuances and Lessons Learned*
- All – *Questions and Discussion*

At the conclusion of this session, participants will be able to:

1. Identify differences in the spectrum of disease processes in children
2. Understand the role of intraoperative adjuncts in pediatric skull base surgery
3. Recognize the presentation and management of congenital skull base masses and lesions
4. Describe unique technical challenges in pediatric skull base surgery
5. Describe methods to overcome these challenges

9:00 am – 10:00 am CONCURRENT SESSIONS

CS21: Jugular Foramen Tumors

Room 13/14

MODERATOR: Matthew Carlson, MD

SPEAKERS:

- James Netterville, MD – *Evolution in Surgical Management of Jugular Foramen Paragangliomas*
- Andrew Parsa, MD, PhD – *Contemporary Management of Jugular Foramen Meningiomas*
- Robert Foote, MD – *Radiation Therapy for Jugular Foramen Tumors*
- All – *Review of Cases*

At the conclusion of this session, participants will be able to:

1. Review the advantages and disadvantages of radiosurgery and microsurgery for treatment of jugular foramen tumors
2. Recognize situations where surgery remains advisable over radiosurgery
3. Recommend an individualized treatment strategy that maximizes tumor control while minimizing cranial nerve morbidity

CS22: Temporal Bone Tumors

Room 15/16

MODERATOR: Richard Gurgel, MD

SPEAKERS:

- Edward Duckworth, MD
- Mark Linskey, MD

At the conclusion of this session, participants will be able to:

1. Evaluate and appropriately diagnose patients with temporal bone neoplasms
2. Manage patients with temporal bone neoplasms

CS23: Skull Base Surgery in Developing Countries – What Is Our Role?

Room 18/19

MODERATOR: William Copeland III, MD

SPEAKERS:

- Bharat Guthikonda, MD – *Neurosurgery in Kurdistan Iraq*
- Michael Chicoine, MD – *Opportunities in East Africa*
- Morten Lund-Johansen, MD – *Collaboration with Addis Ababa University Hospital in Ethiopia*

At the conclusion of this session, participants will be able to:

1. Recognize some of the current neurosurgery efforts in developing countries
2. Understand the challenges to performing skull base surgery in developing countries
3. Identify ways to participate in neurosurgery in developing countries

CS24: Cochlear Implants, Auditory Brainstem Implants, Auditory Midbrain Implants, What Does the Future Hold? Room 20/21

MODERATOR: George Wanna, MD

SPEAKERS:

- Craig Buchman, MD – *Cochlear Implants: When They Work and What to Expect*
- Marc Schwartz, MD – *Auditory Brainstem Implant: The Next Generation*
- Thomas Lenarz, MD – *Auditory Rehabilitation in Patients with Neural Deafness: The Auditory Midbrain Implant*

At the conclusion of this session, participants will be able to:

1. Recognize the limitation of the Cochlear Implant
2. Know the indications of the Auditory Brainstem Implant
3. Comprehend the indications and limitations of Auditory Midbrain Implant

10:00 am – 10:30 am **Break with Exhibitors**

Ballroom B

10:30 am – 12:30 pm **PLENARY SESSION**

Ballroom A

10:30 am **Poster Awards Announcement** – Chris Rassekh, MD

10:30 am **Honored Guest Speaker: “The Evolution of Transsphenoidal Surgery, and Lessons Learned Along the Way”** – Edward Laws, MD, *Introduction by Michael Link, MD*

The North American Skull Base Society gratefully acknowledges an unrestricted educational grant from Stryker in support of this lecture.

11:00 am **Radiology** – Jonathan Morris, MD, *Introduction by Michael Link, MD*

11:30 pm **Medical Malpractice Special Session: “So, You Have Been Sued...Now What?”**

Come and learn how to avoid the mistakes that will cost you the case.

Introductions by Siviero Agazzi, MD

SPECIAL PRESENTATIONS BY:

- The Honorable Gregory Holder, Circuit Court Judge, 13th Judicial Circuit of Florida
- Henry Valenzuela Esq, Personal Injury Attorney
- Ronald Bush Esq, Medical Malpractice Defense Attorney

12:30 pm

Meeting Adjourned

P001: QUANTITATIVE ANALYSIS OF DECISION MAKING IN ENDOSCOPIC VERSUS OPEN SKULL BASE CANCER SURGERY – Adam M Zanation, MD, Allison M Deal, Rounak B Rawal, MD, Justin D Miller, MD; University of North Carolina at Chapel Hill Hospitals

P002: TRANSGLABELAR COMBINED EXTENDED APPROACH AND RECONSTRUCTION IN ANTERIOR SKULL BASE TUMORS – Gervith Reyes Soto, PROFESSOR, OF, NEUROONCOLOGY, Alejandro Monroy Sosa, MD, Bernardo Cacho Diaz, Professor of Neurooncology, Angel Herrera Gomez, Professor of Surgical Oncology, Martin Granados Garcia, Professor of Head and Neck Surgery; Instituto Nacional De Cancerologia Mexico

P003: FRONTAL SINUS VIOLATION AND MANAGEMENT OF COMPLICATIONS – Alexander A Farag, MD, Waseem Mohiuddin, MS, Sonia Geschwindt, MD, Gurston Nyquist, MD, James Evans, MD, Marc Rosen, MD; Jefferson University

P004: SURGICAL LANDMARKS FOR THE ENDOSCOPIC ENDONASAL APPROACH TO THE MEDIAL INTRACONAL ORBITAL APEX: A CADAVERIC STUDY – Dmitriy Petrov, MD, John Craig, MD, Nithin Adappa, MD, James Palmer, MD, John Y Lee, MD; University of Pennsylvania

P005: DIFFUSE LARGE B-CELL LYMPHOMA OF THE FRONTAL SINUS PRESENTING AS A POTT'S PUFFY TUMOR: CASE REPORT – Kenan Arnautovic, MD¹, Nickalus R Khan²; ¹Semmes Murphey, ²University of Tennessee

P006: CASE REPORT OF MECKEL'S CAVE MASS AND UNILATERAL MASSETER HYPERTROPHY MANAGED WITH SERIAL BOTOX INJECTIONS – Kyle K VanKoeveering, MD, Stephen E Sullivan, MD, Erin L McKean, MD; University of Michigan

P007: THE BUCCAL FLAP PAD VASCULARIZED ROTATIONAL FLAP FOR RECONSTRUCTION OF VENTRAL SKULL BASE DEFECTS – Jeff D Markey, MD, Arnau Benet, MD, Ivan El-Sayed, MD; University of California-San Francisco

P008: ANTERIOR SKULL BASE DESCENT AND SPONTANEOUS CEREBROSPINAL FLUID RHINORRHEA DUE TO PROLONGED INTRACRANIAL HYPERTENSION – Chirag R Patel, MD, Juan C Fernandez-Miranda, MD, Carl H Snyderman, MD, MBA, Paul A Gardner, MD, Eric W Wang, MD; University of Pittsburgh Medical Center

P010: UTILIZATION OF FREE FLAPS FOR ENDOSCOPIC ANTERIOR SKULL BASE RECONSTRUCTION – Zainab Farzal, BS, Trevor G Hackman, MD, Adam M Zanation, MD; University of North Carolina at Chapel Hill

P011: MANAGEMENT OF DELAYED OSTEORADIONECROSIS AFTER CRANIOFACIAL RESECTION – Daniel L Price, Michael J Link, MD, Eric J Moore, MD; Mayo Clinic Rochester, MN

P012: CAN ESTHESIONEUROBLASTOMA METASTASIZE TO THE PARANASAL SINUSES?: CLINICAL REPORT AND LITERATURE REVIEW – Lamia Buohliqah, MD, Smita Upadhyay, MD, Ricardo Dolci, MD, Daniel Pravedelo, MD, Ricardo Carrau, MD; Wexner Medical Center at The Ohio State University, Columbus, Ohio, USA

P013: MANAGEMENT OF CLIVAL CHORDOMAS IN THE PEDIATRIC POPULATION: REPORT OF 2 CASES – Shaun D Rodgers, MD, Jeffrey C Rastatter, MD, Cedric Pritchett, MD, Tord D Alden, MD; Ann and Robert H Lurie Childrens Hospital of Chicago

P014: ATYPICAL PATHOLOGIC FEATURES IN CLIVAL CHORDOMA – Jeffrey T Jacob, MD, Aditya Raghunathan, MD, Joshua D Hughes, MD, Jeffrey R Janus, MD, Caterina Giannini, MD, Colin L Driscoll, MD, Eric J Moore, MD, Michael J Link, MD, Jamie J Van Gompel, MD; Mayo Clinic

P015: EXTENDING THE INFERIOR LIMIT OF ENDOSCOPIC ENDONASAL SURGERY TO THE CERVICAL SPINE UTILIZING AN ENDOSCOPIC ENDONASAL POSTERIOR PALATECTOMY – Mariano Fiore, MD, Edward E Kerr, MD, Paulo Mesquita Filho, MD, Ricardo Dolci, MD, Smita Upadhyay, MD, Lamia Buohliqah, MD, Gerival Vieira, MD, Leo Ditzel Filho, MD, Bradley A Otto, MD, Ricardo L Carrau, MD, Daniel M Prevedello, MD; Ohio State University Wexner Medical Center

P016: BILAYER BUTTON GRAFT FOR ENDOSCOPIC REPAIR OF HIGH-FLOW CRANIAL BASE DEFECTS – Marc L Otten, MD¹, Alfred M Illoreta², Pranay Soni, BS³, Christopher Luminais³, Waseem Mohiuddin³, Natalie Ziegler³, Gurston Nyquist³, Christopher Farrell³, Marc Rosen³, James Evans³; ¹Columbia University, ²Mount Sinai School of Medicine, ³Thomas Jefferson University

P017: EFFECT OF INCREMENTAL MAXILLECTOMY ON EXPOSURE OF THE PTERYOPALATINE AND INFRATEMPORAL FOSSA. A CADAVERIC STUDY WITH COMPARATIVE ANALYSIS OF RADIAL ACCESS, AREA OF EXPOSURE AND SURGICAL FREEDOM – Smita Upadhyay, MD, Lamia Buohliqah, MD, Ricardo L Dolci, MD, Mariano E Fiore, MD, Daniel Prevedello, MD, Brad A Otto, MD, Ricardo L Carrau, MD; Ohio State University

P018: EXPANDED ENDONASAL APPROACH TO THE INTRACONAL ORBIT. A COMPARATIVE ANATOMIC STUDY BEFORE AND AFTER RELEASE OF THE ANNULUS OF ZINN – Lewis J Overton, MD, Rounak B Rawal, Ana M Lemos, MD, Zainab Farzal, BS, Deanna Sasaki-Adams, MD, Matthew Ewend, MD, Charles S Ebert, Jr., MD, MPH, Brent A Senior, MD, FACS, Adam M Zanation, MD, FACS; University of North Carolina - Chapel Hill

P019: ENDOSCOPIC MEDIAL RECTUS MUSCLE RETRACTION: COMPARISON OF TECHNIQUES TO MAXIMIZE ENDOSCOPIC EXPOSURE OF THE MEDIAL ORBIT – Giant C Lin, MD, Suzanne K Freitag, MD, Armine Kocharyan, MD, Michael K Yoon, MD, Daniel R Lefebvre, Benjamin S Bleier, MD; Massachusetts Eye and Ear Infirmary

P020: SUBLABIAL ANTERIOR MAXILLOTOMY OR ENDOSCOPIC DENKER'S APPROACH: COMPARATIVE ANALYSIS OF TWO MINIMALLY INVASIVE APPROACHES TO THE INFRATEMPORAL FOSSA – Smita Upadhyay, MD, Ricardo L Dolci, MD, Lamia Buohliqah, MD, Leo F Ditzel, MD, Daniel Prevedello, MD, Brad A Otto, MD, Ricardo L Carrau, MD; Ohio State University Wexner Medical Centre

P021: EXPANDED ENDONASAL APPROACH TO THE INTRACONAL ORBIT: A COMPARATIVE ANATOMIC STUDY WITH AND WITHOUT EXTERNAL RECTUS MUSCLE DISPLACEMENT – Rounak B Rawal, MD, Lewis J Overton, MD, Ana L Rodriguez, MD, Zainab Farzal, BS, Deanna Sasaki-Adams, MD, Matthew Ewend, Charles S Ebert, MD, MPH, Brent A Senior, MD, FACS, Adam M Zanation, MD, FACS; University of North Carolina - Chapel Hill Hospitals

P022: TRANSNASAL ENDOSCOPIC REPAIR OF ORBITAL FLOOR FRACTURE WITH ALLOPLASTIC IMPLANT – Robert D Engle, MD, Anna Butrymowicz, MD, Mark B Chaskes, BS, MBA, Edward J Wladis, MD, Tyler J Kenning, MD, Carlos D Pinheiro-Neto, MD, PhD; Albany Medical College

P023: ENDOSCOPIC ENDONASAL GREATER PALATINE ARTERY CAUTERIZATION AT THE INCISIVE FORAMEN FOR CONTROL OF ANTERIOR EPISTAXIS: AN ANATOMICAL STUDY AND CASE SERIES – Anna Butrymowicz, MD¹, Adam Weisstuch¹, Jay Agarwal², Carlos D Pinheiro-Neto¹; ¹Division of Otolaryngology and Head-Neck Surgery, Department of Surgery, Albany Medical College, ²Medical Student at Albany Medical College

P024: A NEW WINDOW FOR THE TREATMENT OF POSTERIOR CEREBRAL ARTERY, SUPERIOR CEREBELLAR ARTERY AND BASILAR APEX ANEURYSM: THE EXPANDED ENDOSCOPIC ENDONASAL APPROACH – Ana M Lemos-Rodriguez, MD¹, Satyan B Sreenath, BS¹, Ajay Unnithan, BS¹, Vivian Doan, BS¹, Pablo F Recinos, MD², Adam M Zanation, MD, FACS¹, Deanna Sasaki-Adams, MD, FACS¹; ¹University of North Carolina at Chapel Hill, ²Cleveland Clinic

P025: ENDOSCOPIC ENDONASAL TRANSCLIVAL TRANSCONDYLAR APPROACH FOR FORAMEN MAGNUM MENINGIOMA: ANATOMICAL AND TECHNICAL NOTE – Wei Hsin Wang, MD¹, Paul A Gardner, MD¹, Eric Wang, MD², Carl H Snyderman, MD, MBA², Juan C Fernandez-Miranda, MD¹; ¹Department of Neurological Surgery, University of Pittsburgh, Pennsylvania, ²Department of Otolaryngology, University of Pittsburgh, Pennsylvania

P026: USING THE ENDOSCOPIC ENDONASAL TRANSCLIVAL APPROACH TO ACCESS AICA, PICA, AND VERTEBRAL ARTERY: A NEW SURGICAL APPROACH FOR CLIPPING THESE INTRACRANIAL ANEURYSMS? – Vivian Doan, BS¹, Ana M Lemos-Rodriguez, MD¹, Satyan B Sreenath, BS¹, Ajay Unnithan, BS¹, Pablo F Recinos, MD², Adam M Zanation, MD¹, Deanna Sasaki-Adams, MD¹; ¹University of North Carolina School of Medicine, ²Cleveland Clinic

P027: VOLUMETRIC ANALYSIS OF ENDOSCOPIC AND MAXILLARY SWING SURGICAL APPROACHES FOR NASOPHARYNGECTOMY – Nidal Muhanna, MD, PhD¹, Jimmy Qiu, MSc², Harley Chan, PhD², Michael Daly, PhD², Robert Weersink, PhD², Ralph Gilbert, MD¹, Ian Witterick, MD³, Allan Vescan, MD³, David Goldstein, MD¹, Gelareh Zadeh, MD, PhD⁴, Eric Monteiro, MD, MSc³, Jonathan Irish¹, John R. de Almeida¹; ¹Department of Otolaryngology – Head & Neck Surgery, University of Toronto, ²TECHNA Institute, University Health Network, Toronto, ³Department of Otolaryngology-Head & Neck Surgery, Mount Sinai Hospital, Toronto, ⁴Department of Neurosurgery, University Health network

P028: ENDOSCOPIC MEDIAL MAXILLECTOMY APPROACH FOR REMOVAL OF ECTOPIC TOOTH IN THE MAXILLARY SINUS – Jose G Gurrola II, MD¹, Eric Mason, BS², C Arturo Solares, MD²; ¹University of Virginia Health System, ²Georgia Regents University

P029: RETROLABYRINTHINE TRANSPETROSAL VS. ENDOSCOPIC ENDONASAL APPROACH TO THE CEREBELLOPONTINE ANGLE: AN ANATOMICAL AND COMPUTED TOMOGRAPHIC STUDY – Eric Mason, BS, C. Arturo Solares, MD, Ramon Figueroa, MD; Georgia Regents University

P030: TRANSNASAL ENDOSCOPIC MEDIAL MAXILLARY SINUS WALL TRANSPOSITION WITH PRESERVATION OF THE INFERIOR TURBINATE AND NASOLACRIMAL DUCT – Alice S Zhao, MD, Kristina Piastro, MD, Anna Butrymowicz, MD, Tiffany T Chen, MD, Tyler Kenning, MD, Carlos D Pinheiro-Neto, MD; Albany Medical College

P031: ENDOSCOPIC ENDONASAL STUDY OF THE CAVERNOUS SINUS AND QUADRANGULAR SPACE: ANATOMICAL RELATIONSHIPS – Ricardo L Dolci, MD¹, Ricardo L Carrau, MD¹, Smita Upadhyay, MD¹, Leo F Ditzel, MD¹, Mariano E Fiore, MD¹, Lamia Buohliqah, MD¹, Gerival Vieira Junior, MD¹, Paulo R Lazarini, MD², Bradley A Otto, MD¹, Daniel M Prevedello, MD¹; ¹Ohio State University, ²Santa Casa Misericórdia de São Paulo

P032: TRANSNASAL ODONTOID RESECTION: IS THERE AN ANATOMIC EXPLANATION FOR DIFFERING SWALLOWING OUTCOMES? – Kathryn M Van Abel, MD, Grant W Mallory, MD, Jan L Kasperbauer, MD, Eric J Moore, MD, Dan L Price, MD, Erin K O'Brien, MD, Kerry D Olsen, MD, William E Krauss, MD, Michelle J Clarke, MD, Mark E Jentoft, MD, Jamie J Van Gompel, MD; Division of Otolaryngology Head and Neck Surgery, Department of Neurologic Surgery, Department of Anatomic Pathology, Mayo Clinic, Rochester, MN

P033: 3D ENDOSCOPY FOR POSTERIOR FOSSA SURGERY: AN EXPERIMENTAL CADAVERIC STUDY – George Klironomos¹, Osaama H Khan, MD¹, Alireza Mansouri, MD¹, Allan Vescan, MD², John de Almeida, MD, MSc³, Fred Gentili, MD¹, Ivan Radovanovic, MD, PhD¹, Gelareh Zadeh, MD, PhD¹; ¹Toronto Western Hospital, ²Mt Sinai Hospital, ³Princess Margaret Hospital

P034: ENDONASAL MANAGEMENT OF A PEDIATRIC PTERYGOPALATINE FOSSA AND SKULL BASE MYOFIBROMA – [Jeffrey C Rastatter, MD](#), Shaun D Rodgers, MD, Santino Cervantes, Tord D Alden; Ann and Robert H Lurie Childrens Hospital of Chicago

P035: ENDOSCOPIC ENDONASAL RESECTION OF MEDIAL ORBITAL TUMORS – [Kristina Piastro, MD](#), Edward J Wladis, MD, Tyler J Kenning, MD, Carlos D Pinheiro-Neto, MD, PhD; Albany Medical Center

P036: ENDOSCOPIC ENDONASAL REPAIR OF CONGENITAL DEFECTS OF THE ANTERIOR SKULL BASE: DEVELOPMENTAL CONSIDERATIONS AND SURGICAL OUTCOMES – [William C Gump, MD](#); Norton Neuroscience Institute

P037: UPPER NASOPHARYNGEAL CORRIDOR FOR TRANSCALVIAL ENDOSCOPIC-ASSISTED ACCESS TO THE PETROUS APEX IN PATIENTS WITH CONCHAL SPHENOIDAL ANATOMY: APPLICATION IN CHOLESTEROL GRANULOMAS – [Nefize Turan, MD¹](#), Griffin R Baum, MD¹, Christopher M Holland, MD, PhD¹, Oswaldo A Henriquez, MD², Gustavo Pradilla, MD¹; ¹Department of Neurological Surgery, Emory University School of Medicine, ²Department of Otorhinolaryngology, Emory University School of Medicine

P038: VERMONT SKULL BASE COURSE: HISTORY, CHALLENGES, FUTURE – [Erinc Akture, MD](#), Michael A Horgan, MD; University of Vermont Medical Center

P039: SKULL BASE SURGERY TRAINING AND PRACTICE PATTERNS AMONG RECENT OTOLARYNGOLOGY FELLOWSHIP GRADUATES – [Matthew M Dedmon, MD, PhD¹](#), Garrett Locketz², Kyle J Chambers, MD¹, Matthew R Naunheim, MD, MBA¹, Derrick T Lin, MD¹, Stacey T Gray, MD¹; ¹Department of Otolaryngology—Head and Neck Surgery, Massachusetts Eye and Ear Infirmary, ²Sackler School of Medicine, Tel Aviv University

P040: CAROTID HEMORRHAGE DURING SKULL BASE SURGERY: REVIEW OF THE LITERATURE, META-ANALYSIS, AND RECOMMENDATIONS – [Glenn W Knox, MD](#); UF Health - Jacksonville

P041: ELUCIDATING THE ROLE OF INCIDENTAL USE OF BETA BLOCKERS IN PATIENTS WITH METASTATIC BRAIN TUMORS IN CONTROLLING TUMOR PROGRESSION AND SURVIVABILITY – [Piyush Kalakoti](#), Shyamal C Bir, Richard Murray, Osama Ahmed, Papireddy Bollam, Anil Nanda; Louisiana State University Health Sciences Center

P042: A NOVEL TECHNIQUE OF ARACHNOID RETRACTION IN MICRONEUROSURGICAL RESECTION – [Kutluay Uluc, MD](#), Ulas Cikla, MD, Christopher D Baggott, MD, Mustafa K Baskaya; University of Wisconsin Department of Neurological Surgery

P043: USE OF COBLATOR FOR ENDOSCOPIC RESECTION OF A FRONTOETHMOID ENCEPHALOCELE – Marc J Gibber, MD, [Andrew Tassler, MD](#), Rani Nasser, MD; Albert Einstein College of Medicine

P044: SKULL BASE RENAL CELL CARCINOMA METASTASIS MIMICKING TRIGEMINAL SCHWANNOMA – Adesh Tandon, MD, Raj Murali, MD, FACS, [Arthur Wang, MD](#); New York Medical College

P045: QUANTITATIVE COMPARISON AND TARGET-SPECIFIC MANEUVRABILITY OF THE MEDIAN INFRATENTORIAL SUPRACEREBELLAR VERSUS THE OCCIPITAL TRANSTENTORIAL APPROACHES TO THE PINEAL REGION – J Brodard¹, M Jägersberg², J Fasel³, W Kucharczyk⁴, J Qiu⁴, K Schaller², [I Radovanovic⁵](#); ¹Spine Unit, Schulthess Klinik, Zurich, Switzerland, ²Department of Neurosurgery, University of Geneva Medical Center, Switzerland, ³Department of Anatomy, University of Geneva Medical Center, Switzerland, ⁴Joint Department of Medical Imaging and MaRS Institute, University of Toronto, Canada, ⁵Division of Neurosurgery, Toronto Western Hospital, University Health Network, University of Toronto

P046: PRELIMINARY RESULTS OF THE SKULL BASE INVENTORY: A QUALITY OF LIFE INSTRUMENT FOR SKULL BASE PATHOLOGIES – [Soroush Larjani, HBSc¹](#), Eric Monteiro, MD¹, Allan Vescan, MD², Gelareh Zadeh, MD, PhD³, Fred Gentili, MD³, John R de Almeida, MD, MSc¹; ¹Princess Margaret Hospital, University Health Network, ²Mount Sinai Hospital, ³Toronto Western Hospital, University Health Network

P047: TROCHLEAR NERVE PALSY ASSOCIATED WITH PINEAL CYST – T. Benton Ableman, MD, [Steven A Newman, MD](#); University of Virginia

P048: LONG TERM MANAGEMENT OF CHRONIC INVASIVE SKULL BASE ASPERGILLOMA WITH ORAL VORICONAZOLE – [Rebecca Harvey, MD](#), Erin McKean, MD; University of Michigan

P049: A NEW CLINICAL CLASSIFICATION OF TRIGEMINAL NEURALGIA – [Mauro Segura, MD, PhD¹](#), Juan Carlos Torres, MD², Antonio Duran, MD³, José Antonio Martínez, MD⁴, Ramiro Pérez, MD⁵, Cuauhtemoc Gil, MD², Carlos Segura, MD¹; ¹General Hospital of Morelia, ²Institute of Security and Social Service of State Workers, ³General Hospital of Tepic, ⁴General Hospital of Querétaro, ⁵Social Security Mexican Institute

P050: GLOMANGIOPERICYTOMA SIMULATING CAVERNOUS MENINGIOMA – [Mohamed Labib, MD, FRCSC¹](#), Hussam Abou Al-Shaar²; ¹University of Ottawa, ²College of Medicine, Alfaisal University, Riyadh, Saudi Arabia

P051: BENIGN CALCIFYING PSEUDOTUMOR OF THE CRANIOCERVICAL JUNCTION: RARE PRESENTATION IN AN INFANT – [William C Gump, MD¹](#), Robert F Debski, MD², Matthew P Thompson, DO²; ¹Norton Neuroscience Institute, ²Kosair Children's Hospital

P052: GIANT PAROTID CARCINOSARCOMA (TRUE MALIGNANT MIXED TUMOR) ARISING IN A PLEOMORPHIC ADENOMA: PRESERVATION OF THE FACIAL NERVE BY RETROGRADE DISSECTION AND FREE FLAP RECONSTRUCTION – [Tiffany N Chao](#), Christopher H Rassekh, MD, Laurie A Loevner, MD, Steven B Cannady, MD, Virginia A LiVolsi, MD; University of Pennsylvania

- P053: HETEROTROPHIC OSSIFICATION OF A PRE-PONTINE MASS: IDIOPATHIC OR FOLLOWING STROKE?** – [Piyush Kalakoti, MD](#), Osama Ahmed, Richard Menger, Richard Murray, Shyamal C Bir, Connor David, Anil Nanda; Louisiana State University Health Sciences Center, Shreveport
- P054: INCIDENCE AND DEGREE OF MUCOSAL THICKENING OF THE CONTRALATERAL SINUSES FOLLOWING TREATMENT FOR SINONASAL CARCINOMA** – [Kyle J Chambers, MD](#), Matthew Dedmon, MD, PhD, Matthew Naunheim, MD, Neerav Goyal, MD, Stacey T Gray, MD, Derrick T Lin, MD; Harvard Medical School
- P055: PRIMARY SOLITARY RETRO-CLIVAL AMYLOIDOMA: A CASE REPORT AND REVIEW OF THE LITERATURE** – [Kevin Kwan, MD](#), Stephanie Colantonio, Scott Safir, Tina Loven, Jian Li, Karen Black, Bob T Schaeffer, Mark Eisenberg; NSLIJ
- P056: PROBABLE IMMUNOGLOBULIN SUBTYPE-G4 RELATED DISEASE IN THE HEAD AND NECK FROM FOREIGN BODY INJECTION: A CASE REPORT** – [Mallory J Highstein¹](#), Jonathan Mallen¹, Tristan Tham, MD², Tara Brennan, MD², Alexandra Boubour², Elana Opher, MD³, Vira Wolf, MD³, Prabhyjot Singh, MD, MSc, FRCSC², Peter Costantino, MD, FACS²; ¹Hofstra NS-LIJ School of Medicine, ²New York Head and Neck Institute - Lenox Hill Hospital - North Shore LIJ Health System, ³Lenox Hill Hospital
- P057: A SYSTEMATIC REVIEW OF SKULL BASE OSTEOLASTOMA: CLINICAL FEATURES, TREATMENT, AND OUTCOMES** – [Panayiotis E Pelargos¹](#), Daniel T Nagasawa, MD¹, Nolan Ung¹, Lawrance K Chung¹, Kimberly Thill¹, Quinton Gopen, MD², Steve Tenn, PhD³, Isaac Y Yang, MD¹; ¹Department of Neurosurgery, UCLA, ²Department of Otolaryngology, UCLA, ³Radiation Oncology, UCLA
- P058: SOFT TISSUE SARCOMA OF THE NASAL CAVITY AND PARANASAL SINUSES: A CASE SERIES IDENTIFYING COMMON FEATURES IN DIVERSE PATHOLOGY** – [Jessica Somerville, MD](#), Sandeep Samant, MD, FAACS, Faisal Mohamed, Kenneth Kennedy; University of Tennessee
- P059: RECONSTRUCTION OF LATERAL SKULL BASE DEFECTS USING THE CERVIPECTORAL FLAP** – [Guyan A Channer, MD¹](#), R. W. Kwesi Davis, MD²; ¹Kingston Public Hospital, ²Cornwall Regional Hospital
- P060: TECHNICAL NOTE: USAGE OF A ULTRASONIC KNIFE TO PERFORM KEY OSTEOTOMIES IN A CRANIO-ORBITAL ZYGOMATIC APPROACH** – [Leopold Arko IV, MD](#), Shahin Manoochehri, MD, Kadir Erkmén, MD; Temple University Hospital
- P061: DIRECT ETHANOL PUNCTURE TECHNIQUE FOR PREOPERATIVE EMBOLIZATION OF BULKY SKULL BASE SARCOMA: CASE REPORT** – [Bohdan W Chopko, PhD, MD](#); Stanford University
- P062: INTRAOPERATIVE AUTOLOGOUS BONE GRAFTING WITH 3D CAD/CAM** – [Glenn W Knox, MD](#); UF Health - Jacksonville
- P063: THE USE OF A BIPOLAR SEALER SYSTEM IN ENDOSCOPIC ENDONASAL SURGERY OF THE SKULL BASE: A TECHNICAL NOTE** – [Ali O Jamshidi, MD, PhD](#), Ahmed Mohyeldin, MD, PhD, Jun Muto, MD, PhD, Leo F Ditzel Filho, MD, Edward E Kerr, MD, Daniel M Prevedello, MD, Bradley A Otto, MD, Ricardo L Carrau, MD; Ohio State University Medical Center
- P064: TRANSTUBULAR MICROVASCULAR DECOMPRESSION FOR TRIGEMINAL NEURALGIA** – [Antonio Bernardo, MD](#), Alexander I Evins, MD, Philip E Stieg, PhD, MD; Weill Cornell Medical College
- P065: ENDOSCOPIC SKULL BASE SURGERY KINETICS: A NOVEL APPROACH TO INSTRUMENT MOTION ANALYSIS** – [Angelique Berens, MD¹](#), Jed White², Richard Harbison, MD¹, Randy A Bly, MD¹, Kristen S Moe, MD, FACS¹, Manual Ferreira, MD, PhD³, Sharon Newman⁴; ¹University of Washington - Department of Otolaryngology, ²University of Washington - Applied Biomechanics Laboratory, ³University of Washington - Department of Neurosurgery, ⁴University of Washington - Department of Bioengineering
- P066: 3D ENDOSCOPE-ASSISTED TRANSTUBULAR APPROACHES TO THE PINEAL REGION** – [Antonio Bernardo, MD](#), Alexander I Evins, MD, Philip E Stieg, PhD, MD; Weill Cornell Medical College
- P067: POTENTIAL OF A 3D DISPLAY SYSTEM FOR NEUROSURGICAL SIMULATION IN CADAVERIC STUDY** – [Kazuhiro Kurozumi¹](#), Tomohito Hishikawa¹, Masahiro Kameda¹, Takao Yasuhara¹, Yoshimasa Takeda², Aiji Ohtsuka³, Isao Date¹; ¹Department of Neurological Surgery, Okayama University, Japan, ²Department of Anesthesiology and Resuscitology, Okayama University, Japan, ³Department of Human Morphology, Okayama University, Japan
- P068: CRANIAL-BASE SURGERY FOR DRUG DELIVERY VIA MASTOID CAVITY: A NOVEL PROCEDURE FOR VESTIBULAR/AUDITORY SYNDROMES** – [Al-Rahim A Tailor, MD](#), Lamia Buohliqah, MD, Mario Ammirati, MD, MBA, Ricardo Carrau, MD, Tariq Lamki, MD, Martin Lubow, MD; The Ohio State University Wexner Medical Center
- P069: THE USE OF INTRAOPERATIVE ULTRASOUND IN ENDOSCOPIC ENDONASAL SURGERY OF THE CRANIOVERTEBRAL JUNCTION: A TECHNICAL NOTE** – [Ali Jamshidi](#), Ahmed Mohyeldin, MD, Jon Chan, MD, Leo F Ditzel Filho, MD, Edward E Kerr, MD, Bradley A Otto, MD, Ricardo L Carrau, MD, Daniel M Prevedello, MD; The Ohio State University Medical Center
- P070: THE USE OF INTRAOPERATIVE ULTRASOUND DURING ENDOSCOPIC, ENDONASAL APPROACH TO THE ANTERIOR SKULL BASE FOR RESECTION OF A TUBERCULUM SELLA MENINGIOMA: A TECHNICAL NOTE** – [Ali O Jamshidi, MD](#), Jon Chan, MD, Leo F Ditzel Filho, MD, Edward E Kerr, MD, Ahmed Mohyeldin, MD, PhD, Ricardo L Carrau, MD, Daniel M Prevedello, MD; The Ohio State University Medical Center

P071: OPTIMIZATION OF THE ULTRASONIC BONE ASPIRATOR IN RETROSIGMOID VESTIBULAR SCHWANNOMA REMOVAL – Justin S Golub, MD¹, Natalie R Pottschmidt¹, Jon D Weber, BS¹, Mario Zuccarello, MD², Myles L Pensak, MD¹, Norberto Andaluz, MD², Ravi N Samy, MD¹; ¹University of Cincinnati, ²University of Cincinnati/Mayfield Clinic

P072: THE ROLE OF ADJUVANT RADIOTHERAPY IN ATYPICAL (WHO GRADE II) MENINGIOMAS: META-ANALYSIS AND SYSTEMATIC REVIEW OF LITERATURE – Maged D Fam, MD, MSc, Sam Eljamel, MBBCh, MD, FRCSIr, FRCSEd, FRCNS, ACG; Dundee University Hospital

P073: THE ROLE OF ADJUVANT RADIOTHERAPY IN THE TREATMENT OF ATYPICAL MENINGIOMAS: IMPLICATIONS IN STRATEGIC MANAGEMENT OF SKULL BASE MENINGIOMAS – Jigar S Gandhi, PharmD, RPh, Zachary S Mendelson, BS, James K Liu, MD, FAANS; Rutgers New Jersey Medical School

P074: PRIMARY EXTRADURAL MENINGIOMA PRESENTING AS A NECK MASS – Rami E Saade, MD, Amy Hessel, Lawrence Ginsberg, MD, Greg Fuller, MD, PhD, Diana Bell, MD; MD Anderson Cancer Center

P075: HYPEROSTOTIC EN PLAQUE MENINGIOMA MIMICKING FIBROUS DYSPLASIA OF THE TEMPORAL BONE – Katie Mingo, BS¹, Alex D Sweeney, MD², Reid C Thompson, MD², Alejandro Rivas, MD²; ¹University of Minnesota Medical School, ²Vanderbilt University

P076: PROPOSAL FOR A MULTICENTER, PROSPECTIVE, COHORT STUDY COMPARING EXTENT OF TUMOR RESECTION IN PATIENTS WITH NONFUNCTIONING PITUITARY ADENOMAS UNDERGOING FULLY ENDOSCOPIC TRANSPHENOIDAL TO MICROSCOPIC TRANSPHENOIDAL SURGERY: THE TRANSPHENOIDAL EXTENT OF – Andrew S Little, MD¹, Daniel Kelly, MD², William White, MD¹, Timothy Smith, MD, PhD³, Edward Laws, M³; ¹Barrow Neurological Institute, ²John Wayne Cancer Center, ³Brigham and Womens Hospital

P077: ANATOMIC COMPARISON OF THE ENDONASAL AND TRANSPETROSAL APPROACH FOR INTERPEDUNCULAR FOSSA ACCESS – Kenichi Oyama, MD, PhD¹, Daniel M Prevedello, MD¹, Leo F.S. Ditzel Filho, MD¹, Jun Muto, MD, PhD¹, Ramazan Gun, MD², Edward E Kerr, MD¹, Bradley A Otto, MD², Ricardo L Carrau, MD²; ¹Department of Neurological Surgery, The Ohio State University, ²Department of Otolaryngology - Head & Neck Surgery, The Ohio State University

P078: CHONDRIOBLASTOMA OF THE CLIVUS: CASE REPORT AND REVIEW – Jonathan J Liu, MD, Arjang Ahmadpour, BS, Arnaud F Bewley, MD, PhD, Mirna Lechpammer, MD, PhD, Matthew Bobinski, MD, PhD, Kiarash Shahlaie, MD, PhD; University of California-Davis

P079: THE ULTIMATE SKULL BASE APPROACH DOESN'T INVOLVE CUTTING BONE: QUANTIFYING THE RELEVANT BENEFIT OF INTERFASCIAL TEMPORALIS DISSECTION – Sabih Effendi, MD, Loyola Gressot, MD, Vikas Rao, MD, Eric Momin, Edward Duckworth, MD, MS; Baylor College of Medicine

P080: OPTIC CANAL DECOMPRESSION: COMPARING THE ENDONASAL ENDOSCOPIC AND TRANSCRANIAL APPROACHES – Paulo M Mesquita Filho, MD, Daniel M Prevedello, MD, Leo F Ditzel Filho, MD, Edward E Kerr, MD, Cristian N Martinez, MD, Mariano E Fiore, MD, Ricardo L Dolci, MD, Bradley A Otto, MD, Ricardo L Carrau, MD; Ohio State University

P081: A PROGRESSIVE ANATOMIC ALGORITHM FOR TRANSCERVICAL APPROACHES TO THE INTERNAL CAROTID ARTERY AT THE SKULL BASE: A COMPARATIVE ANATOMIC STUDY – Ana M Lemos-Rodriguez, MD, Satyan B Sreenath, BS, Rounak B Rawal, MD, Lewis J Overton, MD, Zainab Farzal, BS, Adam M Zanation, MD; University of North Carolina at Chapel Hill

P082: ANALYSIS OF THE EXPANDED ENDONASAL AND FAR MEDIAL TRANSORAL ENDOSCOPIC APPROACHES TO THE INFRATEMPORAL FOSSA: FEASIBILITY STUDY FOR A MULTI-PORTAL MINIMALLY INVASIVE APPROACH – Hafiz Patwa, MD, Smita Upadhyay, MBBS, Daniel Prevedello, MD, Ricardo Carrau, MD; Ohio State University

P083: THE SITTING POSITION IN NEUROSURGERY: A CLINICAL STUDY IN 96 CASES – Shamsul Alam, MD; B S M Medical University

P084: ENDOSCOPIC ENDONASAL ANATOMICAL STUDY OF THE CAVERNOUS SINUS SEGMENT OF THE OPHTHALMIC NERVE – Ricardo Dolci, MD¹, Ricardo Carrau, MD¹, Lamia Buohliqah¹, Leo Ditzel Filho¹, Mateo Zoli¹, Paulo Mesquita Filho¹, Cristian N Martinez, MD¹, Paulo Lazarini², Bradley A Otto, MD¹, Daniel Prevedello¹; ¹Ohio State University, ²santa casa de misericordia de sao paulo

P085: THE RELATIONSHIP BETWEEN AGE, GENDER, AND THE CRANIOCERVICAL JUNCTION – Grant W Mallory, MD, Grigory Arutyunyan, MD, Meghan Murphy, Elvis Francois, Laurence Eckel, Nicholas Wetjen, Michelle Clarke, MD, Jamie Van Gompel, MD; Mayo Clinic

P086: MICROVASCULAR MAPPING IN A CADAVERIC MODEL: IMPLICATIONS FOR ENDOSCOPIC SKULL BASE RECONSTRUCTION – Adrian House, Mary Orczykowski, Donald Siwek, Ann Zumwalt; Boston University School of Medicine

P088: ENDOSCOPIC ENDONASAL APPROACH TO THE OPTIC CANAL: ANATOMICAL CONSIDERATIONS AND SURGICAL RELEVANCE – Kumar Abhinav, MD, Yancy Acosta, MD, Luis Bonilla, MD, Wei Hsin Wang, MD, Maria Koutourousiou, MD, Carl H Snyderman, MD, MBA, Paul A Gardner, MD, Juan C Fernandez-Miranda, MD; University of Pittsburgh Medical Center

P089: ANATOMICAL AND RADIOLOGICAL PARAMETERS OF THE SPHENOID SINUS AMONG XXX AND ITS IMPACT ON SELLAR REGION SURGERY – [Akram Awadalla](#), Zagazig univesity

P090: THE RADIOLOGICAL ANATOMY OF THE OLFACTORY FOSSA – Lukas Kus, MSc, MD, [Eric Monteiro, BSc, MD](#), John de Almeida, MSc, MD, John Lee, MSc, MD, Allan Vescan, BSc, MD; University of Toronto

P091: EUSTACHIAN TUBE DYSFUNCTION FOLLOWING RESECTION OF TRIGEMINAL SCHWANNOMAS – [Christopher Ito, MD](#), MEd, Harry van Loveren, MD, Kestutis P Boyev, MD; University of South Florida

P092: COMPARISON OF MICROSCOPIC AND ENDOSCOPIC VIEW OF THE INTERNAL AUDITORY CANAL – A CADAVERIC STUDY – [Guilherme R Montibeller¹](#), Fabian Fries¹, Ioannis Petrakakis², Kurt Becker³, Joachim Oertel¹; ¹Department of Neurosurgery, Saarland University, ²Department of Neurosurgery, Hannover Medical School, ³Institute of Anatomy, Saarland University

P093: THE ENDOSCOPIC ENDONASAL APPROACH TO THE INFERIOR CLIVUS AND FORAMEN MAGNUM: ANATOMICAL LANDMARKS IN THE SURGICAL WINDOW – Satyan B Sreenath, BS¹, Benjamin W McClintock, MD¹, Benjamin Y Huang, MD¹, Kibwei A McKinney, MD¹, Brian D Thorp, MD¹, Deanna M Sasaki-Adams, MD¹, Matthew G Ewend, MD¹, Adam M Zanation, MD¹, [Pablo F Recinos, MD²](#); ¹University of North Carolina at Chapel Hill, ²Cleveland Clinic

P094: INFRA-ORBITAL NERVE: A ROAD MAP TO THE PTERYGOPALATINE FOSSA, CAVERNOUS SINUS, AND SKULL BASE IN ENDOSCOPIC TRANSMAXILLARY APPROACHES – Ali M Elhadi, MD, PhD, Hasan A Zaidi, MD, Ahmed Shah, BA, Peter Nakaji, MD, Mark C Preul, MD, [Andrew S Little, MD](#); Barrow Neurological Institute

P095: FAR MEDIAL TRANSORAL APPROACH TO THE INFRATEMPORAL FOSSA: AN ANATOMIC FEASIBILITY STUDY FOR A MULTI-PORTAL APPROACH TO THE INFRATEMPORAL FOSSA – [Hafiz Patwa, MD](#), Daniel Prevedello, Ricardo Carrau, MD; ohio state university

P097: HUMAN TEMPORAL BONE REMOVAL: SKULL BASE BLOCK METHOD – [Mikhaylo Szczupak, BS](#), Christine Dinh, MD, Seo Moon, MD, Simon I Angeli, MD, Adrien A Eshraghi, MD, Fred F Telischi, MD; University of Miami Miller School of Medicine

P098: SPONTANEOUS DECOMPRESSION OF AN ENLARGING CYST FOLLOWING GAMMA KNIFE RADIOSURGERY FOR A VESTIBULAR SCHWANNOMA – [Daniel L Shepherd, MD](#), Bruce Pollock, MD, Mike Link; Mayo Clinic

P099: RADIOSURGERY FOR TRIGEMINAL SCHWANNOMAS: REPORT OF UNEXPECTED COMPLICATIONS AND A REVIEW OF THE LITERATURE – [Daniel R Klinger, MD](#), Samuel L Barnett, MD, Bruce E Mickey, MD, Kevin Choe, MD, PhD; University of Texas Southwestern Medical Center

P100: EXTENDED RETROLABYRINTHINE/RETROSIGMOID APPROACH TO A TRANSMASTOID, INTRACRANIAL SPEAR-GUN INJURY – [Guyan Channer](#), Mark Morgan, Natalie Whyllie, Stephen Chang, Warren Mullings, Phillip Brown; Kingston Public Hospital

P101: THE CONTROVERSIES IN OPEN SKULL BASE TRAUMA – [Jan Hemza, MD, PhD](#); Neurosurgery Dept, Faculty Hospital at Saint Ann

P102: CHRONIC INVASIVE FUNGAL SINUSITIS CAUSING PATHOLOGIC LEFORT I FRACTURE IN AN IMMUNOCOMPETENT PATIENT – [Amy L Richter, MD](#), Kathleen K Gallagher, MD; Baylor College of Medicine

P103: TRAUMATIC RETROCLIVAL HEMATOMA: REPORT OF A NOVEL MECHANISM OF INJURY – [William C Gump, MD](#); Norton Neuroscience Institute

P105: CONFINED ANEURYSM RUPTURE INTO AN ARACHNOID CYST WITH FOCAL INTRACYSTIC VASOSPASM – [Jason E Blatt, MD](#), Deanna M Sasaki-Adams, MD, Hortensia Alvarez; University of North Carolina

P106: DUAL TREATMENT MODALITY OF SURGICAL CLIPPING AND ENDOVASCULAR COILING IN PATIENT WITH 7 INTRACRANIAL ANEURYSMS: A CASE REPORT – [Osama Ahmed, MD](#), Piyush Kalakoti, MD, Matthew Hefner, MD, Anil Nanda, MD, MPH, FACS, Hugo Cuellar, MD, Bharat Guthikonda, MD; Louisiana State University Health Sciences Center Shreveport

P107: PAIN FREE OUTCOMES AFTER SURGICAL INTERVENTION FOR TRIGEMINAL NEURALGIA: A COMPARISON OF GAMMA KNIFE AND MICROVASCULAR DECOMPRESSION – Jayant Velagala, BS, Zachary S Mendelson, BS, [James K Liu, MD](#); Rutgers New Jersey Medical School

P108: NEW PHYSIOLOGICAL VESSEL'S QUALITY - BIOMECHANICAL STUDY- BRAIN VEINS – [Jan Hemza, MD, PhD](#); Neurosurgery Dept, Faculty Hospital at Saint Ann

P110: CRANIAL NERVE INJURY FOLLOWING ONYX EMBOLIZATION OF GLOMUS JUGULARE TUMORS – [Alex D Sweeney, MD¹](#), Matthew L Carlson, MD², Alejandro Rivas, MD¹, J Mocco, MD¹, George B Wana, MD¹; ¹Vanderbilt, ²Mayo Clinic

P111: ENDOSCOPIC ASSISTED RETROLABYRINTHINE APPROACH TO THE INTERNAL AUDITORY CANAL AND CEREBELLOPONTINE ANGLE: A CADAVERIC STUDY – [Jason A Brant, MD](#), Michael J Ruckenstein, MD, John Y Lee, MD; Hospital of the University of Pennsylvania

P113: PREAURICULAR TRANSGLENOID EUSTACHIAN TUBE DRILL-OUT FOR PERSISTENT CSF RHINORRHEA – Kelly L Groom, MD, [Jacob B Hunter, MD](#), Alex D Sweeney, MD, Marc L Bennett, MD, James L Netteville, MD; Vanderbilt University

Poster Sessions

POSTERS WILL BE OPEN DURING ALL EXHIBIT HALL HOURS IN THE EXHIBIT ROOM.

P114: SINGLE PIECE CRANIO-ORBITO-ZYGOMATIC APPROACH, TRANS KEY BURR HOLE ORBITAL ROOF OSTEOTOMY; A NEW MODIFICATION. SURGICAL TECHNIQUE AND REPORT OF EIGHT CASES – [Mohamed A Ismail, MSc, MD](#), Neurosurgery, MRCS, Eng; Ain Shams University Cairo- Egypt Saudi German Hospital- KSA

P115: BILATERAL AUDITORY BRAINSTEM STIMULATION WITH SINGLE IMPLANT – [Robert Behr, PhD](#); Klinikum Fulda

P117: SKULL BASE CHOLESTEROL GRANULOMA: A DISTINCT ENTITY? – [Christine T Dinh, MD](#), [Stefania Goncalves, MD](#), [Rita Bhatia, MD](#), [Kim Truong, MD](#), [Fred F Telischi, MD](#), [Simon I Angeli, MD](#), [Jacques Morcos, MD](#), [Adrien Eshraghi, MD](#); University of Miami

P118: BILATERAL ELECTRICAL STIMULATION OF THE COCHLEAR NUCLEUS – SURGICAL AND TECHNICAL FEASIBILITY – [Robert Behr, PhD](#); Klinikum Fulda

P119: HEREDITARY ATYPICAL HYALINE CARTILAGINOUS TUMORS OF THE MASTOID – [Ian J Lulich, MD](#), [Brian A Neff, MD](#); Mayo Clinic Rochester

P120: DOES THE PRESENCE OF CYSTIC CHANGE ALTER THE FACIAL NERVE PROGNOSIS IN SURGICALLY TREATED LARGE ACOUSTIC NEUROMAS? – [Candice C Colby, MD](#), [Meredith Adams](#), [Tina Huang](#), [Samuel Levine](#), [Stephen Haines](#); University of Minnesota

P121: CENTRAL GIANT CELL LESION OF THE TEMPORAL BONE RESULTING IN FACIAL NERVE WEAKNESS AND HEARING LOSS – [Peter M Vila, MD, MSPH](#), [Albert H Kim, MD, PhD](#), [Jonathan L McJunkin, MD](#); Washington University School of Medicine

P122: CHRONIC LYMPHOCYTIC LEUKEMIA PRESENTING AS A TUMOR OF THE INTERNAL AUDITORY CANAL – [Marcus Gates](#), [Jeffery Jacob](#), [Maya Babu](#), [Colin Driscoll](#), [Mike Link](#); Mayo Clinic

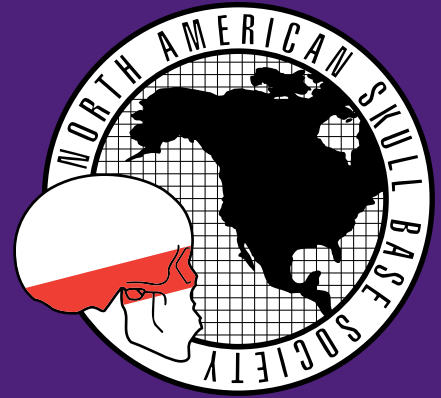
P123: TEMPORAL LOBE ENCEPHALOCELES: A POTENTIALLY CURABLE CAUSE OF SEIZURES – [Peter J Morone, MD¹](#), [Matthew L Carlson, MD²](#), [Alex D Sweeney, MD²](#), [Joseph S Neimat, MD, MS¹](#), [Kyle D Weaver, MD¹](#), [Pradumna Singh, MD³](#), [George B Wanna, MD¹](#); ¹Vanderbilt Department of Neurosurgery, ²Vanderbilt Department of Otolaryngology, ³Vanderbilt Department of Neurology

P125: PATHOLOGICALLY CONFIRMED CEREBELLOPONTINE ANGLE ARACHNOID GRANULATION: CASE REPORT – [Patrick R Maloney, MD](#), [William R Copeland, MD](#), [Michael J Link, MD](#), [John I Lane, MD](#), [Mark E Jentoft, MD](#); Mayo Clinic

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26th ANNUAL MEETING



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