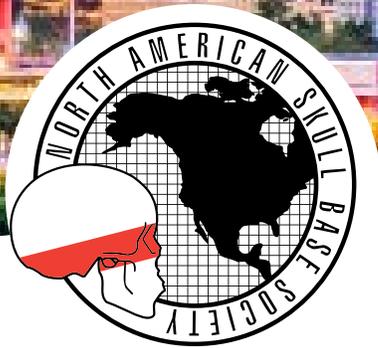


2020 FINAL PROGRAM



North American Skull Base Society

# 30<sup>th</sup> Annual Meeting

*"Rapid Evolution in the Healthcare Ecosystem: Become Frontiers"*

**February 7-9, 2020**

La Cantera Resort & Spa, San Antonio, TX

Pre-Meeting Dissection Course: **February 5-6, 2020**

PRESIDENT: Ricardo Carrau, MD, MBA

PROGRAM CHAIRS: Adam Zanation, MD & Daniel Prevedello, MD

PRE-MEETING COURSE CHAIRS: Paul Gardner, MD & Arturo Solares, MD

SCIENTIFIC PROGRAM COMMITTEE: Ricardo Carrau, MD, MBA, President, Adam Zanation, MD, MBA, Program Co-Chair, Daniel Prevedello, MD, Program Co-Chair, Paul Gardner, MD, Arturo Solares, MD, FACS, James Evans, MD, FACS, FAANS, Shaan Raza, MD, Brian Thorp, MD, Deanna Sasaki-Adams, MD, Chris Rassekh, MD, Christine Klatt-Cromwell, MD, Tonya Stefko, MD, Moises Arriaga, MD, Jamie Van Gompel, MD, Kibwei McKinney, MD, Derrick Lin, MD, FACS, Carlos Pinheiro-Neto, MD, PhD

Dear friends and colleagues,

Welcome to the **30th Annual Meeting of the North American Skull Base Society!**

This event will be held at La Cantera Resort in San Antonio, Texas; February 7-9, 2020 with a pre-meeting hands-on dissection course February 5-6, 2020. La Cantera is a beautiful resort, full of family-oriented amenities, located just 20 minutes from *San Antonio's downtown, The Alamo* historical site and the world renowned *Riverwalk*.



Ricardo Carrau, MD, MBA

The meeting theme, ***Rapid Evolution in the Healthcare Ecosystem: Becoming Frontiers***, will present the opportunity to discuss technological, technical, societal and economic changes affecting the way we deliver care to our patients and how our frontier horizon changes faster than our ability to adapt to these changes ("*becoming frontiers*"). This pace is accelerating; therefore, we soon will require the assistance of new technologies including machine and deep learning and, eventually, artificial intelligence.

I am extremely grateful for the work of the Program Committee that under the direction of our **Program Chairs**, Drs. Daniel M. Prevedello and Adam Zanation, have synthesized a superb curriculum that includes a pre-meeting hands-on course, keynote lectures, live dissections, 3D anatomical reviews, round tables and panels addressing and debating hot topics, video sessions offering technical pearls from recognized experts, and proffered paper sessions. In addition we will offer the opportunity to register for hands-on training for the endoscopic control of an internal carotid artery injury on a cadaveric model and the showcasing of superb preserved anatomical dissections of the skull base and brain. Furthermore, the program will include a *Skull Base Primer Course* and two special symposiums, *State-of-the-Art Diagnosis and Management of Acoustic Neuromas* and of *The Orbit as a Surgical Corridor and Target*. The pre-congress **Hands-On Course** led by Drs. Paul Gardner and Arturo Solares, will offer a modified format with pre-recorded dissections, less lecture and more hands-on dissection time. I also want to recognize the stellar performance of our partners in the BSC Management team. Without their operational and organizational efforts, this meeting would not be possible.

My **Guests of Honor** include Dr. Ivo Janecka, who will deliver the keynote lecture, and Drs. Hugh Curtin, Amin Kassam, Dan Nuss and Laligam Sekhar, who will present their perspectives on the evolution of our healthcare ecosystem regarding economics, patient care, research and education. During the past 30 years, I have enjoyed their trailblazing contributions and teachings and I am elated that they accepted my invitation.

I thank the membership of the NASBS for the honor to serve as your President. I hope this meeting exceed your expectations.

A handwritten signature in black ink that reads "Ricardo Carrau MD, MBA". The signature is stylized and cursive.

Ricardo Carrau, MD, MBA  
NASBS President 2019 - 2020

# Keynote & Honored Guest Speakers

## Keynote Speaker - Saturday, February 8



**Ivo P. Janecka, MD, MBA, PhD**

Education in medicine (MD), business (MBA), and management/decisions sciences (PhD) Published: 147 peer-reviewed scientific articles 74 chapters/reviews; 6 books (4 as Editor, 2 as Associate Editor)

## Honored Guest Speakers - Friday, February 7



**Daniel W. Nuss, MD, FACS**

George D. Lyons, MD Professor and Chairman  
LSU Department of Otolaryngology-Head and Neck Surgery

Daniel W. Nuss, M.D., completed his medical education and residency at Louisiana State University in New Orleans. He served a two-year fellowship at the University of Pittsburgh's Center for Cranial Base Surgery. He has been Chairman of LSU Otolaryngology since 1995, and is a past president (2009) of the North American Skull Base Society. In 2014 he received the NASBS President's Distinguished Service Award. His clinical practice includes management of skull base tumors using both open and minimally invasive techniques, with special interest in skull base reconstruction. He

has authored over 150 scientific publications and over 200 scientific presentations worldwide. He is a Fellow of the American Academy of Otolaryngology-Head and Neck Surgery, American College of Surgeons, and American Head and Neck Society. In his spare time, Nuss plays lead guitar for a New Orleans-based rock-n-roll band, whose activities include fund-raising for schools, churches, cancer patients, research, and other worthy causes.



**Laligam Sekhar, MD, FACS, FAANS**

Dr. Laligam N. Sekhar is one of the pioneers of Skull base Surgery and a founding member of the North American Skull Base Society. He was the second president of the NASBS (1990-91) and was also president of the World Federation of Skull Base Societies (2008-2011) and of the Washington State Association of Neurosurgeons (2008-11) in addition to other leadership positions. He has published 349 refereed articles, edited 9 books, and holds 6 patents for medical devices. His expertise is in the area of Skull Base Microsurgery, Endoscope-assisted Microsurgery, and Cerebrovascular Neurosurgery. He is currently a Professor and Vice-Chairman of Neurological Surgery at the University of Washington, Director of Skull Base Surgery, Director of Cerebro-

vascular Surgery, and the Director of the Cerebrovascular Laboratory at Harborview Medical Center in Seattle, Washington. He is married to Gordana Juric- Sekhar, a Neuropathologist at UW and has three children: Raja, Daniela and Kris.

# Keynote & Honored Guest Speakers (Cont.)

## Honored Guest Speakers - Saturday, February 8



**Amin B. Kassam, MD**

As Vice President of Neurosciences and Chairman of the Department of Neurosurgery at Aurora Health Care, Dr. Kassam is a board-certified, world-renowned neurosurgeon whose accomplishments have advanced the field of neurosurgery. He was the driving force behind the establishment of the Aurora Neuroscience Innovation Institute (ANII), where he collaborates with an experienced team of scientists, engineers, clinicians and cell biologists.



**Hugh D. Curtin, MD, FACR**

Hugh D. Curtin is a radiologist specializing in imaging of the head, neck and skull base. He is Chair of Radiology at the Massachusetts Eye and Ear Infirmary and Professor of Radiology at the Harvard Medical School. Born and raised in Canton, New York, he attended St. Michael's College at the University of Toronto. He graduated from Upstate Medical University in Syracuse and did a radiology residency at the University of Pittsburgh. After a year at the Ostra Sjukhuset in Goteborg, Sweden learning pediatric radiology and angiography, he returned to Pittsburgh. There he began doing head and neck radiology not really because he was driven by a specific interest but because nobody else wanted to do it and he was the most junior attending radiologist.

Dr. Bertram Girdany, the Chair of Radiology at the University of Pittsburgh, asked Dr. Curtin to oversee the new radiology department at the Pittsburgh Eye and Ear Hospital on an interim basis. In preparation, Dr. Curtin went to study at the Foundation Ophthalmologique Adolphe de Rothschild in Paris with Dr. Jacqueline Vignaud, one of world's leaders in temporal bone imaging.

Back in Pittsburgh, Dr. Curtin worked closely with otolaryngologists and skull base surgeons. Dr. Curtin credits his interactions with Dr. Eugene Myers and Dr. Jonas Johnson with helping him to learn head and neck imaging. The new Center for Cranial Base Surgery brought further opportunities for imaging exploration of the skull base and the development of imaging guided biopsy techniques for skull base lesions. Dr. Curtin was one of the founding members of the North American Skull Base Society. Dr. Curtin moved to Boston in 1995 to become Chair of Radiology at the Massachusetts Eye and Ear Infirmary.

Dr. Curtin has served on the editorial boards of several journals including Radiology, the American Journal of Neuroradiology (AJNR) and Skull Base. He was the first Head and Neck Editor for the AJNR. He has authored or coauthored over 200 peer reviewed papers and numerous chapters. He has lectured extensively nationally and internationally. Much of his effort has focused on publication of the textbook Head and Neck Imaging with Dr. Peter Som. Dr. Curtin was awarded the Gold Medal of the American Society of Head and Neck Radiology (ASHNR) and the Presidential Citation of the American Academy of Otolaryngology- Head and Neck Surgery. He has served as President of the ASHNR as well as the North American Skull Base Society. Dr. Curtin is particularly proud of having received the teacher of the year award from the Massachusetts General Hospital radiology residents and also the teaching award from the Otolaryngology residents of Harvard Medical School. He was recently honored as "Distinguished Alumnus" by Upstate Medical University.

In Pittsburgh, Dr. Curtin met and married Carole Livingston. They have been married over thirty years and currently live just west of Boston. Carole and Hugh have three children, Matthew, Eric and Rachel. The most recent addition is Rebecca, their first grandchild.

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## Contact

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11300 W. Olympic Blvd., Suite 600  
Los Angeles, California 90064  
Phone: 310-424-3326  
FAX: 310-437-0585

[www.nasbs.org](http://www.nasbs.org)

## Hotel Contact

**La Cantera Resort & Spa**  
16641 La Cantera Pkwy  
San Antonio, TX 78256  
PHONE: 210-558-6500

**NASBS is managed by BSC  
Management, Inc.**

11300 West Olympic Blvd., Suite 600  
Los Angeles, CA 90064  
Phone: 310-437-0555, Ext. 101  
FAX: 310-437-0585  
E-Mail: [info@bscmanage.com](mailto:info@bscmanage.com)  
[www.bscmanage.com](http://www.bscmanage.com)

# General/CME Information

## CME ACCREDITATION:

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 PESI, Inc. and North American Skull Base Society. PESI, Inc. is accredited by the ACCME to provide continuing medical education for physicians.

### AMA PRA Designation Statement

The PESI, Inc. designates this live educational activity for a maximum of **20.5 AMA PRA Category 1 Credit(s)™**. Physicians should only claim credit commensurate with the extent of their participation in the activity.

### International CME

International Physicians are formally eligible for AMA PRA Category 1 Credit™.

### Physician Assistants

AAPA accepts Category 1 credit from AOACCME, Prescribed credit from AAFP, and AMA PRA Category 1 Credit™ for the PRA from organizations accredited by ACCME.

### Registered Dietitians

For the purpose of recertification the Commission on Dietetic Registration recognizes courses accredited with AMA PRA Category 1 Credit™.

### Nurses

For the purpose of recertification, the American Nurses Credentialing Center accepts AMA PRA Category 1 Credit™ issued by organizations accredited by the ACCME.

### CA Nurses

Aspen CME Services is approved by the California Board of Registered Nursing, Provider number CEP14739, for 20.5 contact hours.

### Pharmacists

For the purpose of recertification, the American Council of Pharmacy Education accepts AMA PRA Category 1 Credit™ issued by organizations accredited by the ACCME (Accreditation Council for Continuing Medical Education) for attendance at structured learning activities.

### Satisfactory Completion for credits:

All attendees must have completed and turned in a course attendance/evaluation form prior to leaving the conference. Each session claimed for credit must be attended in its entirety.

# General Information

## ANNUAL MEETING OBJECTIVES

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

- Understand and explain most recent recommendations for management of skull base pathology.
- Describe recent advances in instrumentation and technology in skull base surgery.
- Gain knowledge in challenging skull base pathology from experienced leaders in the field.
- Collaborate in multidisciplinary working groups to identify state of the art management for select skull base pathology.
- Gain knowledge on optimal technical surgical management of complex skull base pathology through video analysis and expert critique of intraoperative video.
- Establish consensus statement on management of complex skull base pathology through review of existing medical literature.

## WHO SHOULD ATTEND

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

## TARGET AUDIENCE

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

## DISCLOSURE INFORMATION

In compliance with the ACCME Accreditation Criteria, the PESI, Inc., 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. All reported conflicts are managed by a designated official to ensure a bias-free presentation. Please see the insert to this program for the complete disclosure list.

# Meeting Leadership

## NASBS Scientific Program Committee

Ricardo Carrau, MD, MBA, President  
Adam Zanation, MD, MBA, Program Co-Chair  
Daniel Prevedello, MD, Program Co-Chair  
Paul Gardner, MD, Pre-Course Co-Chair  
Arturo Solares, MD, FACS Pre-Course Co-Chair  
James Evans, MD, FACS, FAANS Immediate Past Pres  
Shaan Raza, MD, Poster Chair  
Brian Thorp, MD, Rhoton Room Co-Chair  
Deanna Sasaki-Adams, MD, Rhoton Room Co-Chair  
Chris Rassekh, MD, Surgical Education Committee Liaison  
Christine Klatt-Cromwell, MD, Special Sessions Chair  
Tonya Stefko, MD, Orbital Education Day Chair  
Moises Arriaga, MD, Acoustic Neuroma Education Day Chair  
Jamie Van Gompel, MD, Main Topic Chair  
Kibwei McKinney, MD, Hot Topic Chair  
Derrick Lin, MD, FACS, Expert Debate Chair  
Carlos Pinheiro-Neto, MD, PhD, Video Session Chair

## NASBS Executive Committee

PRESIDENT: Ricardo Carrau, MD, MBA  
PRESIDENT-ELECT: John Golfinos, MD  
IMMEDIATE PAST PRESIDENT: Jim Evans, MD, FACS, FAANS  
VICE PRESIDENT: Lee Zimmer, MD, PhD  
SECRETARY: Siviero Agazzi, MD, MBA  
TREASURER: Adam Zanation, MD, FACS

## Directors at Large

Amir Dehdashti, MD  
Jean Anderson Eloy, MD  
Rick A. Friedman, MD, PhD  
Derrick Lin, MD, FACS  
James K. Liu, MD, FACS, FAANS  
Erin L. McKean, MD  
Kris Moe, MD  
Daniel Prevedello, MD  
Zoukaa Sargi, MD, MPH  
Jeffrey Sorenson, MD  
Shaan Raza, MD  
Allan Vescan, MD

## Board of Advisors

Ehab Hanna, MD  
Michael Link, MD  
Carl Snyderman, MD  
Jacques Morcos, MD  
Ian Witterick, MD

# General Information

## MEMBERSHIP BENEFITS

- Active members will receive the official journal of the society, The Journal of Neurological Surgery Part B, a publication that contains peer reviewed original articles, review articles, and position papers. It also presents news and information on an international scope to keep members aware of recent and upcoming events, activities, and evolving developments in skull base surgery. Affiliate, International and Candidate members may subscribe to the journal for \$100 annually.
- Discounted rates to attend the Annual Meeting
- Opportunities to network with colleagues and experts from across North America and globally
- Committees which provide opportunities for camaraderie, involvement and leadership development
- Online access to all members contact information.

Please visit [www.nasbs.org/membership](http://www.nasbs.org/membership) for more information or email [membership@nasbs.org](mailto: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.



# Meeting Hours

## REGISTRATION HOURS

Thursday, February 6, 2020	12:30 pm – 7:00 pm
Friday, February 7, 2020	6:00 am – 6:30 pm
Saturday, February 8, 2020	6:30 am – 6:00 pm
Sunday, February 9, 2020	7:00 am – 12:00 pm

## EXHIBIT HALL/POSTER HOURS

Thursday, February 6, 2020	12:00 pm to 6:00 pm	Exhibit Hall Set Up
Friday, February 7, 2020	9:00 am to 4:30 pm	Exhibit Hall Open
	9:35 am to 10:05 am	Refreshment Break
	12:20 pm to 1:20 pm	Lunch for Non-Members
	3:30 pm to 4:00 pm	Refreshment Break
	4:30 pm to 6:00 pm	Exhibit Hall Closed
	6:00 pm to 7:30 pm	Welcome Reception
Saturday, February 8, 2020	9:00 am to 4:30 pm	Exhibit Hall Open
	9:35 am to 10:05 am	Refreshment Break
	12:20 pm to 1:20 pm	Lunch/Poster Viewing
	3:30 pm to 4:00 pm	Refreshment Break
	4:30 pm to 9:30 pm	Dismantle & Removal of Exhibits

\*Dismantle & Removal Hours are subject to change

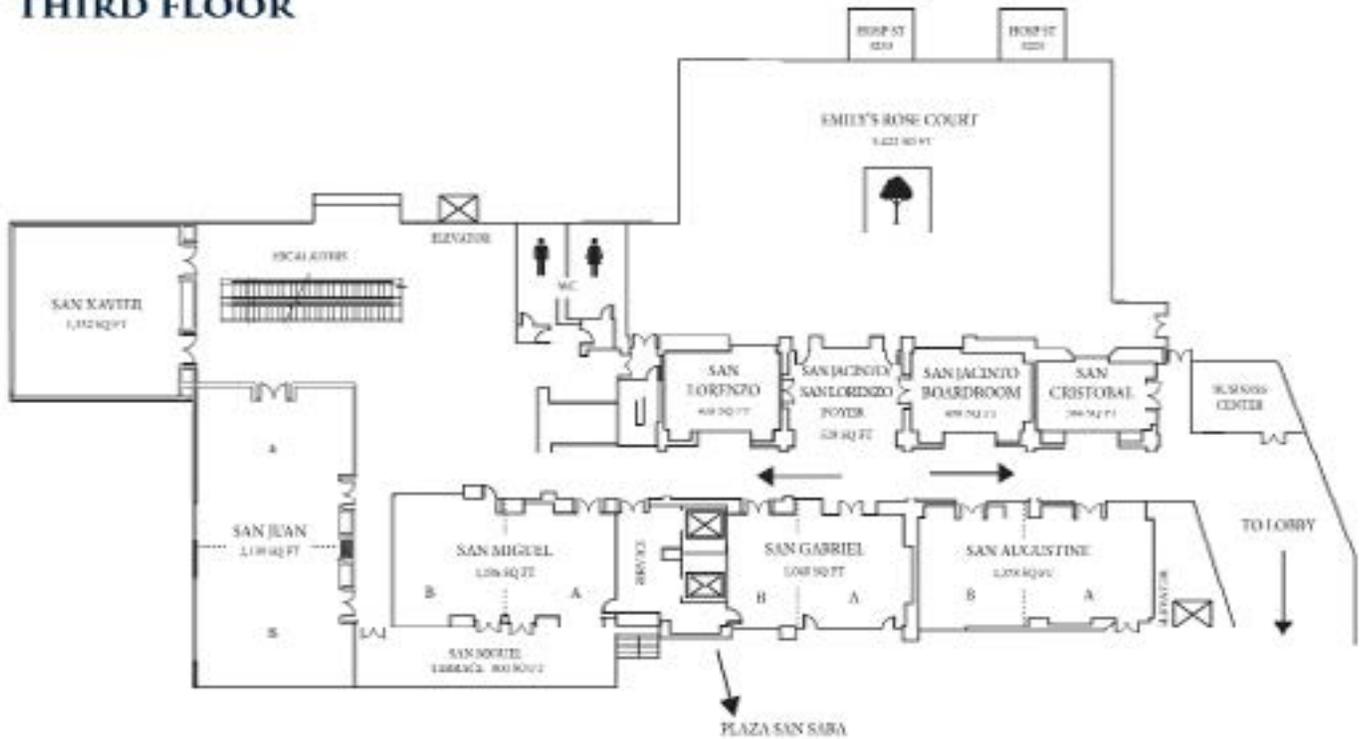
## Past Presidents

<b>1990</b>	Paul J. Donald, MD	<b>2005</b>	Patrick J. Gullane, MD
<b>1991</b>	Laligam N. Sekhar, MD	<b>2006</b>	Anil Nanda, MD
<b>1992</b>	Ivo P. Janecka, MD	<b>2007</b>	Guy J. Petrozzelli, MD
<b>1993</b>	Peter G. Smith, MD, PhD	<b>2008</b>	Franco DeMonte, MD
<b>1994</b>	Albert L. Rhoton, Jr., MD	<b>2009</b>	Daniel Nuss, MD
<b>1995</b>	Hugh Curtin, MD	<b>2010</b>	Peter Neligan, MD
<b>1996</b>	Derald E. Brackmann, MD	<b>2011</b>	Peter Constantino, MD
<b>1997</b>	Ossam Al Mefty, MD	<b>2012</b>	Dennis Kraus, MD
<b>1998</b>	Steven A. Newman, MD	<b>2013</b>	Carl Heilman, MD
<b>1999</b>	John P. Leonetti, MD	<b>2014</b>	Ehab Hanna, MD, FACS
<b>2000</b>	Robert F. Spetzler, MD	<b>2015</b>	Michael Link, MD
<b>2001</b>	Ian T. Jackson, MD	<b>2016</b>	Carl Snyderman, MD, MBA
<b>2002</b>	Vinod K. Anand, MD	<b>2017</b>	Jacques Morcos, MD, FRCS, FAANS
<b>2003</b>	Jon H. Robertson, MD	<b>2018</b>	Ian Witterick, MD
<b>2004</b>	Jatin Shah, MD	<b>2019</b>	James Evans, MD, FACS, FAANS

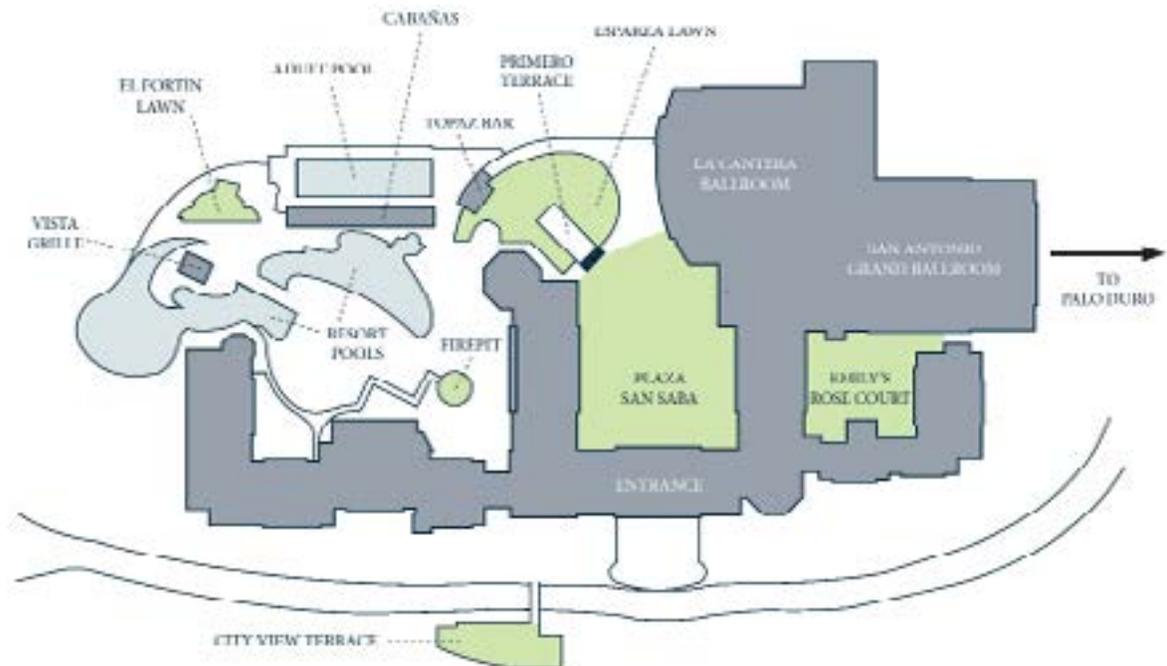


# Convention Hotel Floor Plan (Cont.)

## THIRD FLOOR



## OUTDOOR



# Disclosures

## Planner, Faculty, and Presenter Disclosures

ALL planners, faculty and presenters who could affect the content of this CME activity have provided disclosure of relationships with commercial interests. Only those that provided information indicating they have a financial relationship with a proprietary entity producing health care goods or services, with the exemption of non-profit or government organizations and non-health care related companies, are listed. (Financial relationships can include such things as grants or research support, employee, consultant, major stockholder, member of speaker's bureau, etc.)

Full Name	Company	Received	Role
A. Samy Youssef	Mizuho America	Royalty	Other
	Stryker	Consulting Fee	Consultant
Adam Folbe	Intrinsic medical imaging	Ownership Interest	Board Member
	Quintree Medical	Ownership Interest	Board Member
Adam L Holtzman, MD	American Academy of Insurance Medicine	Honoraria	
	The American Council of Life Insurers	Honoraria	
Albert Kim	Monteris Medical	Research	Other
	Stryker	Research	Other
Alejandro Monroy-Sosa	Neeka Health, LLC	Intellectual Property Rights	
Alejandro Rivas	Advanced Bionics, Med-El, Cochlear corpo	Consulting Fee	
	Advanced Bionics	Honoraria	Consultant
	Cochlear	Honoraria	Consultant
	Cook Medical	Honoraria	Consultant
	Grace Medical	Honoraria	Consultant
	Med-el	Honoraria	Consultant
	Stryker	Honoraria	Consultant
Alex D Sweeney	Cochlear, Advanced bionics, MED-EL, Oti	Consulting Fee	
Amin B Kassam	KLS Martin	Consulting Fee	Consultant
	Stryker	Consulting Fee	Consultant
	Synaptive Medical	Consulting Fee	Consultant
	KLS Martin Medical	Consulting Fee	
	Medtronic Advisory Board	Consulting Fee	
	Neeka Health, LLC	Ownership Interest	CEO and Founder
	Synaptive Medical	Consulting Fee	
Anand K. Devaiah	BU/Fraunhofer Alliance	IP Rights	Other
	Elemental Beverage Co.	Ownership Interest	Other
	HealthSeer, LLC	Ownership Interest	Management Position
	MEDAL, LLC	Ownership Interest	Other
	NIH SBIR/Fluent Bio	Other	Other
	OmniGuide	Other	Other
Ann P Murchison	Genentech	Honoraria	

# Disclosures (Cont.)

Ben Bleier	3D Matrix	Consulting Fee	Consultant
	Arrinex	Consulting Fee	Consultant
	Arthrocare	Consulting Fee	Consultant
	Cannon	Consulting Fee	Consultant
	Interscope	Ownership Interest	Other
	Medtronic	Consulting Fee	Consultant
	Olympus	Consulting Fee	Consultant
	Sinopsys	Consulting Fee	Consultant
	Storz	Consulting Fee	Consultant
	Thieme	Royalty	Other
Bradford Alan Woodworth	Baxter	Consulting Fee	Consultant
	Cook Medical	Consulting Fee	Consultant
	Cook Medical	Research	Consultant
	Cook Medical	Royalty	Consultant
	Smith and Nephew	Consulting Fee	Consultant
Brandon Isaacson	Advanced Bionics	Consulting Fee	Advisory Committee
	Med-el	Consulting Fee	Advisory Committee
	Medtronic	Consulting Fee	Consultant
	Stryker	Consulting Fee	Consultant
Brian Williams	Monteris	Consulting Fee	
Carl Snyderman	SPIWay, LLC	Ownership Interest	Consultant
Carlos Pinheiro-Neto	Biomet	Consulting Fee	Consultant
	Medtronic	Research	Consultant
Chandranath Sen	Penumbra	Other	Other
Charles S. Ebert	Acclarent	Consulting Fee	Consultant
Chetan Bettegowda	Depuy-Synthes	Consulting Fee	
Christine L Hann	AbbVie	Industry Supported Research	
	AbbVie	Consulting Fee	
	Amgen	Industry Supported Research	
	Ascentage	Consulting Fee	
	BMS	Consulting Fee	
	BMS	Industry Supported Research	
	Genetech	Consulting Fee	
	GSK	Industry Supported Research	
	Merrimack	Industry Supported Research	
Christopher H. Rassekh	Cook Medical	Other	Other
Colin L Driscoll	Advanced Bionics Corporation	Consulting Fee	
	Cochlear Corporation	Consulting Fee	
	MED-EL GmbH	Consulting Fee	
Cristine N Klatt-Cromwell	Medtronic	Consulting Fee	Consultant
Daniel F. Kelly	Mizuho, Inc	Royalty	Consultant

# Disclosures (Cont.)

Daniel M Prevdello	3 rivers LLC	Ownership Interest	Consultant
	eLUM Technologies, LLC	Ownership Interest	Consultant
	KLS-Martin	Royalty	
	Medtronic	Consulting Fee	
	Mizuho	Royalty	
	Soliton LLC	Consulting Fee	
	Stryker	Consulting Fee	
	3 rivers LLC	Ownership Interest	Consultant
	eLUM Technologies, LLC	Ownership Interest	Consultant
	KLS-Martin	Royalty	
	ACE Medical	Royalty	
	Codman	Consulting Fee	
	Integra	Consulting Fee	
	Leica Microsystems	Honoraria	
	Storz	Research	Other
David S Haynes	Stryker, Cochlear corporation, Med-El, a	Consulting Fee	
Demetrius Lopes	Medtronic	Consulting Fee	
	Stryker	Consulting Fee	
Domenico A Gattozzi	NREF	Grant Funding	
Dukagjin M Blakaj	IntraOp	Research	Other
	Varian	Research	Other
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	Stryker Corp.	Consulting Fee	Consultant
Garni Barkhoudarian	Vascular Technologist Inc (VTI)	Consulting Fee	Consultant
Gernot Kronreif	Medtronic Navigation	Industry Supported Research	
Gustavo Pradilla	NICO Corporation	Research	Other
	Stryker	Consulting Fee	Consultant
	Synaptive	Honoraria	Speaking/Teaching
Isaac Yang	Baxter	Honoraria	Consultant
	Brainlab	Research	Consultant
	Stryker	Research	Consultant
J Jayender	Navigation Sciences	Intellectual Property Rights	Inventor
Jacques J. Morcos	Kogent	Ownership Interest	Other
	Leica	Consulting Fee	Consultant
James C Fleming	AO	Consulting Fee	
	Horizon Pharmaceuticals	Consulting Fee	
James N Palmer	Acclarent	Consulting Fee	Consultant
	Medtronic	Consulting Fee	Consultant
	optinose	Ownership Interest	Consultant
Jayakar Nayak	Cook Medical	Consulting Fee	Consultant
	Medtronic, Inc.	Consulting Fee	Consultant
	Olympus America	Consulting Fee	Consultant
	Acclarent	Consulting Fee	
Jeremy N Ciporen	spiWAY	No financial benefits received.	
John Golfinos	Surgical Theater	Ownership Interest	Other

# Disclosures (Cont.)

John Y.K. Lee	Baxter	Consulting Fee	Speaking/Teaching
	National Football League	Consulting Fee	Independent Contractor
	Storz	Research	Speaking/Teaching
	VisionSense	Ownership Interest	Advisory Committee
Kevin Brown	Acclarent	Consulting Fee	
	Med-El	Surgical Advisory Board	
Kibwei A McKinney	Intersect ENT	Honoraria	Speaking/Teaching
Kris Moe	SpiSurgical LLC	IP Rights	Board Member
Laligam Sekhar	SPI Surgical, Inc.	Ownership Interest	Other
Lola B. Chambless	Stryker Skull Base	Consulting Fee	Speaking/Teaching
Marc A. Tewfik	AstraZeneca	Research	Other
	Mylan	Honoraria	Speaking/Teaching
	Novartis	Honoraria	Speaking/Teaching
	Ondine Biomedical	Consulting Fee	Consultant
	Stryker	Consulting Fee	Consultant
	Thieme	Royalty	Other
Marc S Schwartz	Cochlear	Consulting Fee	
Mark Tabor	Medtronic	Honoraria	Speaking/Teaching
Matthew G Ewend	BCBS North Carolina	Other	Other
	Falcon Therapeutics	Ownership Interest	Board Member
Matthew L Carlson	Advanced Bionics Corporation	Consulting Fee	
	Cochlear Corporation	Consulting Fee	
	MED-EL GmbH	Consulting Fee	
Melanie B Fukui	Neeka Health, LLC	Consulting Fee	
Michael Chicoine	IMRIS Inc	Research	Other
Michael Lawton	Zeiss Microscopes	Consulting Fee	Other
Michael W McDermott	NFL UNC	Consulting Fee	
	Stryker	Consulting Fee	
Michelle Alonso-Basanta	IBA	Travel funds	Speaker
Miguel Soares Tepedino	Medtronic	Honoraria	Consultant
Nyall London	Navigen Pharmaceuticals	Hold stock currently of no value	
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## Friday, February 7

### Day 1: Annual Meeting

6:00am-6:30am	<b>Registration</b>	
7:00am-7:30am	<b>Breakfast</b>	
7:30am-8:30am	<b>Scientific Sessions</b>	
	<b>Main Topic 1: Trigeminal Schwannoma Surgery</b> – Moderators: Michael Link & A. Samy Youssef <i>Michael Link, Siviero Agazzi, Clementino Arturo Solares, Walavan Sivakumar, Dukagjin M Blakaj</i>	San Xavier
	<b>Main Topic 2: Clival Chordomas</b> – Moderators: Laligam Sekhar & Norbert Liebsch <i>Laligam Sekhar, Jean Anderson Eloy, Shaan M. Raza, Aashish Bhatt, Scott Okuno</i>	San Miguel
	<b>Main Topic 3: Esthesioneuroblastoma</b> – Moderator: Ehab Hanna & Jamie Joseph Van Gompel <i>Jamie Joseph Van Gompel, Gary L Gallia, Shirley Y. Su, Jeffrey R Janus, Robert Foote</i>	San Gabriel
	<b>Main Topic 4: Value Based Skull Base Surgery</b> – Moderators: Harry Van Loveren & Bernard R. Bendok <i>Bernard R. Bendok, Amin B Kassam, Erin L. McKean, Matthew G Ewend, Arjun Parasher</i>	San Augustine
	<b>Main Topic 5: Recalcitrant Meningiomas</b> – Moderators: Ossama Al-Mefty & Alfredo Quinones-Hinajosa <i>Ossama Al-Mefty, Gelareh Zadeh, Franco DeMonte, T. Jonathan Yang</i>	San Felipe
8:35am- 9:35am	<b>Expert Debates</b>	
	<b>Expert Debate 1: Schwannomas - Operate or Radiate</b> – Moderators: James K. Liu & J. Thomas Roland <i>James K. Liu, J. Thomas Roland, Michael Chicoine, Tyler James Kenning, Marcos Tatagiba, Brendan P O'Connell</i>	San Xavier
	<b>Expert Debate 2: Protons for Chordomas, Cost/Benefit</b> – Moderators: Chester Frank Griffiths & Franco DeMonte <i>Lola B. Chambless, Norbert Liebsch, Shaan M. Raza, Chandranath Sen</i>	San Miguel
	<b>Expert Debate 3: Sinonasal Malignancies, Neoadjuvant or Not?</b> – Moderators: Zoukaa Sargi & Mark Varvares <i>Zoukaa Sargi, Mark Varvares, Jong Park, Brian David Thorp, Christopher H. Rassekh, Michael G Moore</i>	San Gabriel
	<b>Expert Debate 4: Skull Base Coding</b> – Moderators: Carl Snyderman & Rick Friedman <i>Carl Snyderman, Rick Friedman, Cristine N Klatt-Cromwell, Adam Folbe, Stephen C Hernandez</i>	San Augustine
	<b>Expert Debate 5: Endo Versus Transcranial Approaches for Anterior Cranial Fossa</b> – Moderators: Ali Jamshidi & Paul A. Gardner <i>Ali Jamshidi, Paul A. Gardner, Walter Jean, Ehab Hanna, Pablo F. Recinos</i>	San Felipe
9:35am-10:05am	Break with Exhibitors	
10:05am - 12:20pm	<b>General Session</b> » <b>Presidential Address</b> » <b>Research Grant Committee Update</b> » <b>Honored Guest Speakers</b> <i>Ricardo Carrau, Howard Krauss, Michael Link, Shaan M. Raza, Anand K. Devaiah, Daniel Nuss, Laligam Sekhar,</i>	La Cantera Ballroom
12:20pm-1:20pm	Lunch in Exhibit Hall	
1:20pm-2:20pm	<b>Hot Topic Sessions</b>	
	<b>Hot Topic 1: Topics in Orbital Surgery</b> – Moderators: Raymond I Cho & William Couldwell <i>Jenny Yu, Doo-Sik Kong, Kris Moe, Andrei Koerbel</i>	San Xavier
	<b>Hot Topic 2: Optimizing Endoscopic Skull Base Reconstruction</b> – Moderators: Raj Sindwani <i>Mindy Robyn Rabinowitz, Cristine N Klatt-Cromwell, Jarrett Elbert Walsh</i>	San Miguel
	<b>Hot Topic 3: Complex Pituitary Tumors: Giant Pituitary Adenomas or Invasive Pituitary Adenomas</b> – Moderators: Nelson M Oyesiku & Ian F. Dunn	San Gabriel
	<b>Hot Topic 4: Cavernous Sinus and Petroclival Meningiomas</b> – Moderators: Giovanni Danesi & James K. Liu <i>Anil Nanda, Deanna Sasaki-Adams, Adam Folbe, Christina Henson, Annie Moreau</i>	San Augustine
2:25pm-3:25pm	<b>Video Sessions</b>	
	<b>Video Session 1: Orbital Approaches</b> – Moderators: Miguel Soares Tepedino & S Tonya Stefko <i>Tal Rubinstein, Janalee K Stokken, Raymond I Cho, Andrei Koerbel, Kris Moe, Alessandro Paluzzi</i>	San Xavier
	<b>Video Session 2: Skull Base Reconstruction</b> – Moderators: Vijay Agarwal & Sanjeet V Rangarajan <i>Charles S. Ebert, Ramon Moreno-Luna, Patrick Michael Colley, Griffin D Santarelli, Allan D. Vescan, Samip N Patel</i>	San Miguel

	<b>Video Session 3: Extracapsular Tumor Surgery for Pituitary Tumors</b> – Moderators: Apio Antunes & Victor Alcocer-Barradas <i>Maria Peris Celda, Ralph Abi Hachem, Garni Barkhoudarian, Russell Lonser, Tyler James Kenning</i>	San Gabriel
	<b>Video Session 4: Petroclival Meningiomas Surgery</b> – Moderators: Mustafa Baskaya & Peter Morone <i>Alejandro Monroy-Sosa, Clementino Arturo Solares, Carl Snyderman, Diego Mendez Rosito, Ossama Al-Mefty, Amir R. Dehdashti</i>	San Augustine
4:00pm-6:00pm	<b>Acoustic Neuroma Education Day</b> – See page __ for Schedule	Add room listed in title of word doc
4:00pm-5:00pm	<b>Competition Time</b> – Moderator: Ricardo Carrau <i>Extra Mayo, Please vs. Miami Vice</i>	Palo Duro
4:00pm-5:00pm	<b>Proffered Paper Sessions</b>	
	<b>Proffered Papers 1: Pituitary 1</b> – Moderators: Thomas Beaumont & Apio Antunes 001: PRIMARY VISUAL CORTICAL THICKNESS CORRELATES WITH VISUAL FIELD DEFECTS IN PATIENTS WITH PITUITARY MACROADENOMAS: A STRUCTURAL 7 TESLA RETINOTOPIC ANALYSIS - <a href="#">John W Rutland</a> <sup>1</sup> , Bradley N Delman <sup>1</sup> , Kuang-Han Huang <sup>1</sup> , Gaurav Verma <sup>1</sup> , Noah C Benson <sup>2</sup> , Dillan F Villavisanis <sup>1</sup> , Hung-Mo Lin <sup>1</sup> , Joshua B Bederson <sup>1</sup> , James Chelnis <sup>1</sup> , Priti Balchandani <sup>1</sup> , Raj K Shrivastava <sup>1</sup> ; <sup>1</sup> Icahn School of Medicine at Mount Sinai, <sup>2</sup> New York University 002: 7 TESLA DIFFUSION-WEIGHTED MRI APPARENT DIFFUSION COEFFICIENT FOR PREOPERATIVE EVALUATION OF PITUITARY ADENOMA CONSISTENCY - <a href="#">John W Rutland</a> , Joshua Loewenstern, Daniel Ranti, Nadejda Tsankova, Joshua B Bederson, Bradley N Delman, Priti Balchandani, Raj K Shrivastava; Icahn School of Medicine at Mount Sinai 003: POST-OPERATIVE PAIN MANAGEMENT AND PERCEIVED PATIENT OUTCOMES FOLLOWING ENDOSCOPIC PITUITARY SURGERY - <a href="#">Austin T Hoke, BS</a> <sup>1</sup> , Madison Malfitano, BS <sup>1</sup> , Lucas Frickey, BS <sup>1</sup> , Adam J Kimple, MD, PhD <sup>2</sup> , Adam M Zanation, MD <sup>2</sup> , Charles S Ebert, MD, MPH <sup>2</sup> , Brent A Senior, MD <sup>2</sup> , Brian D Thorp, MD <sup>2</sup> ; <sup>1</sup> UNC School of Medicine, <sup>2</sup> UNC Otolaryngology / Head and Neck Surgery 004: A HIGHLY SENSITIVE AND SPECIFIC ACTH-BASED PREDICTOR OF LONG-TERM REMISSION AFTER SURGERY FOR CUSHING'S DISEASE - <a href="#">Marcus A Zachariah, MD, PhD</a> , Santino G Cua, BS, Bradley A Otto, MD, Ricardo L Carrau, MD, Luma Ghalib, MD, Russel R Lonser, MD, Daniel M Prevedello, MD; The Ohio State University 005: REPEAT SERUM SODIUM VALUES OVER 145 PREDICT DIABETES INSIPIDUS AFTER ENDOSCOPIC TRANSPHENOIDAL PITUITARY TUMOR RESECTION - <a href="#">Rebecca Breese, MD</a> <sup>1</sup> , Avinash Chandran, PhD <sup>2</sup> , Sebastian Gil <sup>3</sup> , Weston Northam, MD <sup>2</sup> , Elizabeth Harris, MD <sup>2</sup> , Brian Thorp, MD <sup>2</sup> , Adam Zanation, MD <sup>2</sup> , Deanna Sasaki-Adams, MD <sup>2</sup> , Matthew Ewend, MD <sup>2</sup> , Carolyn Quinsey, MD <sup>2</sup> ; <sup>1</sup> Wake Forest Baptist Health, <sup>2</sup> University of North Carolina, <sup>3</sup> University of North Carolina School of Medicine 006: READMISSION AFTER ENDOSCOPIC TRANSPHENOIDAL PITUITARY SURGERY: ANALYSIS OF 584 CONSECUTIVE CASES - <a href="#">Iyan Younus</a> , Georgiana Dobri, MD, Rohan Ramakrishna, MD, Theodore H Schwartz, MD; Weill Medical College/Cornell University 007: LONG TERM HYPOCORTISOLISM AFTER PITUITARY SURGERY: CAN POD1 STRESS RESPONSE PREDICT LONG-TERM OUTCOME? - <a href="#">Pascal Lavergne, MD, FRCSC</a> , Prachi Patel, Chandala Chitguppi, MD, Tawfiq Khouri, MD, Mindy Rabinowitz, MD, Gurston G Nyquist, MD, Marc R Rosen, MD, Christopher J Farrell, MD, James J Evans, MD; Thomas Jefferson University 008: LONG-TERM OUTCOMES AFTER ENDOSCOPIC ENDONASAL SURGERY FOR NON-FUNCTIONING PITUITARY MACROADENOMAS - Mina Gerdes, MD <sup>1</sup> , Kavelin Rumalla, BA <sup>2</sup> , Saniya Godil, MD <sup>1</sup> , <a href="#">Iyan Younus</a> <sup>1</sup> , Walid Elshamy <sup>1</sup> , Viay K. Anand, MD <sup>1</sup> , Theodore H. Schwartz <sup>1</sup> , Georgiana Dobri <sup>1</sup> ; <sup>1</sup> Department of Neurosurgery, Weill Cornell Medicine, New York Presbyterian Hospital, New York NY, <sup>2</sup> Department of Biomedical and Health Informatics, University of Missouri-Kansas City School of Medicine, Kansas City, MO, USA	San Xavier

	<p><b>Proffered Papers 2: Reconstruction 1</b> – Moderators: Arjun Parasher &amp; Ralph Abi Hachem</p> <p>009: DURAL SEALANTS DO NOT REDUCE POSTOPERATIVE CEREBROSPINAL FLUID LEAKS AFTER ENDOSCOPIC ENDONASAL SKULL BASE SURGERY - <a href="#">Michael McDowell</a>, Rachel Jacobs, BS, Benita Valappil, Eric Wang, MD, Carl Snyderman, MD, MBA, Paul A Gardner, MD; University of Pittsburgh Medical Center</p> <p>010: TRANSORBITAL ENDOSCOPIC APPROACH FOR REPAIR OF FRONTAL SINUS CEREBROSPINAL FLUID LEAKS: A SINGLE-INSTITUTIONAL EXPERIENCE - <a href="#">Raywat Noiphithak, MD</a>, Pree Nimmanitya, MD, Vich Yindeedej, MD, Pataravit Rukskul, MD; Division of Neurosurgery, Department of Surgery, Faculty of Medicine, Thammasat University</p> <p>011: A NOVEL SCORING SYSTEM FOR COMPLEXITY AND OPERATIVE SUCCESS OF OSTEOCUTANEOUS FREE-FLAP RECONSTRUCTION OF THE MIDFACE AND ORBIT - <a href="#">Brian Swendseid, MD</a>, Swar Vimawala, BS, Matthew Stewart, BS, Tony Richa, MD, Ryan Heffelfinger, MD, Howard Krein, MD, PhD, Adam Luginbuhl, MD, Richard Goldman, MD, Joseph Curry, MD; Thomas Jefferson University Hospitals</p> <p>012: HETEROGENEITY IN OUTCOMES REPORTING IN ENDOSCOPIC ENDONASAL SKULL BASE RECONSTRUCTION: A SYSTEMATIC REVIEW. - <a href="#">Christina Dorismond, MPH</a><sup>1</sup>, Griffin D Santarelli, MD<sup>2</sup>, Brian D Thorp, MD<sup>1</sup>, Adam J Kimple, MD, PhD<sup>1</sup>, Charles S Ebert, MD<sup>1</sup>, Adam M Zanation, MD<sup>1</sup>; <sup>1</sup>University of North Carolina School of Medicine, <sup>2</sup>Barrow Neurological Institute</p> <p>013: SINONASAL QUALITY-OF-LIFE OUTCOMES AFTER ENDOSCOPIC ENDONASAL TRANSSPHENOIDAL SURGERY WITH FREE MUCOSAL GRAFT RECONSTRUCTION - <a href="#">Tara J Wu, MD</a><sup>1</sup>, Angela Chen, BS<sup>1</sup>, Marvin Bergsneider, MD<sup>2</sup>, Jivianne T Lee<sup>1</sup>, Jeffrey D Suh<sup>1</sup>, Marilene B Wang<sup>1</sup>; <sup>1</sup>UCLA Department of Head and Neck Surgery, <sup>2</sup>UCLA Department of Neurosurgery</p> <p>014: CORRELATION OF SKULL BASE CSF LEAK FLOW RATES WITH FLUID PATTERN ON EARLY, DELAYED AND SUBTRACTION VOLUMETRIC EXTENDED ECHO TRAIN T2 MRI - <a href="#">John W Rutland</a>, Satish Govindaraj, Corey M Gill, Michael Shohet, Alfred Illoreta, Joshua B Bederson, Raj K Shrivastava, Bradley N Delman; Icahn School of Medicine at Mount Sinai</p> <p>015: DECREASED RATE OF CSF LEAKS AFTER SKULL BASE FRACTURES IN THE 21ST CENTURY: A TWO-INSTITUTION EXPERIENCE - <a href="#">Brittany M Stopa, MPH</a><sup>1</sup>, Oscar A Leyva<sup>1</sup>, Cierra Harper<sup>1</sup>, Kyla A Truman<sup>1</sup>, Carleton E Corrales, MD<sup>2</sup>, Timothy R Smith, MD, PhD, MPH<sup>1</sup>, William B Gormley, MD, MPH, MBA<sup>1</sup>; <sup>1</sup>Computational Neuroscience Outcomes Center at Harvard, Brigham and Women's Hospital, Department of Neurosurgery, Boston, MA, USA, <sup>2</sup>Brigham and Women's Hospital, Division of Otolaryngology, Boston, MA, USA</p> <p>016: THE RECONSTRUCTIVE PHASE IN THE EXTENDED ENDOSCOPIC ENDONASAL APPROACHES TO THE SKULL BASE AND THE ANTERIOR CRANIO-VERTEBRAL JUNCTION: FROM THE OPERATING ROOM TO THE E.N.T. OUTPATIENT CLINIC - L. G. M. Di Somma, M. Dobran, V. Liverotti, M. Capece, D. Aiudi, <a href="#">M. Iacoangeli</a>; Department Of Neurosurgery, Marche Polytechnic University, Umberto I General Hospital, Ancona, Italy</p>	San Miguel
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	<p><b>Proffered Papers 3: Malignancies 1</b> – Moderators: Clementino Arturo Solares &amp; Nyall R London</p> <p>017: MULTI-CENTER ANALYSIS OF CLINICAL OUTCOMES AND BIOMARKERS OF ESTHESIONEUROBLASTOMA - <a href="#">Matt Lechner, MD, PhD<sup>1</sup></a>, Mario Hermsen, PhD<sup>2</sup>, Mario Turri-Zanoni, MD<sup>3</sup>, Volker H Schartinger, MD<sup>4</sup>, Sam Helman, MD<sup>5</sup>, Jordan Varghese<sup>5</sup>, C. Arturo Solares, MD<sup>5</sup>, Kelly Magliocca, MD<sup>6</sup>, Simon Wang, MD<sup>7</sup>, Susanne Sprung, MD<sup>8</sup>, David Howard, FRCS<sup>9</sup>, Nils Engel, MD<sup>10</sup>, David Capper, MD<sup>11</sup>, Ulrich Schueller, MD<sup>12</sup>, Martin Forster, PhD<sup>13</sup>, Amrita Jay, MBBS<sup>14</sup>, Cillian Forde, MBBS<sup>13</sup>, Jozsef Dudas, PhD<sup>4</sup>, Herbert Riechelmann, MD<sup>4</sup>, R. Peter Manes, MD<sup>15</sup>, Wendell G Yarbrough, MD<sup>16</sup>, Jose L Llorente, MD<sup>2</sup>, Sarah K Wise<sup>5</sup>, Paolo Castelnovo, MD<sup>3</sup>, Valerie J Lund, CBE<sup>17</sup>; <sup>1</sup>UCL Cancer Institute, University College London, 72 Huntley Street, London, WC1E 6DD, United Kingdom, <sup>2</sup>Instituto de Investigación Sanitaria del Principado de Asturias (ISPA), Instituto Universitario de Oncología del Principado de Asturias (IUOPA), Centro de Investigación Biomédica en Red (CIBER-ONC), Oviedo, Spain, <sup>3</sup>Unit of Otorhinolaryngology - Head &amp; Neck Surgery, University of Insubria, Varese, Italy, <sup>4</sup>Department of Otorhinolaryngology-Head and Neck Surgery, Medical University of Innsbruck, Innsbruck, Austria, <sup>5</sup>Department of Otorhinolaryngology-Head and Neck Surgery, Emory University, Atlanta, Georgia, US, <sup>6</sup>Department of Pathology, Emory University, Atlanta, Georgia, US, <sup>7</sup>Institute of Nuclear Medicine, University College Hospital, London, United Kingdom, <sup>8</sup>Institute of Pathology, Medical University of Innsbruck, Innsbruck, Austria, <sup>9</sup>Head and Neck Cancer Unit, Imperial College Healthcare NHS Trust, London, UK, <sup>10</sup>Ludwig-Maximilians University, Munich, Germany, <sup>11</sup>Department of Neuropathology, Charite University, Berlin, Germany, <sup>12</sup>University Medical Center Hamburg-Eppendorf, Hamburg, Germany, <sup>13</sup>Head and Neck Centre, University College London Hospitals NHS Trust, London, United Kingdom., <sup>14</sup>Department of Histopathology, University College London Hospitals NHS Trust, London, United Kingdom, <sup>15</sup>Department of Surgery, Division of Otolaryngology, Yale School of Medicine, New Haven, Connecticut, US, <sup>16</sup>Department of Otolaryngology/Head and Neck Surgery and Department of Pathology, University of North Carolina, Chapel Hill, NC, US, <sup>17</sup>Royal National Throat, Nose and Ear Hospital and Head and Neck Centre, University College London Hospitals NHS Trust, London, United Kingdom</p> <p>018: TREATMENT MODALITY ROLE IN SURVIVAL OF PATIENTS WITH ADVANCED SQUAMOUS CELL CARCINOMA OF THE SINONASAL CAVITY: A NATIONAL CANCER DATABASE STUDY - Chris Johnson, PharmD, MD, <a href="#">Camilo Reyes, MD</a>; Augusta University</p> <p>019: SURVIVAL OUTCOMES IN SINONASAL POORLY DIFFERENTIATED SQUAMOUS CELL CARCINOMA - <a href="#">Feras Y Ackall, MD<sup>1</sup></a>, Ian Barak, MS<sup>2</sup>, Khalil Issa, MD<sup>1</sup>, Jordan Teitelbaum, DO<sup>1</sup>, David W Jang, MD<sup>1</sup>, Sin-Ho Jung, PhD<sup>2</sup>, Ralph Abi Hachem, MD, MSc<sup>1</sup>; <sup>1</sup>Duke University Medical Center, <sup>2</sup>Duke University</p> <p>020: MANAGEMENT OF SOFT TISSUE SARCOMAS OF THE SKULL BASE: FACTORS IMPACTING TUMOR CONTROL AND DISEASE-SPECIFIC SURVIVAL - <a href="#">Idara Edem, MD, MSc</a>, Franco Demonte, MD, Ahmed Habib, MD, Shirley Su, MBBS, Ehab Hanna, MD, Paul Gidley, MD, Marc-elie Nader, MD, Michael Kupferman, MD, Jack Phan, MD, Shaan Raza, MD; The University of Texas M.D. Anderson Cancer Center</p> <p>021: TREATMENT OF SINONASAL SQUAMOUS CELL CARCINOMA: THE EXPERIENCE AT A SINGLE TERTIARY CARE FACILITY OVER 32 YEARS. - <a href="#">Michael J Sylvester</a>, Rachel Fenberg, Erin L McKean, MD, Kyle K VanKoeveering, MD; University of Michigan</p> <p>022: ANEURYSMAL BONE CYSTS OF THE PARANASAL SINUSES: THE MAYO CLINIC EXPERIENCE AND REVIEW OF THE LITERATURE - <a href="#">Alyssa J Smith, MD</a>, Kathryn Van Abel, MD, Garret Choby, MD; Mayo Clinic</p> <p>023: SINONASAL UNDIFFERENTIATED CARCINOMA: AN INSTITUTIONAL TREND TOWARDS INDUCTION CHEMOTHERAPY FOLLOWED BY DEFINITIVE CHEMORADIATION - <a href="#">Nyall London, MD, PhD<sup>1</sup></a>, Ahmed Mohyeldin<sup>2</sup>, Georges Daoud<sup>3</sup>, Dukagjin Blakaj<sup>3</sup>, Mauricio Gamez<sup>3</sup>, Ricardo Carrau<sup>3</sup>; <sup>1</sup>Johns Hopkins University, <sup>2</sup>Stanford University, <sup>3</sup>The Ohio State University</p> <p>024: SINONASAL SQUAMOUS CELL CARCINOMA OUTCOMES: DOES TREATMENT AT A HIGH-VOLUME CENTER CONFER SURVIVAL BENEFIT? - <a href="#">Jordan I Teitelbaum, DO</a>, Ian Barak, Khalil Issa, MD, Feras Ackall, MD, Sin-Ho Jung, PhD, David Jang, MD, Ralph Abi-Hachem, MD, MSc; Duke University Medical Center</p>	San Gabriel
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5:00pm-6:00pm	<p><b>Proffered Papers Sessions</b></p>	
	<p><b>Proffered Papers 5: Endoscopic Assisted</b> – Moderators: Diego Mendez Rosito &amp; Ali Jamshidi</p> <p>033: COMBINED ENDOSCOPIC-ENDONASAL SUPRAORBITAL KEYHOLE SURGERY FOR THE MANAGEMENT OF ANTERIOR SKULL BASE MENINGIOMAS: DIFFERENT VIEW OF THE SAME PATHOLOGY - V. Liverotti<sup>1</sup>, G. Polonara<sup>2</sup>, A. Donati<sup>3</sup>, P. Martorano<sup>4</sup>, F. Mancini<sup>1</sup>, G. Bizzocchi<sup>1</sup>, <a href="#">M. Iacoangeli<sup>1</sup></a>; <sup>1</sup>Department of Neurosurgery, Marche Polytechnic University, Umberto I General Hospital, Ancona, Italy, <sup>2</sup>Department of Radiology, Section of Neuroradiology, Marche Polytechnic University, Umberto I General Hospital, Ancona, Italy, <sup>3</sup>Department of Anesthesiology and Intensive Care, Umberto I General Hospital, Ancona, Italy, <sup>4</sup>Department of Anesthesiology, Section of Neuroanesthesiology, Umberto I General Hospital, Ancona, Italy</p> <p>034: DISTAL VASCULAR COMPRESSION (BEYOND THE OBERSTEINER REDLICH ZONE) DURING FULLY ENDOSCOPIC MICROVASCULAR DECOMPRESSION FOR TRIGEMINAL NEURALGIA - <a href="#">Rachel Blue, MD</a>, John YK Lee, MD, MSCE; University of Pennsylvania</p> <p>035: COMPARATIVE ANALYSIS OF ENDOSCOPIC TRANSORBITAL APPROACH AND EXTENDED MINI-PTERIONAL APPROACH FOR SPHENOID WING MENINGIOMAS WITH OSSEOUS INVOLVEMENT: PRELIMINARY SURGICAL RESULTS - <a href="#">Hun Ho Park, MD<sup>1</sup></a>, Jihwan Yoo, MD<sup>1</sup>, In-Sik Yun, MD, PhD<sup>2</sup>, Chang-Ki Hong<sup>1</sup>; <sup>1</sup>Department of Neurosurgery, Gangnam Severance Hospital, Yonsei University, <sup>2</sup>Department of Plastic surgery, Gangnam Severance Hospital, Yonsei University</p> <p>036: EXTENT OF SURGICAL RESECTION OF EPIDERMOID TUMORS AFFECTS RISK OF RECURRENCE: RESULTS OF THE LARGEST META-ANALYSIS OF 691 PATIENTS - <a href="#">Brian Shear, BS<sup>1</sup></a>, Lan Jin, PhD<sup>2</sup>, Yawei Zhang, MD, PhD<sup>2</sup>, Wyatt David, MS<sup>1</sup>, Elena Fomchenko, MD, PhD<sup>1</sup>, E. Zeynep Erson-Omay, PhD<sup>1</sup>, Anita Huttner, MD<sup>3</sup>, Robert K Fulbright, MD<sup>4</sup>, Jennifer Moliterno, MD<sup>1</sup>; <sup>1</sup>Yale Department of Neurosurgery, <sup>2</sup>Yale Department of Surgery, <sup>3</sup>Yale Department of Pathology, <sup>4</sup>Yale Department of Radiology</p> <p>037: CHOROID PLEXUS PAPILLOMAS OF THE CEREBELLOPONTINE ANGLE AND FOURTH VENTRICLE: COHORT STUDY - <a href="#">Amanda Munoz Casabella, MD</a>, Avital Perry, MD, Christopher S Graffeo, MD, Lucas P Carlstrom, MD, Michael J Link, MD; Mayo Clinic</p> <p>038: ENDOSCOPIC ENDONASAL VERSUS TRANSCRANIAL APPROACH TO RESECTION OF OLFACTORY GROOVE MENINGIOMAS: A SYSTEMATIC REVIEW - Aarti Purohit, BS, Roshani Jha, Adham M Khalafallah, MD, Carrie Price, <a href="#">Nicholas R Rowan, MD</a>, Debraj Mukherjee, MD, MPH; Johns Hopkins School of Medicine</p> <p>039: HIGH VARIABILITY OF “OUTSIDE RADIOLOGIST REPORTS” IN TRIGEMINAL NEURALGIA PATIENTS UNDERGOING ENDOSCOPIC MICROVASCULAR DECOMPRESSION - <a href="#">Rachel Blue, MD</a>, Denise Miller, CRNP, Carrie Li, John YK Lee, MD, MSCE; University Of Pennsylvania</p> <p>040: SURGICAL TIPS AND PITFALLS OF ENDOSCOPIC SUPERIOR EYELID TRANSORBITAL SURGERY FOR ORBIT, MIDDLE FOSSA AND MECKEL'S CAVE LESIONS - <a href="#">Doosik Kong, MD, PhD</a>, Minsoo Kim, MD; Samsung Medical Center, Sungkyunkwan University</p>	San Xavier

	<p><b>Proffered Papers 6: Endoscopic Endonasal</b> – Moderators: Leo Ditzel &amp; Gabriel Zada</p> <p>041: THE ENDONASAL ENDOSCOPIC PERSPECTIVE OF PARACLINOID ANEURYSMS – A CADAVERIC ANATOMICAL ANALYSIS - <a href="#">Huy O Truong, MD<sup>1</sup></a>, Salomon Cohen-Cohen, MD<sup>2</sup>, Nathan T Zwagerman, MD<sup>1</sup>, Juan C Fernandez-Miranda, MD<sup>3</sup>, Paul A Gardner, MD<sup>4</sup>; <sup>1</sup>Medical College of Wisconsin, <sup>2</sup>Mayo Clinic Rochester, <sup>3</sup>Stanford University Medical Center, <sup>4</sup>University of Pittsburgh Medical Center</p> <p>042: ENDOSCOPIC ENDONASAL APPROACH FOR CRANIOPHARYNGIOMAS WITH INTRAVENTRICULAR EXTENSION: LONG-TERM OUTCOMES AND META-ANALYSIS - <a href="#">Hanna Algattas, MD</a>, Pradeep Setty, DO, Ezequiel Goldschmidt, MD, PhD, Eric W Wang, MD, Elizabeth Tyler-Kabara, MD, PhD, Carl H Snyderman, MD, MBA, Paul A Gardner; UPMC</p> <p>043: CLINICAL OUTCOMES OF ENDOSCOPIC ENDONASAL ODONTOID RESECTION: A SINGLE CENTER EXPERIENCE - Elysia Grose<sup>1</sup>, Ioana Moldovan, MD, MSc<sup>2</sup>, Shaun Kilty, MD, FRCSC<sup>3</sup>, Charles Agbi, MB, BS, FRCS, FRSCed, SN, FRCSC<sup>4</sup>, Andre Lamothe, MD, FRCSC<sup>5</sup>, <a href="#">Fahad AlKherayf, MD, MSc, CIP, FRCSC<sup>4</sup></a>; <sup>1</sup>Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada, <sup>2</sup>Division of Neurosurgery, Department of Surgery, The Ottawa Hospital Research Institute, Ottawa, Canada, <sup>3</sup>Department of Otolaryngology- Head &amp; Neck Surgery, University of Ottawa, Ottawa, Canada, <sup>4</sup>Division of Neurosurgery, Department of Surgery, University of Ottawa, Ottawa, Ontario, Canada, <sup>5</sup>Department of Otolaryngology- Head &amp; Neck Surgery, The Ottawa Hospital, Ottawa, Canada</p> <p>044: AN UPDATE ON THE ENDOSCOPIC ENDONASAL APPROACH TO ORBITAL AND ORBITAL APEX LESIONS: A SERIES OF 97 PATIENTS - <a href="#">Joel Franco, MD<sup>1</sup></a>, Nathan Zwagerman, MD<sup>2</sup>, Carl Snyderman, MD<sup>1</sup>, Paul Gardner, MD<sup>1</sup>, Tonya Stefkó, MD<sup>1</sup>, Eric Wang, MD<sup>1</sup>; <sup>1</sup>University of Pittsburgh Medical Center, <sup>2</sup>Medical College of Wisconsin</p> <p>045: ENDOSCOPIC TRANSORAL NASOPHARYNGECTOMY - <a href="#">Roberto M Soriano, MD</a>, Rima S Rindler, MD, Samuel N Helman, MD, Gustavo Pradilla, MD, C. Arturo Solares, MD; Emory University (SSO)</p> <p>047: IMPACT OF MEDICAID INSURANCE ON OUTCOMES FOLLOWING ENDOSCOPIC TRANSPHENOIDAL PITUITARY SURGERY - <a href="#">Iyan Yunus, BS</a>, Rohan Ramakrishna, MD, Ashutosh Kacker, MD, Abtin Tabaei, MD, Vijay K Anand, MD, Theodore H Schwartz, MD; Weill Cornell Medicine</p> <p>048: "EXTREME" INDICATION OF THE ENDOSCOPIC ENDONASAL APPROACH FOR COMPLEX C1-C2 FRACTURES. - M. Dobran, A. Marini, E. Carrassi, M. Capece, R. Paracino, <a href="#">M. Iacoangeli</a>; Department of Neurosurgery, Marche Polytechnic University, Umberto I General Hospital, Ancona, Italy</p>	San Miguel
	<p><b>Proffered Papers 7: Advances and Outcomes</b> – Moderators: Shaan M. Raza &amp; Mateus Dal Fabro</p> <p>049: DEVELOPMENT OF CLINICALLY APPLICABLE MOLECULAR MARKERS DISTINGUISHING SINONASAL UNDIFFERENTIATED CARCINOMA FROM SINONASAL SQUAMOUS CELL CARCINOMA - <a href="#">Yoko Takahashi, PhD</a>, Frederico O Gleber-Netto, MSc, DDS, PhD, Diana Bell, MD, Dianna Roberts, PhD, Tong-Xin Xie, MD, PhD, Ahmed S Abdelmeguid, MD, PhD, Curtis Pickering, PhD, Jeffrey N Myers, MD, PhD, Ehab Y Hanna, MD; The University of Texas MD Anderson Cancer Center</p> <p>050: SINONASAL MUCOSAL MELANOMA: A COMPARISON OF OUTCOMES BETWEEN SURGICAL RESECTION AND IMMUNE CHECKPOINT INHIBITION - <a href="#">Shivangi Lohia, MD</a>, Stephanie Flukes, MD, Alexander N Shoushtari, MD, Akash D Shah, MD, Ian Ganly, MD, Snehal G Patel, MD, Jennifer R Cracchiolo, MD, Christopher Barker, MD, Jatin P Shah, MD, Viviane S Tabar, MD, Marc Cohen, MD; Memorial Sloan Kettering Cancer Center</p> <p>051: SURGICAL MANAGEMENT OF SKULL BASE/INFRATEMPORAL FOSSA MALIGNANCIES: PREDICTORS OF POST-OPERATIVE PERFORMANCE - <a href="#">Patrick J Hunt</a>, Moran Amit, MD, PhD, Mohamed Aashiq, Franco DeMonte, MD, Ehab Y Hanna, MD, Michael E Kupferman, MD, Shirley Y Su, MBBS, Paul W Gidley, MD, Marc-Elie Nader, MD, Shaan M Raza, MD; M.D. Anderson</p> <p>052: IDENTIFICATION OF EPITHELIAL MEMBRANE PROTEIN 2 (EMP2) AS A MOLECULAR MARKER AND CORRELATE FOR ANGIOGENESIS IN MENINGIOMA - <a href="#">Kunal S Patel</a>, Sameer Kejirwal, Samasuk Thammachantha, Courtney Duong, Ann Chan, Lynn Gordon, William Yong, Madhuri Wadehra, Isaac Yang; UCLA</p> <p>053: IMPACT OF AGE ON THE TREATMENT AND SURVIVAL IN SINONASAL MALIGNANCIES - <a href="#">Chandala Chitguppi, MD<sup>1</sup></a>, Tawfiq Khoury, MD<sup>1</sup>, Pascal Lavergne, MD<sup>2</sup>, Prachi Patel, BA<sup>1</sup>, Kira Murphy, MD<sup>1</sup>, Mindy Rabinowitz, MD<sup>1</sup>, Gurston Nyquist, MD<sup>1</sup>, James Evans, MD<sup>2</sup>, Marc Rosen, MD<sup>1</sup>; <sup>1</sup>Department of Otolaryngology and Head and Neck Surgery, Thomas Jefferson University Hospital, <sup>2</sup>Department of Neurological Surgery, Thomas Jefferson University Hospital</p> <p>054: POST TREATMENT SURVEILLANCE FOR RECURRENCE IN SINONASAL MALIGNANCIES - Gurston Nyquist, MD<sup>1</sup>, <a href="#">Prachi N Patel, BA<sup>1</sup></a>, Chandala Chitguppi, MD<sup>1</sup>, Swar Vimawala, BS<sup>1</sup>, Tawfiq Khoury, MD<sup>1</sup>, Mindy Rabinowitz, MD<sup>1</sup>, Pascal Lavergne, MD, FRCSC<sup>2</sup>, James Evans, MD<sup>2</sup>, Marc Rosen<sup>1</sup>; <sup>1</sup>Thomas Jefferson University, Department of Otolaryngology - Head and Neck Surgery, <sup>2</sup>Thomas Jefferson University, Department of Neurosurgery</p> <p>056: THE INFLUENCE OF HOSPITAL VOLUME ON THE OUTCOMES OF NASOPHARYNGEAL, SINONASAL AND SKULL-BASE TUMORS; A SYSTEMATIC REVIEW OF THE LITERATURE. - Rahul K Sharma, BS<sup>1</sup>, <a href="#">Stephanie Flukes, MD<sup>2</sup></a>, Marc A Cohen, MD, MPH<sup>2</sup>; <sup>1</sup>Columbia University Vagelos College of Physicians &amp; Surgeons, New York, NY, USA, <sup>2</sup>Head and Neck Service, Department of Surgery, Memorial Sloan Kettering Cancer Center, New York, NY, USA</p>	San Gabriel

	<p><b>Proffered Papers 8: Technology and Techniques</b> – Moderators: Jamie Joseph Van Gompel &amp; Amin B Kassam</p> <p>057: HYBRID ROBOTICS IN ENDOSCOPIC TRANSNASAL SKULL BASE SURGERY: REPORT OF AN INITIAL, SINGLE-CENTRE CLINICAL EXPERIENCE - Francesca Zappa<sup>1</sup>, Alba Madoglio<sup>1</sup>, Davide Mattavelli<sup>2</sup>, Alberto Schreiber<sup>2</sup>, Stefano Taboni<sup>2</sup>, Marco M Fontanella<sup>1</sup>, Piero Nicolai<sup>1</sup>, <a href="#">Francesco Doglietto</a><sup>1</sup>; <sup>1</sup>Neurosurgery, Department of Medical and Surgical Specialties, Radiological Sciences and Public Health, University of Brescia, Brescia, Italy, <sup>2</sup>Otorhinolaryngology, Department of Medical and Surgical Specialties, Radiological Sciences and Public Health, University of Brescia, Brescia, Italy</p> <p>058: CONTRALATERAL TRANSMAXILLARY CORRIDOR TO THE CAVERNOUS SINUS: A USEFUL ADJUNCT TO THE ENDOSCOPIC ENDONASAL APPROACH TO THE PARASELLAR REGION - <a href="#">Yury Anania, MD</a><sup>1</sup>, Sheng Han, MD, PhD<sup>1</sup>, Zenonos Georgios, MD<sup>2</sup>, Eric W Wang, MD<sup>3</sup>, Carl H Snyderman, MD, MBA<sup>3</sup>, Paul A Gardner, MD<sup>2</sup>; <sup>1</sup>Center for Cranial Base Surgery, University of Pittsburgh, <sup>2</sup>Department of Neurosurgery, University of Pittsburgh Medical Center, <sup>3</sup>Department of Otolaryngology, University of Pittsburgh Medical Center</p> <p>059: 3-DIMENSIONAL EXOSCOPIC TEMPORAL BONE RESECTIONS FOR ADVANCED HEAD AND NECK CANCER - <a href="#">Mallory J Raymond, MD</a><sup>1</sup>, Roberto M Soriano, MD<sup>1</sup>, Ryan Belcher, MD<sup>2</sup>, C. Arturo Solares, MD, FACS<sup>1</sup>; <sup>1</sup>Emory University, <sup>2</sup>Vanderbilt University</p> <p>060: ENDOSCOPIC ENDONASAL SKULL BASE SURGERY USING INDOCYANINE GREEN AND RELATIONSHIP TO PREOPERATIVE RADIOLOGICAL IMAGING - <a href="#">Mostafa Shahein, MD</a><sup>1,2</sup>, Thomas L Beaumont, MD, PhD<sup>3</sup>, Luciano M Prevedello<sup>4</sup>, Khaled Ismail, MD<sup>2</sup>, Radwan Nouby<sup>2</sup>, Marilly Palettas<sup>5</sup>, Ricardo L Carrau, MD<sup>6</sup>, Bradley A Otto, MD<sup>6</sup>, Daniel M Prevedello<sup>1</sup>; <sup>1</sup>Department of Neurological Surgery, The Ohio State University, Wexner Medical Center, Columbus, Ohio, <sup>2</sup>Department of Neurosurgery, Aswan University, Egypt, <sup>3</sup>Department of Neurological Surgery, University of California, San Diego, <sup>4</sup>Department of Radiology, The Ohio State University, Wexner Medical Center, Columbus, Ohio, <sup>5</sup>Department of Biomedical Informatics – Center for Biostatistics, The Ohio State University, Wexner Medical Center Columbus, Ohio, <sup>6</sup>Department of Otolaryngology–Head and Neck Surgery, The Ohio State University, Wexner Medical Center Columbus, Ohio</p> <p>061: NEUROSURGICAL APPLICATIONS OF A NOVEL TOUGH ADHESIVE BIOMATERIAL - <a href="#">Kyle C Wu, MD</a><sup>1</sup>, Benjamin R Freedman, PhD<sup>2</sup>, David J Mooney, PhD<sup>2</sup>, Wenya L Bi, MD, PhD<sup>1</sup>; <sup>1</sup>Center for Skull Base and Pituitary Surgery, Brigham and Women’s Hospital, <sup>2</sup>Harvard John A. Paulson School of Engineering and Applied Sciences</p> <p>062: SINGLE INSTITUTIONAL EXPERIENCE WITH BIOABSORBABLE STEROID ELUTING STENT TREATMENT OF RECURRENT RATHKE’S CLEFT CYST - <a href="#">Matthew Z Sun, MD</a>, Marvin Bergsneider, MD, Marilene B Wang, MD; UCLA</p> <p>063: ENDOSCOPIC TRANSNASAL EUSTACHIAN TUBE CLOSURE USING THE V-LOC WOUND CLOSURE DEVICE - <a href="#">Andrew J Thomas, MD</a><sup>1</sup>, Sachin Gupta, MD<sup>2</sup>, Aclan Dogan, MD<sup>2</sup>, Timothy L Smith, MD, MPH<sup>2</sup>, Justin Cetas, MD, PhD<sup>2</sup>, Jeremy N. Ciporen, MD<sup>2</sup>, Mathew Geltzeller, MD<sup>2</sup>; <sup>1</sup>Oregon Health &amp; Science University; Ochsner Clinic Foundation, <sup>2</sup>Oregon Health &amp; Science University</p> <p>064: ANATOMICAL ANALYSIS AND PROPOSED DESIGN OF AN ANGLED DRILL FOR ENDOSCOPIC ENDONASAL PETROSECTOMY - <a href="#">Huy Q Truong, MD</a><sup>1</sup>, Hamid Borghei-Razavi, MD<sup>2</sup>, Pinar Celtikci, MD<sup>3</sup>, Emrah Celtikci, MD<sup>3</sup>, David T Fernandes Cabral<sup>4</sup>, Aldo Eguiluz-Meléndez, MD<sup>4</sup>, Paul A Gardner, MD<sup>4</sup>, Juan C Fernandez-Miranda, MD<sup>5</sup>; <sup>1</sup>Medical College of Wisconsin, <sup>2</sup>Cleveland Clinic Florida, <sup>3</sup>Gazi University Faculty of Medicine, <sup>4</sup>University of Pittsburgh Medical Center, <sup>5</sup>Stanford University Medical Center</p>	San Augustine
6:00pm-7:30pm	Welcome Reception & Poster Viewing	

## Saturday, February 8

### Day 2: Annual Meeting

6:30am-6:00pm	<b>Registration</b>	
7:00am-7:30am	<b>Breakfast</b>	
7:30am-9:35am	<b>Rhoton Room: Dissection Demonstration – Sellar Approach</b> – Moderators: Brian David Thorp & Juan C. Fernandez-Miranda <i>Brian David Thorp, Deanna Sasaki-Adams, Raj Sindwani, Pablo F. Recinos, Raj Sindwani, Maria Peris Celda, Eric W. Wang, Paul A. Gardner</i>	San Juan
7:30am-8:30am	<b>Main Topics</b>	
	<b>Main Topic 6: Highlights from AN Day</b> – Moderators: Marc Schwartz & Moises Arriaga <i>Moises Arriaga, Brad Welling, Benedict J Panizza, John Golfinos, Ted McRackan, Marc Schwartz</i>	San Xavier
	<b>Main Topic 7: Spontaneous CSF Leak: Short and Long Term Management</b> – Moderators: Mark Tabor & Bradford Alan Woodworth <i>Bradford Alan Woodworth, Seilesh Babu, Matthew Luke Carlson, Zoukaa Sargi, Garret W Choby</i>	San Miguel
	<b>Main Topic 8: Skull Base Surgery Complications</b> – Moderators: Andrew P. Carlson & A. Samy Youssef <i>A. Samy Youssef, Vijay Agarwal, Alexandre Felippu, Gabriel Zada, Marc A. Tewfik</i>	San Gabriel
	<b>Main Topic 9: Skull Base Syndromes You Should Know</b> – Moderators: Tarek A Rayan & Azam Syed Ahmed <i>Tarek A Rayan, Gregory J Basura, Colin L. W. Driscoll, William Couldwell, Wenya Linda Bi</i>	San Augustine
	<b>Main Topic 10: Parasellar Nonpituitary Surgery</b> – Moderators: Leo Ditzel & Kaisorn Chaichana <i>Leo Ditzel, Daniel F. Kelly, Michael Kohanski, Luma Ghalib, Jeremy N Ciporen</i>	San Felipe
8:35am-9:35am	<b>Expert Debates</b>	
	<b>Expert Debate 6: Treatment of Slow Growing Asymptomatic Ans</b> – Moderators: Neal M Jackson & Peter Morone <i>Peter Morone, Neal M Jackson, Marcos Tatagiba, Oliver F Adunka, Jennifer A Moliterno Gunel, Mustafa Baskaya</i>	San Xavier
	<b>Expert Debate 7: Medical Advances in Skull Base Tumor Management: Current and Future</b> – Moderators: Shirley Y. Su & Gelareh Zadeh <i>Shirley Y. Su, Gelareh Zadeh, Ian F. Dunn, Konstantina Stankovic, Diana Bell, Waleed Abuzeid</i>	San Miguel
	<b>Expert Debate 8: Running Multiple Rooms: Is It Legal? Is It Ethical?</b> – Moderators: Daniel F. Kelly <i>Daniel F. Kelly, Kibwei A McKinney, Nelson M Oyesiku, Jamie Joseph Van Gompel, Christopher H. Rassekh</i>	San Gabriel
	<b>Expert Debate 9: Endovascular or Open Treatment of AVMs and Aneurysms</b> - Moderators: Bob S. Carter & Jacques J. Morcos <i>Bob S. Carter, Jacques J. Morcos, Peter S Amenta, Bernard R. Bendok, Deanna Sasaki-Adams</i>	San Augustine
	<b>Expert Debate 10: Endoscopic Repair Failure: What to do Next?</b> - Moderators: Pete Batra & Zou-kaa Sargi <i>Pete Batra, Zoukaa Sargi, Jeffrey M Blumberg, Kyle K VanKoevering, Vijay Agarwal, Stephen Y Kang</i>	San Felipe
9:35am-10:05am	<b>Break with Exhibitors</b>	
10:05am-12:20	<b>General Session</b> » <b>Keynote Speaker</b> » <b>Honored Guest Speakers</b> <i>Ricardo Carrau, Ivo Janecka, Adam Mikial Zanation, Daniel M. Prevedello, Jeffrey M. Sorenson, John Golfinos, Hugh Curtin, Amin B Kassam</i>	La Cantera Ballroom
12:20pm-1:20pm	<b>Lunch in Exhibit Hall</b>	
1:20pm-3:25pm	<b>Rhoton Room: Dissection Demonstration – Infratemporal Fossa</b> – Moderators: Arjun Parasher & Marc Rosen <i>Carlos Pinheiro-Neto, Ivan El-Sayed, Clementino Arturo Solares, Alejandro Monroy-Sosa, Amin B Kassam</i>	San Juan
1:20pm - 2:20pm	<b>Hot Topics &amp; Special Session</b>	
	<b>Hot Topic 5: Jugular Foramen Tumors</b> – Moderators: Giovanni Danesi & James K. Liu <i>James K. Liu, Joseph Paul Roche, Matthew Luke Carlson, Chad A. Glenn, Deanna Sasaki-Adams</i>	San Xavier
	<b>Hot Topic 6: Imaging Advances in Skull Base Pathologies</b> - Moderators: Benjamin Y Huang & Hugh Curtin <i>Benjamin Y Huang, Theodore H. Schwartz, Alfred Marc Calo Illoreta</i>	San Miguel

	<b>Special Session 1: Leadership and Development in Skull Base Surgery</b> - Moderator: Raewyn G Campbell <i>Raewyn G Campbell, Marilene Beth Wang, Carolyn Quinsey, Stacey Gray, Yvonne Chan, Carl Snyderman, Stella Lee, Jennifer Strahle, Corinna Levine</i>	San Gabriel
	<b>Competition Time</b> – Moderator: Jacques J. Morcos <i>NYU Team vs. Quaker Skull Base Possie</i>	Palo Duro
2:25pm-3:25pm	<b>Video Sessions &amp; Special Session</b>	
	<b>Video Session 5: Vascular Injury Management</b> – Moderators: Kyle K VanKoevering & Anand V. Germanwala <i>Gabriel Zada, Juan C. Fernandez-Miranda, Paul A. Gardner, Anil Nanda, John Golfinos, Alan Boulos</i>	San Xavier
	<b>Video Session 6: New Technology and Techniques for Skull Base Tumor Removal</b> – Moderators: Devin T Mistry & Ralph Abi Hachem <i>Theodore H. Schwartz, Peter Hwang, Jonathan Morris, Varun R. Kshetry, Alice Zhao-Maxfield</i>	San Miguel
	<b>Special Session 2: NexGen Imaging Modalities in Skull Base Pathologies</b> – Moderators: Lola B. Chambless & Michael Chicoine <i>Michael Chicoine, Eugene Yu, John Y.K. Lee, Joshua Bederson, Anthony G. Del Signore, Joshua Palmer, Jeffrey T. Jacob, Claudia F.E. Kirsch</i>	San Gabriel
	<b>Special Session 3: Young Members Forum: Building a Practice and the Economics of Building a Practice</b> - Moderator: Erin L. McKean & Jacques J. Morcos <i>Erin L. McKean, Jose G. Gurrola, Douglas A Hardesty, Jacques J. Morcos, Kibwei A McKinney, Zara M Patel, Oswaldo A Henriquez, Stephen C Hernandez, Brian Lobo</i>	San Augustine A & B
3:30pm-4:00pm	<b>Break with Exhibitors</b>	
4:00pm-6:00pm	<b>Rhoton Room: Dissection Demonstration - Orbitozygomatic Craniotomy</b> – Moderators: Deanna Sasaki-Adams & Siviero Agazzi <i>Kaan Yagmurlu, Ossama Al-Mefty, Michael Lawton</i>	San Juan
4:00pm-5:00pm	<b>Proffered Papers &amp; Special Session</b>	
	<b>Industry, Innovation, and Development</b> – Moderators: Anand K. Devaiah & Shaan M. Raza <i>Sunil Manjila, Jayakar Nayak, Amin B Kassam</i>	Palo Duro
	<b>Proffered Papers 9: Meningioma 1</b> – Moderators: Georgios A Zenonos & Jacques J. Morcos  065: GLYCEROL RHIZOTOMY FOR THE MANAGEMENT OF TUMOR ASSOCIATED TRIGEMINAL NEURALGIA - <u>Christina Jackson, MD</u> , Jennifer Franke, BS, Michael Lim, MD; Johns Hopkins School of Medicine 066: ADJUVANT RADIOTHERAPY IN SKULL BASE-LOCATED GRADE II, ATYPICAL MENINGIOMA - <u>David P Bray, MD</u> <sup>1</sup> , Bryan Buster, MD, MPH <sup>1</sup> , Joseph W Quillin, MD <sup>1</sup> , Robert H Press, MD <sup>2</sup> , Bree R Eaton, MD <sup>2</sup> , Jeffrey J Olson <sup>1</sup> ; <sup>1</sup> Department of Neurosurgery, Emory University Medical Center, <sup>2</sup> Department of Radiation Oncology, Emory University Medical Center 067: IMAGING-BASED SCORE FOR PREDICTING HIGHER GRADE MENINGIOMAS - Yaroslav Gelfand, MD, <u>Abigail Funari, BS</u> , Michael Longo, BA, Samuel Ahmad, BA, Sadiq Rahman, BA, Vijay Agarwal, MD; Albert Einstein College of Medicine, Montefiore Medical Center 068: INHIBITION OF PDGFR MAY BE A VIABLE TREATMENT OPTION FOR MENINGIOMAS - <u>Tadeusz Wroblewski</u> <sup>1</sup> , Philip D Tatman <sup>1</sup> , Anthony Fringuello <sup>1</sup> , William Foreman <sup>1</sup> , Sameul Scherer <sup>1</sup> , Denise Damek, MD <sup>1</sup> , Kevin Lillehei, MD <sup>1</sup> , Randy Jensen, MD, PhD <sup>2</sup> , David Ormond, MD <sup>1</sup> , Michael Graner, PhD <sup>1</sup> ; <sup>1</sup> University of Colorado, <sup>2</sup> University of Utah 271: SURGICAL MANAGEMENT OF PETROCLIVAL MENINGIOMAS BASED ON A RADIOGRAPHIC CLASSIFICATION WITH UPDATED FOLLOW-UP - <u>Zhen Wu</u> , Da Li, Jun-Ting Zhang; Beijing Tiantan Hospital, Capital Medical University 069: THE IMPACT OF CLINICAL FRAILTY ON OVERALL SURVIVAL FOLLOWING SURGICAL RESECTION IN PATIENTS WITH HIGH GRADE MENINGIOMAS - <u>Jianning Shao, BA</u> <sup>1</sup> , Pranay Soni, MD <sup>2</sup> , Arbaz Momin, BA <sup>1</sup> , Diana Lopez, BA <sup>1</sup> , Konrad K Knusel, BS <sup>3</sup> , Patrick J Elsworth, BA <sup>3</sup> , Varun Kshetry, MD <sup>2</sup> , Pablo F Recinos, MD <sup>4</sup> ; <sup>1</sup> Cleveland Clinic Lerner College of Medicine at Case Western Reserve University, <sup>2</sup> Department of Neurosurgery, Cleveland Clinic, <sup>3</sup> Case Western Reserve University School of Medicine, <sup>4</sup> Section Head--Skull Base Surgery, Department of Neurosurgery, Cleveland Clinic 070: CLINICAL FRAILTY IS AN IMPORTANT PREDICTOR OF FUNCTIONAL OUTCOME FOLLOWING SURGICAL RESECTION IN PATIENTS WITH HIGH GRADE MENINGIOMAS - <u>Jianning Shao, BA</u> <sup>1</sup> , Arbaz Momin, BS <sup>1</sup> , Pranay Soni, MD <sup>2</sup> , Diana Lopez, BA <sup>1</sup> , Konrad K Knusel, BA <sup>3</sup> , Patrick J Elsworth, BS <sup>3</sup> , Varun R Kshetry, MD <sup>2</sup> , Pablo Recinos, MD <sup>4</sup> ; <sup>1</sup> Cleveland Clinic Lerner College of Medicine at Case Western Reserve University, <sup>2</sup> Department of Neurosurgery, Cleveland Clinic, <sup>3</sup> Case Western Reserve University School of Medicine, <sup>4</sup> Section Head--Skull Base Surgery, Department of Neurosurgery, Cleveland Clinic 071: EXTENT OF RESECTION AND SURVIVAL OUTCOMES IN WORLD HEALTH ORGANIZATION GRADE II AND III MENINGIOMAS - <u>Pranay Soni, MD</u> , Jianning Shao, BS, Arbaz Momin, BS, Diana Lopez, BS, Varun R Kshetry, MD, Pablo F Recinos, MD; Cleveland Clinic	San Xavier

	<p><b>Proffered Papers 10: Schwannomas 1</b> – Moderators: Oliver F Adunka &amp; Marcos Tagatigiba</p> <p>072: DELAYED OTOLOGIC COMPLICATIONS FOLLOWING THE TRANSLABYRINTHINE APPROACH FOR ACOUSTIC NEUROMA RESECTION - <a href="#">John P Leonetti, MD</a>, Michael Hutz, MD, Sam Marzo, MD, Matthew Kircher, MD, Dennis Moore, MD, Douglas Anderson, MD; Loyola</p> <p>073: INCIDENCE OF IATROGENIC INNER EAR BREACHES FROM VESTIBULAR SCHWANNOMA SURGERY: A REVIEW OF 1153 HEARING PRESERVATION APPROACHES - Nir Ben-Shlomo<sup>1</sup>, A Rahimi<sup>2</sup>, AM Abunimer<sup>1</sup>, JP Guenette, MD<sup>1</sup>, A Juliano, MD<sup>3</sup>, J Jayender, PhD<sup>1</sup>, <a href="#">CE Corrales, MD</a><sup>1</sup>; <sup>1</sup>Brigham and Women's Hospital, <sup>2</sup>Harvard Medical School, <sup>3</sup>Massachusetts Eye and Ear Infirmary</p> <p>074: FACIAL NERVE FUNCTION AND RISK FACTORS IN RESECTION OF LARGE CYSTIC VESTIBULAR SCHWANNOMAS - <a href="#">Daniela Stastna</a>, Richard Mannion, Patrick Axon, Neil Donnelly, James Tysome, Mahonar Bance, David Moffat, David Hardy, Robert Macfarlane; Addenbrooke's Hospital, Cambridge University NHS Foundation Trust, Cambridge, UK</p> <p>075: SURGERY VERSUS RADIOSURGERY FOR FACIAL NERVE SCHWANNOMA: SYSTEMATIC REVIEW AND META-ANALYSIS OF FACIAL NERVE FUNCTION - <a href="#">Juliana Rotter, MD</a>, Victor M Lu, MBBS, PhD, Avital Perry, MD, Christopher S Graffeo, MD, MS, Matthew L Carlson, MD, Colin L Driscoll, MD, Michael J Link, MD; Mayo Clinic</p> <p>076: SAFETY AND EFFICACY OF POSTOPERATIVE ANTICOAGULATION FOR DEEP VEIN THROMBOSIS PROPHYLAXIS IN VESTIBULAR SCHWANNOMA MICROSURGICAL RESECTION - <a href="#">Malika Bhargava, MD</a>, Komal Naeem, MD, Randall W Porter, MD; Barrow Neurological Institute</p> <p>077: EVIDENCE FOR A BIOLOGICAL SHIFT BEHIND THE INCREASING INCIDENCE OF SPORADIC VESTIBULAR SCHWANNOMA - <a href="#">John P Marinelli, MD</a><sup>1</sup>, Matthew L Carlson, MD<sup>2</sup>; <sup>1</sup>Department of Otolaryngology-Head and Neck Surgery, San Antonio Military Medical Center, San Antonio, TX, <sup>2</sup>Departments of Otolaryngology-Head and Neck Surgery and Neurologic Surgery, Mayo Clinic, Rochester, MN</p> <p>078: LOCAL CONTROL AND RADIOGRAPHIC RESPONSE AS A FUNCTION OF ISODOSE ADJUSTMENT IN STEREOTACTIC RADIOSURGERY TREATMENT FOR SPORADIC VESTIBULAR SCHWANNOMA - <a href="#">Avital Perry, MD</a>, Achiraya Teyateeti, MD, Christopher S Graffeo, MD, Paul D Brown, MD, Bruce E Pollock, MD, Michael J Link; Mayo Clinic</p> <p>079: ANTI-COAGULATION FOR CEREBRAL VENOUS SINUS THROMBOSIS AFTER POSTERIOR FOSSA SCHWANNOMA SURGERY: WORTH THE RISK? - <a href="#">Christina Jackson, MD</a>, Pavan Shah, BS, Laura Saleh, BS, Gary Gallia, MD, PhD, Chetan Bettegowda, MD, PhD, Jon Weingart, MD, Henry Brem, MD, Rafael Tamargo, MD, Michael Lim, MD; Johns Hopkins School of Medicine</p>	San Miguel
	<p><b>Proffered Papers 11: Pediatric 1</b> – Moderators: Patrick C Walz &amp; Alaa Montaser</p> <p>080: COMPREHENSIVE APPROACH TO TREATMENT OF PEDIATRIC SKULL BASE LESIONS: A CASE SERIES - <a href="#">Craig Miller, MD</a>, Alizabeth Weber, BA, Kate Carroll, MD, Neeraja Konuthula, MD, Abdullah Feroze, Jacob Ruzevick, MD, Manuel Ferreira, MD, Kris S Moe, MD, Randall A Bly, MD; University of Washington</p> <p>081: RECONSTRUCTION OF PEDIATRIC SKULL BASE DEFECTS: A RETROSPECTIVE ANALYSIS EMPHASIZING THE VERY YOUNG - <a href="#">Nvall London, MD, PhD</a><sup>1</sup>, Gustavo G Rangel<sup>2</sup>, Amanda Onwuka<sup>3</sup>, Ricardo L Carrau<sup>2</sup>, Daniel Prevedello<sup>2</sup>, Jeffrey Leonard<sup>2</sup>, Patrick Walz<sup>3</sup>; <sup>1</sup>Johns Hopkins University/NIDCD, <sup>2</sup>The Ohio State University, <sup>3</sup>Nationwide Children's</p> <p>082: EFFECTS OF PREOPERATIVE VASCULAR EMBOLIZATION ON JUVENILE NASOPHARYNGEAL ANGIOFIBROMA SURGICAL OUTCOMES: A STUDY OF THE KIDS' INPATIENT DATABASE - <a href="#">Jonathan Choi, MD</a>, Justin Yu, BS, Benjamin Lovin, MD, K. Kelly Gallagher, MD; Baylor College of Medicine</p> <p>083: PEDIATRIC TRAUMA PATIENTS WITH TEMPORAL BONE FRACTURES ARE AT RISK FOR MULTIPLE CRANIAL CT SCANS - <a href="#">Joshua Ewy, BS</a>, Martin Piazza, MD, Brian Thorp, MD, Michael Phillips, MD, Carolyn Quinsey, MD; UNC School of Medicine</p> <p>084: SIMULATION OF PEDIATRIC ANTERIOR SKULL BASE ANATOMY USING A 3-D PRINTED MODEL - <a href="#">Nvall London, MD, PhD</a><sup>1</sup>, Gustavo G Rangel<sup>2</sup>, Kyle VanKoeving<sup>3</sup>, Ashley Zhang<sup>3</sup>, Allison Powell<sup>3</sup>, Daniel Prevedello<sup>2</sup>, Ricardo L Carrau<sup>2</sup>, Patrick Walz<sup>4</sup>; <sup>1</sup>Johns Hopkins University/NIDCD, <sup>2</sup>The Ohio State University, <sup>3</sup>University of Michigan, <sup>4</sup>Nationwide Children's</p> <p>085: MULTI-INSTITUTIONAL EXPERIENCE WITH PEDIATRIC OLFACTORY NEUROBLASTOMA - <a href="#">Nadeem R Kolia, MD</a><sup>1</sup>, Shirley Y Su, MBBS<sup>2</sup>, Ehab Y Hanna, MD<sup>2</sup>, Uma S Ramaswamy, MD<sup>3</sup>, Eric W Wang, MD<sup>1</sup>, Paul A Gardner, MD<sup>1</sup>, Carl H Snyderman, MD, MBA<sup>1</sup>; <sup>1</sup>University of Pittsburgh Medical Center, <sup>2</sup>The University of Texas MD Anderson Cancer Center, <sup>3</sup>Texas Children's Hospital</p> <p>086: PEDIATRIC PITUITARY SURGERY: CLAIMS-BASED ANALYSIS OF PRACTICE PATTERNS AND CLINICAL OUTCOMES - <a href="#">Vijay A Patel, MD</a>, Eric W Schaefer, MS, Brad E Zacharia, MD, MS, Neerav Goyal, MD, MPH, Chan Shen, PhD, Meghan N Wilson, MD; Penn State Health Milton S. Hershey Medical Center</p> <p>087: APPLICATIONS OF THE ENDOSCOPIC ENDONASAL APPROACH IN EARLY CHILDHOOD - <a href="#">Michael M McDowell</a>, Georgios Zenonos, MD, Eric Wang, MD, Carl Snyderman, MD, MBA, Elizabeth Tyler-Kabara, MD, PhD, Paul A Gardner, MD; UPMC</p>	San Gabriel

	<p><b>Proffered Papers 12: Radiosurgery</b> – Moderators: Joshua Palmer &amp; Dukagjin M Blakaj</p> <p>088: RISK OF INTERNAL CAROTID ARTERY STENOSIS OR OCCLUSION AFTER SINGLE-FRACTION RADIOSURGERY OF BENIGN PARASELLAR TUMORS - <u>Christopher S Graffeo, MD</u>, Michael J Link, MD, Scott L Stafford, MD, Ian F Parney, MD, PhD, Robert L Foote, MD, Bruce E Pollock, MD; Mayo Clinic</p> <p>089: BIOLOGICAL EFFECTIVE DOSE AS A PREDICTOR OF HYPOPITUITARISM AFTER SINGLE-FRACTION PITUITARY ADENOMA RADIOSURGERY: DOSIMETRIC ANALYSIS COHORT STUDY OF PATIENTS TREATED USING CONTEMPORARY TECHNIQUES - <u>Christopher S Graffeo, MD</u>, Avital Perry, MD, Michael J Link, MD, Paul D Brown, MD, William F Young, MD, Bruce E Pollock, MD; Mayo Clinic</p> <p>090: COMPLICATIONS AFTER PROTON BEAM THERAPY TO SKULL BASE TUMORS – FINAL RESULTS OF A CASE SERIES - <u>Gustavo G Rangel</u><sup>1</sup>, Thiago A Felicio<sup>2</sup>, Mostafa Shahein<sup>2</sup>, Mauricio Gamez<sup>2</sup>, Dukagjin Blakaj<sup>2</sup>, Daniel Prevedello<sup>2</sup>, Ricardo Carrau<sup>2</sup>; <sup>1</sup>Nationwide Children’s Hospital - OSU, <sup>2</sup>Ohio State University</p> <p>091: A PHASE I/II CLINICAL TRIAL OF PROTON THERAPY FOR CHORDOMAS AND CHONDROSARCOMAS - <u>Alexandra D Dreyfuss, BSE</u><sup>1</sup>, Michael J LaRiviere, MD<sup>1</sup>, Jahan J Mohiuddin, MD<sup>1</sup>, Brian C Baumann, MD<sup>2</sup>, David M Miller, BA<sup>1</sup>, Susan Mazzoni, MS<sup>1</sup>, Robert A Lustig, MD<sup>1</sup>, Jay F Dorsey, MD, PhD<sup>1</sup>, Alexander Lin, MD<sup>1</sup>, Sean M Grady, MD<sup>3</sup>, Bert W O’Malley, MD<sup>4</sup>, John Y Lee, MD<sup>3</sup>, Jason G Newman, MD<sup>4</sup>, James M Schuster, MD<sup>3</sup>, Michelle Alonso-Basanta, MD, PhD<sup>1</sup>; <sup>1</sup>Department of Radiation Oncology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA 19104, <sup>2</sup>Department of Radiation Oncology, Washington University School of Medicine, St. Louis, MO 63110, <sup>3</sup>Department of Neurosurgery, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA 19104, <sup>4</sup>Department of Otorhinolaryngology – Head and Neck Surgery, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA 19104</p> <p>092: OUTCOMES WITH IMRT VERSUS SRS SALVAGE RADIOTHERAPY FOR RECURRENT HIGH GRADE MENINGIOMA - <u>Arbaz Momin, BS</u><sup>1</sup>, Pranay Soni, MD<sup>2</sup>, Jianning Shao, BA<sup>1</sup>, Diana Lopez, BS<sup>1</sup>, Patrick Elsworth, BS<sup>3</sup>, Konrad Knusel, BA<sup>3</sup>, Pablo F Recinos, MD<sup>4</sup>, Varun R Kshetry, MD<sup>4</sup>; <sup>1</sup>Lerner College of Medicine, Cleveland Clinic, Cleveland, OH, USA, <sup>2</sup>Department of Neurosurgery, Cleveland Clinic, Cleveland, OH, USA, <sup>3</sup>Case Western Reserve School of Medicine, Cleveland, OH, USA, <sup>4</sup>Rose Ella Burkhardt Brain Tumor &amp; Neuro-Oncology Center, Cleveland Clinic, Cleveland, OH, USA</p> <p>093: A MULTIDISCIPLINARY CENTRAL NERVOUS SYSTEM CLINIC MODEL FOR RADIATION ONCOLOGY AND NEUROSURGERY (RADIAN): THREE-YEAR EXPERIENCE WITH BRAIN AND SKULL BASE LESIONS IN A COMMUNITY HOSPITAL SETTING - <u>Wencesley Paez, MD</u><sup>1</sup>, Rohi Gheewala, BS<sup>2</sup>, Shearwood McClelland, III, MD<sup>3</sup>, Jerry J Jaboin, MD, PhD<sup>1</sup>, Charles R Thomas, Jr., MD<sup>1</sup>, Timur Mitin, MD, PhD<sup>1</sup>, Jeremy N Ciporen, MD<sup>2</sup>; <sup>1</sup>Department of Radiation Medicine, Oregon Health and Science University, <sup>2</sup>Department of Neurosurgery, Oregon Health and Science University, <sup>3</sup>Department of Radiation Oncology, Indiana University School of Medicine</p> <p>095: FUNDAL FLUID CAP IS ASSOCIATED WITH SHORT TERM HEARING PRESERVATION IN THE RADIOSURGICAL TREATMENT OF VESTIBULAR SCHWANNOMA - <u>Dennis Bojrab II</u>; Michigan Ear Institute</p>	San Augustine A & B
	<p><b>Proffered Papers 13: Education and Models</b> – Moderators: Kyle K VanKoeveering &amp; Carlos Pinheiro-Neto</p> <p>096: BIOMETRIC ANALYSIS OF SIMULATION OF SYLVIAN FISSURE DISSECTION AND CEREBROVASCULAR BYPASS UNDER SUBARACHNOID HEMORRHAGE CONDITIONS - <u>Avital Perry, MD</u>, Christopher Graffeo, MD, Lucas P Carlstrom, MD, William J Anding, Kenton Kaufman, PhD, Michael J Link, MD; Mayo Clinic</p> <p>097: NETWORK ANALYSIS OF NASBS MEMBERSHIP - <u>John Luebs</u><sup>1</sup>, Carl Snyderman<sup>2</sup>; <sup>1</sup>SUNY Downstate Health Sciences University, <sup>2</sup>University of Pittsburgh</p> <p>098: ENDOSCOPIC SKULL BASE AND ADVANCED RHINOLOGY TRAINING IN NEURO-RHINOLOGY FELLOWSHIPS: STANDARDIZATION AND CASE CLASSIFICATION OF OPERATIVE VOLUME - Satyan B Sreenath, MD, <u>Mark Gelpi, MD</u>, Brian D Thorp, MD, Adam J Kimple, MD, Adam M Zanation, MD; University of North Carolina</p> <p>099: NETWORK ANALYSIS OF PAST NASBS PRESIDENTS - <u>John Luebs</u><sup>1</sup>, Carl Snyderman<sup>2</sup>; <sup>1</sup>SUNY Downstate Health Sciences University, <sup>2</sup>University of Pittsburgh</p> <p>100: INTRAOPERATIVE PROTOCOL FOR THE MANAGEMENT OF CAROTID ARTERY INJURY DURING ENDOSCOPIC ENDONASAL SURGERY - <u>Zachary Kassir</u><sup>1</sup>, Carl H Snyderman, MD, MBA<sup>2</sup>, Paul A Gardner, MD<sup>2</sup>, Eric W Wang, MD<sup>2</sup>, Georgios A Zenonos, MD<sup>2</sup>; <sup>1</sup>University of Pittsburgh School of Medicine, <sup>2</sup>UPMC Center for Cranial Base Surgery</p> <p>102: A MODEL IS WORTH 1,000 PICTURES: APPLICATIONS OF 3D-MODELING IN SKULL BASE SURGERY NEUROANATOMY EDUCATION - <u>Christopher S Graffeo, MD, MS</u>, Avital Perry, MD, Lucas P Carlstrom, MD, PhD, Michael J Link, MD, Jonathan Morris, MD; Mayo Clinic</p> <p>103: 3D TRACTOGRAPHY IN SKULL BASE SURGERY: TECHNOLOGICAL ADVANCES AND FEASIBILITY-INITIAL EXPERIENCE. - <u>Srikant S Chakravarthi, MD, MSc</u>, Melanie B Fukui, MD, Alejandro Monroy-Sosa, MD, Jonathan E Jennings, MD, Austin Epping, BSc, Sammy Khalili, MD, Lior Gonen, MD, Juanita M Celix, MD, Bhavani Kura, MD, Nathaniel Kojis, MBA, Richard A Rovin, MD, Amin B Kassam, MD; Aurora Neuroscience Innovation Institute</p>	San Felipe
5:00pm-6:00pm	<p><b>World Skull Base Leadership Group</b> – Moderators: Jose Landeiro &amp; Fred Gentili <i>Pablo Ajler, Diego Mendez Rosito, Francisco Guzman, Juan Gomez-Amador</i></p>	San Felipe
5:00pm-6:00pm	<b>Proffered Papers</b>	

	<p><b>Proffered Papers 14: Meningiomas 2</b> – Moderators: Douglas A Hardesty &amp; Maurizio Iacoangeli</p> <p>104: WHO GRADE III MENINGIOMAS: DE NOVO TUMORS SHOW IMPROVED PROGRESSION FREE SURVIVAL COMPARED TO SECONDARY PROGRESSIVE TUMORS - <a href="#">Jacob Ruzevick, MD</a>, Sam Emerson, MD, PhD, Kate Carroll, MD, Manuel Ferreira Jr., MD, PhD; University of Washington</p> <p>105: ROMIDEPSIN IS A POSSIBLE TREATMENT FOR MENINGIOMAS THROUGH DUAL INHIBITION OF CLASS 1 AND 2 HDACS. - <a href="#">Philip D Tatman</a><sup>1</sup>, Anthony Fringuello<sup>1</sup>, William Foreman<sup>1</sup>, Samuel Scherer<sup>1</sup>, Tadeusz Wroblewski<sup>1</sup>, Randy Jensen, MD, PhD<sup>2</sup>, Denise Damek, MD<sup>1</sup>, Kevin Lillehei, MD<sup>1</sup>, David Ormond, MD<sup>1</sup>, Michael Graner, PhD<sup>1</sup>; <sup>1</sup>University of Colorado, <sup>2</sup>University of Utah</p> <p>106: THE SIMPSON GRADING SCALE CONTINUES TO HOLD STRONG PROGNOSTIC VALUE IN MODERN MENINGIOMA SURGERY: 10-YEAR SINGLE INSTITUTION EXPERIENCE - <a href="#">Colin J Przybylowski, MD</a>, Benjamin Hendricks, MD, Xiaochun Zhao, MD, Claudio Cavallo, MD, Leandro Borba Moreira, MD, Sirin Gandhi, MD, Nader Sanai, MD, Kaith K Almefty, MD, Andrew S Little, MD; Barrow Neurological Institute</p> <p>107: INCIDENCE OF SURGERY AFTER GAMMA KNIFE RADIOSURGERY FOR PARASAGITTAL MENINGIOMAS IS HIGHER THAN MENINGIOMAS IN OTHER LOCATIONS: A 10-YEAR REVIEW. - <a href="#">Andrew J Montoure, MD</a>, Jennifer Connelly, MD, Joseph Bovi, MD, Nathan Zwagerman, MD; Medical college of Wisconsin</p> <p>108: BRACHYTHERAPY WITH SURGICAL RESECTION AS SALVAGE TREATMENT FOR RECURRENT HIGH-GRADE MENINGIOMAS: A MATCHED COHORT STUDY - <a href="#">Michael A Mooney, MD</a><sup>1</sup>, Wenya L Bi, MD, PhD<sup>2</sup>, Jonathan Cantalino, MD<sup>2</sup>, Kyle Wu, MD<sup>2</sup>, Thomas Harris, PhD<sup>2</sup>, Lucas Possatti<sup>2</sup>, Parikshit Juvekar<sup>2</sup>, Liangge Hsu, MD<sup>2</sup>, Ian F Dunn, MD<sup>2</sup>, Ossama Al-Mefty, MD<sup>2</sup>, Phillip M Devlin, MD<sup>2</sup>; <sup>1</sup>Barrow Neurological Institute, <sup>2</sup>Brigham and Women's Hospital</p> <p>109: THE IMPACT OF PATIENT FRAILTY ON HOSPITAL STAY AND DISCHARGE DISPOSITION FOLLOWING SURGICAL RESECTION IN PATIENTS WITH HIGH GRADE MENINGIOMAS - <a href="#">Jianning Shao, BA</a><sup>1</sup>, Arbaz Momin, BS<sup>1</sup>, Pranay Soni, MD<sup>2</sup>, Diana Lopez, BA<sup>1</sup>, Konrad K Knusel, BA<sup>3</sup>, Patrick J Elsworth, BS<sup>3</sup>, Varun R Kshetry, MD<sup>2</sup>, Pablo F Recinos, MD<sup>4</sup>; <sup>1</sup>Cleveland Clinic Lerner College of Medicine at Case Western Reserve University, <sup>2</sup>Department of Neurosurgery, Cleveland Clinic, <sup>3</sup>Case Western Reserve University School of Medicine, <sup>4</sup>Section Head--Skull Base Surgery, Department of Neurosurgery, Cleveland Clinic</p> <p>110: ADJUVANT RADIATION DOES NOT DECREASE THE RISK OF SHORT-TERM TUMOR RECURRENCE IN PATIENTS WITH ATYPICAL MENINGIOMA - <a href="#">Jacob Ruzevick, MD</a>, Timothy Woodiwiss, MD, Sam Emerson, MD, PhD, Kate Carroll, MD, Jason Rockhill, MD, PhD, Patrick Cimino, MD, PhD, Luis Gonzalez-Cuyar, Lalgam Sekhar, MD, Manuel Ferreira Jr., MD, PhD; University of Washington</p> <p>111: PRE-OPERATIVE CRANIAL NERVE DEFICITS AS CRUCIAL OUTCOME PREDICTOR FOR SKULL BASE MENINGIOMAS - <a href="#">Sebastian Liao</a><sup>1</sup>, Shao-Ching Chen<sup>2</sup>, Sanford Hsu<sup>2</sup>; <sup>1</sup>Taichung Veterans General Hospital, <sup>2</sup>Taipei Veterans General Hospital</p>	San Xavier
	<p><b>Proffered Papers 15: Schwannomas 2</b> – Moderators: Mustafa Baskaya &amp; Byron Gregory Thompson</p> <p>112: THE SOUND OF HAPPINESS: HEARING-RELATED QUALITY-OF-LIFE AND PATIENT SATISFACTION WITH MANAGEMENT DECISION-MAKING IN VESTIBULAR SCHWANNOMA - <a href="#">Lucas P Carlstrom, MD, PhD</a><sup>1</sup>, Maria Peris Celda, MD, PhD<sup>2</sup>, Avital Perry, MD<sup>1</sup>, Christopher S Graffeo, MD<sup>1</sup>, Geffen Kleinstern, PhD<sup>1</sup>, Matthew L Carlson, MD<sup>1</sup>, Michael J Link, MD<sup>1</sup>; <sup>1</sup>Mayo Clinic, <sup>2</sup>Albany Med</p> <p>113: INTERNAL AUDITORY CANAL VARIABILITY AND FACIAL NERVE OUTCOME AFTER TRANSLABYRINTHINE RESECTION OF VESTIBULAR SCHWANNOMAS - Michael A Cohen, MD, Forrest Hammrick, BS, Austin S Gamblin, BS, Michael Karsy, MD, PhD, Richard Gurgel, MD, Clough Shelton, MD, <a href="#">William T Couldwell, MD, PhD</a>; University of Utah</p> <p>114: COCHLEAR FIESTA SIGNAL INTENSITY PREDICTS HEARING OUTCOMES AFTER MIDDLE FOSSA RESECTION OF ACOUSTIC NEUROMA - <a href="#">Kareem O Tawfik, MD</a>, Marin McDonald, MD, Yin Ren, MD, PhD, Omid Moshtaghi, MD, Marc S Schwartz, MD, Rick A Friedman, MD, PhD; University of California San Diego</p> <p>115: EVOLUTION IN MANAGEMENT TRENDS OF SPORADIC VESTIBULAR SCHWANNOMA FROM 1970 THROUGH 2019 USING THE ACOUSTIC NEUROMA ASSOCIATION PATIENT REGISTRY - <a href="#">Stephen A Chan, MD</a><sup>1</sup>, John P Marinelli, MD<sup>1</sup>, Debbie L Hahs-Vaughn, PhD<sup>2</sup>, Michael J Link, MD<sup>3</sup>, Allison Feldman, MPA<sup>4</sup>, Chad Nye, PhD<sup>4</sup>, Matthew L Carlson, MD<sup>3</sup>; <sup>1</sup>Department of Otolaryngology-Head and Neck Surgery, Mayo Clinic, MN, <sup>2</sup>Department of Learning Sciences and Educational Research, University of Central Florida, Orlando, FL, <sup>3</sup>Departments of Neurologic Surgery and Otolaryngology-Head and Neck Surgery, Mayo Clinic, Rochester, MN, <sup>4</sup>Acoustic Neuroma Association, Cumming, GA</p> <p>116: SET YOUR PHASERS TO KILL: OUTCOMES AFTER HIGH-ROSE STEREOTACTIC RADIOSURGERY FOR VESTIBULAR SCHWANNOMA - <a href="#">Lucas P Carlstrom, MD, PhD</a>, Avital Perry, MD, Christopher S Graffeo, MD, Bruce E Pollock, MD, Michael J Link, MD; Mayo Clinic</p> <p>117: CEREBROSPINAL FLUID LEAK FOLLOWING VESTIBULAR SCHWANNOMA SURGERY - FACTORS THAT IMPACT OUTCOMES - <a href="#">Anne M Selleck, MD</a>, Sarah Hodge, Kevin Brown; UNC</p> <p>119: BLOOD-LABYRINTHINE BARRIER PERMEABILITY ASSESSED USING POST-CONTRAST DELAYED 3D-FLAIR MRI IMAGING IN VESTIBULAR SCHWANNOMA - <a href="#">Andrew J Bowen, MD, MS</a>, Michael L Carlson, MD, John I Lane, MD; Mayo Clinic Department of Otorhinolaryngology</p>	San Miguel

	<p><b>Proffered Papers 16: Quality of Life</b> – Moderators: Alexander A. Farag &amp; Ahmed Mohyeldin</p> <p>120: EMOTIONAL LABILITY AS A SYMPTOM OF EXTRA-AXIAL POSTERIOR FOSSA TUMOURS: A CASE-CONTROL REVIEW OF NEUROANATOMY AND PATIENT-REPORTED QUALITY OF LIFE - <a href="#">Swetha Prakash</a>, Ryojo Akagami, MD, BSc, MHSc, FRCSC; University of British Columbia</p> <p>121: VALIDATION OF THE SKULL BASE INVENTORY QUALITY OF LIFE QUESTIONNAIRE IN A MULTI-INSTITUTIONAL PROSPECTIVE COHORT STUDY OF PATIENTS UNDERGOING OPEN AND ENDOSCOPIC SKULL BASE SURGERY - <a href="#">David Forner, MD</a><sup>1</sup>, Katrina Hueniken, MPH<sup>1</sup>, Tom Yoannidis<sup>1</sup>, Ian Witterick, MD, MSc, FRCSC<sup>1</sup>, Eric Monteiro, MD, MSc, FRCSC<sup>2</sup>, Allan Vescan, MD, MSc, FRCSC<sup>1</sup>, Gelareh Zadeh, MD, PhD, FRCSC<sup>3</sup>, Patrick Gullane, MB, FRCSC, FACS, FRACS<sup>1</sup>, Carl Snyderman, MD, MBA<sup>4</sup>, Eric Wang, MD<sup>4</sup>, Paul Gardner, MD<sup>4</sup>, Benita Valappil, MPH<sup>5</sup>, Dan Fliss, MD<sup>6</sup>, Barak Ringel, MD<sup>6</sup>, Ziv Gil, MD, PhD<sup>7</sup>, Shorook Na'ara, MD<sup>7</sup>, Nidal Muhanna, MD, PhD<sup>6</sup>, Eng Ooi, MBBS, PhD, FRACS<sup>8</sup>, David Goldstein, MD, MSc, FRCSC<sup>1</sup>, Fred Gentili, MD<sup>1</sup>, John de Almeida, MD, MSc, FRCSC<sup>1</sup>; <sup>1</sup>Otolaryngology -- Head &amp; Neck Surgery, University Health Network, <sup>2</sup>Otolaryngology -- Head &amp; Neck Surgery, Sinai Health System, <sup>3</sup>Neurosurgery, University Health Network, <sup>4</sup>Neurosurgery, University of Pittsburgh Medical Center, <sup>5</sup>University of Pittsburgh Medical Center, <sup>6</sup>Otolaryngology -- Head &amp; Neck Surgery, Tel-Aviv Sourasky Medical Center, <sup>7</sup>Otolaryngology -- Head &amp; Neck Surgery, Rambam Medical Center, <sup>8</sup>Otolaryngology -- Head &amp; Neck Surgery, Flinders Medical Centre</p> <p>122: ASSESSMENT OF PSYCHOLOGICAL WELL-BEING IN NASOPHARYNGEAL CARCINOMA SURVIVORS. - <a href="#">Kira A Murphy, MD</a><sup>1</sup>, Chandala Chitguppi, MD<sup>1</sup>, Alexander Graf, BS<sup>2</sup>, Tawfiq Khoury, MD<sup>1</sup>, James J Evans, MD<sup>3</sup>, Marc R Rosen, MD<sup>1</sup>, Gurston G Nyquist, MD<sup>1</sup>, Mindy Rabinowitz, MD<sup>1</sup>; <sup>1</sup>Department of Otolaryngology – Head and Neck Surgery, Thomas Jefferson University Hospital, <sup>2</sup>Thomas Jefferson University, <sup>3</sup>Thomas Jefferson University Hospital</p> <p>123: SINONASAL OUTCOMES AFTER PITUITARY SURGERY IN PATIENT'S WITH CUSHING'S DISEASE - <a href="#">Nadeem R Kolia, MD</a>, Paul A Gardner, MD, Carl H Snyderman, MD, MBA, Eric W Wang, MD; University of Pittsburgh Medical Center</p> <p>124: QUALITY FROM THE PATIENT'S PERSPECTIVE: IMPLEMENTATION OF AN ESTABLISHED PATIENT REPORTED OUTCOME PLATFORM IN A MULTIDISCIPLINARY SKULL BASE TUMOR CLINIC - <a href="#">Stephanie Flukes, MD</a><sup>1</sup>, Jennifer Cracchiolo, MD<sup>1</sup>, Eliza Geer, MD<sup>1</sup>, David Goldstein, MD<sup>2</sup>, John De Almeida, MD<sup>2</sup>, Vivian Tabar, MD<sup>1</sup>, Marc A Cohen, MD<sup>1</sup>; <sup>1</sup>Multidisciplinary Pituitary and Skull Base Program, Memorial Sloan Kettering Cancer Center, <sup>2</sup>Department of Otolaryngology Head &amp; Neck Surgery, Princess Margaret Cancer Centre</p> <p>125: COMPARING SINONASAL OUTCOMES BETWEEN FUNCTIONAL AND NON-FUNCTIONAL PITUITARY LESIONS AFTER ENDOSCOPIC SELLAR AND PARASELLAR SURGERY - Yossawee Wangworawut, MD, Kawinyarat Jitaroon, MD, Peter H Hwang, Jayakar Y Nayak, MD, PhD, Juan Fernandez-Miranda, Robert Dodd, MD, PhD, <a href="#">Zara M Patel, MD</a>; Stanford University</p> <p>126: INTERNAL NEUROLYSIS FOR THE TREATMENT OF TRIGEMINAL NEURALGIA: SYSTEMATIC REVIEW - Victor Sabourin, Jacob Mazza, Jeffery Head, Pascal Lavergne, Tomas Garzon, <a href="#">Anthony Stefanelli</a>, Fadi Al-Saiegh, James Evans; Thomas Jefferson University Hospital</p> <p>127: ERGONOMICS IN ENDOSCOPIC TRANS-SPHENOIDAL SURGERY: A SURVEY OF THE NORTH AMERICAN SKULL BASE SOCIETY - Pier Paolo Mattogno, MD<sup>1</sup>, Davide Mattavelli, MD<sup>2</sup>, Filippo Marciano, PhD<sup>3</sup>, Michael P Catalino<sup>4</sup>, Alberto Schreiber<sup>2</sup>, Paola Cocca, PhD<sup>3</sup>, Piero Nicolai<sup>2</sup>, Edward R Laws, Jr.<sup>4</sup>, Ian Witterick<sup>5</sup>, Shaan M Raza<sup>6</sup>, Anand K Devaiah<sup>7</sup>, Liverana Lauretti<sup>1</sup>, Alessandro Olivi<sup>1</sup>, Marco M Fontanella<sup>8</sup>, Fred Gentili<sup>9</sup>, <a href="#">Francesco Doglietto</a><sup>8</sup>; <sup>1</sup>Neurosurgery, Agostino Gemelli Foundation, Rome, Italy, <sup>2</sup>Otorhinolaryngology, Department of Medical and Surgical Specialties, Radiological Sciences and Public Health, University of Brescia, Brescia, Italy, <sup>3</sup>Department of Mechanical and Industrial Engineering, University of Brescia, Brescia, Italy, <sup>4</sup>Pituitary and Neuroendocrine Center, Department of Neurosurgery, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA, <sup>5</sup>Department of Otolaryngology-Head and Neck Surgery, University of Toronto, Toronto, Ontario, Canada, <sup>6</sup>Department of Neurosurgery, The University of Texas MD Anderson Cancer Center, Houston, Texas, <sup>7</sup>Department of Otolaryngology-Head and Neck Surgery, Boston University School of Medicine, Boston Medical Center, Boston, Massachusetts, United States, <sup>8</sup>Neurosurgery, Department of Medical and Surgical Specialties, Radiological Sciences and Public Health, University of Brescia, Brescia, Italy, <sup>9</sup>Department of Neurosurgery, Toronto Western Hospital, University of Toronto, Toronto, Ontario, Canada</p>	San Gabriel
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	<p><b>Proffered Papers 17: Malignancies 2</b> – Moderators: Matthew Owen Old &amp; Ivan El-Sayed</p> <p>128: STENTING FOR PREVENTION OF CAROTID BLOWOUT SYNDROME IN HIGH RISK HEAD AND NECK CANCER PATIENTS. - <a href="#">Bradley Kolb, MD</a><sup>1</sup>, Andre Beer-Furlan, MD, PhD<sup>1</sup>, Bledi Brahimaj, MD<sup>1</sup>, Hormuzdiyar Dasenbrock, MD<sup>1</sup>, Samer Al-Khudari<sup>1</sup>, Demetrius Lopes, MD<sup>2</sup>, Michael Chen, MD<sup>1</sup>, R. Webster Crowley, MD<sup>1</sup>; <sup>1</sup>Rush University Medical Center, <sup>2</sup>Advocate Aurora Health</p> <p>129: SURGICAL OUTCOMES WITH MIDLINE VS. LATERAL APPROACHES FOR SKULL BASE CHORDOMAS: A SYSTEMATIC REVIEW AND META-ANALYSIS - <a href="#">Devi P.Patra, MD</a>, Ryan Hess, BSE, Evelyn Turcotte, Matthew Welz, MS, Rudy Rahme, MD, Tanmoy Maiti, MD, Karl Abi-Aad, MD, Ahmed AlMek-kawi, MD, Sameer Keole, MD, Devyani Lal, MD, Michael Marino, MD, Maciej Mrugala, MD, Alyx Porter, MD, Sujoy Vora, MD, Bernard R Bendok, MD; Mayo Clinic, Phoenix, Arizona</p> <p>130: COMPUTED TOMOGRAPHY FINDINGS OF BONY ANTERIOR CRANIAL BASE EROSION AS A PREDICTOR OF PATHOLOGIC CRANIAL BASE INVASION IN SINONASAL MALIGNANCIES - <a href="#">Tawfiq Khoury, MD</a>, Aarti Agarwal, MD, Pascal Lavergne, MD, Chandala Chitguppi, MD, James J Evans, MD, Mindy Rabinowitz, MD, Gurston Nyquist, MD, Marc Rosen, MD; Thomas Jefferson University</p> <p>131: SINONASAL MALIGNANT MELANOMA AND THE ORBIT - <a href="#">Justin N Karlin, MD, MS</a><sup>1</sup>, Mark Jameson, MD, PhD<sup>2</sup>, Steven A Newman, MD<sup>2</sup>; <sup>1</sup>UCLA, <sup>2</sup>UVA</p> <p>132: SURVIVAL AND PATTERNS OF RELAPSE OF HEAD AND NECK MALIGNANCIES WITH LARGE NERVE PERINEURAL SPREAD (PNS) AFTER SKULL BASE SURGERY AND POSTOPERATIVE RADIATION THERAPY - <a href="#">Ryan Sommerville, DR</a>, Charles Lin, DR, Papacostas Jason, DR; Royal Brisbane and Women's Hospital</p> <p>133: HIGH-THROUGHPUT SCREENING OF EPIGENETIC INHIBITORS IN CHORDOMA AND CHONDROSARCOMA - <a href="#">William Foreman</a><sup>1</sup>, Philip D Tatman<sup>1</sup>, Anthony Fringuello<sup>1</sup>, Tadeusz Wroblewski<sup>1</sup>, Samuel Scherer<sup>1</sup>, Randy Jensen, MD, PhD<sup>2</sup>, Kevin Lillehei, MD<sup>1</sup>, Denise Damek, MD<sup>1</sup>, Michael Graner, PhD<sup>1</sup>, David Ormond, MD<sup>1</sup>; <sup>1</sup>University of Colorado, <sup>2</sup>University of Utah</p> <p>134: CLINICOPATHOLOGIC ASSOCIATIONS OF PARTIAL-EMT IN SINONASAL SQUAMOUS CELL CARCINOMA - <a href="#">Anuraag S Parikh, MD</a><sup>1</sup>, Shekhar K Gadkaree, MD<sup>1</sup>, Eric Barbarite, MD<sup>1</sup>, Stacey T Gray, MD<sup>1</sup>, William C Faquin, MD, PhD<sup>1</sup>, Sidharth V Puram, MD, PhD<sup>2</sup>, Derrick T Lin, MD<sup>1</sup>; <sup>1</sup>Massachusetts Eye and Ear, <sup>2</sup>Washington University Department of Otolaryngology</p> <p>135: EN BLOC MODIFIED SUBTOTAL TEMPORAL BONE RESECTION FOR ADVANCED SQUAMOUS CELL CARCINOMA OF THE TEMPORAL BONE - <a href="#">Noritaka Komune</a><sup>1</sup>, Satoshi Matsuo<sup>2</sup>, Takashi Nakagawa<sup>1</sup>; <sup>1</sup>Kyushu University Hospital, <sup>2</sup>Clinical Research Institute, National Hospital Organization, Kyushu Medical Center</p>	
6:30pm-7:30pm	<b>New Member Reception</b>	Plaza San Saba
7:30pm-10:00pm	<b>Main Social Event</b>	

## Sunday, February 9

### Day 3: Annual Meeting

7:00am-7:30am	<b>Breakfast</b>	
7:30am-9:35am	<b>Rhoton Room: Dissection Demonstration – Lateral Approach</b> – Moderators: Joseph Paul Roche & Brendan P O’Connell <i>Jeffrey M. Sorenson, Oliver F Adunka, Ken Matsushima, L Madison Michael</i>	San Juan
7:30am-8:30am	<b>Proffered Papers and Special Sessions</b>	
	<b>Special Session 4: New Technology and Techniques for Skull Base Tumor Removal</b> – Moderators: Mateus Dal Fabro & Gelareh Zadeh <i>Gelareh Zadeh, Raewyn G Campbell, Amin B Kassam, Ivan El-Sayed, Isaac Yang, Amin B Kassam</i>	San Xavier
	<b>Special Session 5: Updates in Management of Functional Pituitary Tumors</b> – Moderators: Wenyin Shi & Apio Antunes <i>Apio Antunes, Luma Ghalib, John Anthony Jane, Stella Lee, Albert Kim, Julie Silverstein</i>	San Miguel
	<b>Special Session 6: Hearing and CN Rehabilitation in AN Surgery</b> – Moderator: Matthew Luke Carlson <i>Matthew Luke Carlson, Jacob B Hunter, Joshua Palmer, Mustafa Baskaya, Cameron Wick, Leslie Kim</i>	San Gabriel
	<b>Proffered Papers 18: Anatomy 1</b> – Moderators: Rafael Martinez Perez & Maria Peris Celda  136: TAILORING THE SURGICAL CORRIDOR TO THE BASILAR APEX IN THE PRETEMPORAL TRANSCAVERNOSUS APPROACH: MORPHOMETRIC ANALYSIS OF DIFFERENT NEUROVASCULAR MOBILIZATION MANEUVERS - <u>Mohamed Labib</u> , X Zhao, DR, Komal Naeem, M Preul, M Lawton; Barrow Neurological Institute 137: ENDOSCOPIC SINUS APPROACHES VS. TRANSCRANIAL ANTERIOR PETROSECTOMY: A VOLUMETRIC COMPARATIVE STUDY OF ACCESS TO THE PETROUS BONE AND THE PETROUS APEX - <u>Vanessa Hernandez-Hernandez, MD</u> , Aldo Eguiluz-Melendez, Belen Vega, Eric W. Wang, Carl H. Snyderman, MD, MBA, Paul A. Gardner; University of Pittsburgh Medical Center 139: THE UPPER PETROCLIVAL REGION AS SEEN THROUGH DIFFERENT SURGICAL WINDOWS: AN EXTENSIVE ANATOMOSURGICAL STUDY - <u>Michael G Kim</u> , Filippo Veneziani Santonio, Lara Mastino, Lukasz Przepiórka, Philip E Stieg, Alexander I Evins, Antonio Bernardo; Weill Cornell Medicine, Neurological Surgery 140: FOUNDATIONS OF ADVANCED NEUROANATOMY: TECHNICAL GUIDELINES FOR SPECIMEN PREPARATION, DISSECTION, AND 3D-PHOTOGRAPHY IN A SURGICAL ANATOMY LABORATORY - <u>Luciano César PC Leonel, PhD<sup>1</sup></u> , Lucas P Carlstrom, MD, PhD <sup>2</sup> , Christopher S Graffeo, MD, PhD <sup>2</sup> , Avital Perry, MD <sup>2</sup> , Carlos Diogenes Pinheiro-Neto, MD, PhD <sup>1</sup> , Jeffrey Sorenson, MD <sup>3</sup> , Michael J Link, MD <sup>2</sup> , Maria Peris-Celda, MD, PhD <sup>1</sup> ; <sup>1</sup> Northeast Professor Rhoton Skull Base Dissection Laboratory, Department of Neuroscience and Experimental Therapeutics, Albany Medical Center, Albany, NY, <sup>2</sup> Department of Neurologic Surgery, Mayo Clinic, Rochester, MN, <sup>3</sup> Department of Neurological Surgery, University of Tennessee and Semmes-Murphy Clinic, Memphis, TN 141: ENDOSCOPIC TRANSORAL EVALUATION OF HYPOGLOSSAL NERVE AND ITS RELATION TO SURROUNDING STRUCTURES - <u>Roberto M Soriano, MD</u> , Gustavo Pradilla, MD, C. Arturo Solares, MD; Emory University (SSO) 142: THE LATERAL CRANIOPHARYNGEAL CANAL (STERNBERG’S CANAL) IN PEDIATRIC AND ADULT POPULATIONS - <u>Adedamola Adepoju<sup>1</sup></u> , Christopher S Graffeo, MD <sup>2</sup> , Lucas P Carlstrom, MD, PhD <sup>2</sup> , Avital Perry, MD <sup>2</sup> , Carlos D Pinheiro-Neto, MD, PhD <sup>3</sup> , Michael J Link, MD <sup>2</sup> , Maria Peris-Celda, MD, PhD <sup>1</sup> ; <sup>1</sup> Department of Neurologic Surgery, Albany Medical Center, <sup>2</sup> Department of Neurologic Surgery, Mayo Clinic, Rochester MN, <sup>3</sup> Division of Otolaryngology and Head and Neck Surgery, Department of Surgery, Albany Medical Center 143: COMPARING THE PTERIONAL, SUPRAORBITAL, SUPRAORBITAL WITH ORBITAL OSTEOTOMY, AND EXTENDED ENDOSCOPIC TRANSPLANUM APPROACHES FOR REACHING THE ANTERIOR COMMUNICATING ARTERY COMPLEX: AN ANATOMICAL STUDY - <u>Hongwei Zhu, MD, PHD<sup>1,2</sup></u> , Aman-deep S Ahluwalia <sup>3</sup> , Adib A Ablu, MD <sup>2,4</sup> , Ivan El-Sayed, MD <sup>2,5</sup> , Roberto Rodriguez Rubio, MD <sup>2,4,5</sup> ; <sup>1</sup> Department of Neurological Surgery, The First Affiliated Hospital of Xiamen University, Xiamen, China, <sup>2</sup> Skull Base & Cerebrovascular Laboratory, UCSF, <sup>3</sup> University of Chicago, <sup>4</sup> Department of Neurological Surgery, UCSF, <sup>5</sup> Department of Otolaryngology – Head and Neck Surgery, UCSF	San Augustine A & B

	<p><b>Proffered Papers 19: Vascular</b> – Moderators: Deanna Sasaki-Adams &amp; A. Samy Youssef</p> <p>144: CEREBRAL REVASCULARIZATION FOR ANEURYSM TREATMENT IN THE ERA OF ENDOVASCULAR FLOW DIVERSION - <u>Mohsen Nouri, MD</u>, Julia R Schneider, Kevin Shah, MD, David J Bonda, MD, Amir R Dehdashti, MD; Department of Neurosurgery, North Shore University Hospital, Northwell Health, Manhasset, New York.</p> <p>145: CLINICAL OUTCOMES OF THE SUPERIOR OPHTHALMIC VEIN (SOV) APPROACH FOR CLOSURE OF CAROTID CAVERNOUS FISTULAS - <u>Jurij R Bilyk, MD</u><sup>1</sup>, Archana Srinivasan, MD<sup>1</sup>, Ann P Murchison, MD, MPH<sup>1</sup>, Stavropoula I Tjoumakaris, MD<sup>2</sup>, Pascal M Jabbour, MD<sup>2</sup>; <sup>1</sup>Wills Eye Hospital, <sup>2</sup>Thomas Jefferson University Hospital</p> <p>146: ENDOSCOPIC ENDONASAL ANEURYSM CLIPPING - Matthew E Welz, MS, <u>Rudy J Rahme</u>, Ahmad Kareem Almekkawi, Karl R Abi-Aad, Devi P Patra; Mayo Clinic</p> <p>147: ANALYSIS OF THE SAFETY AND ADVANTAGE OF LIGATION/TRANSECTION OF THE SUPERIOR SAGITTAL SINUS AT THE LEVEL OF CRISTA GALLI. - BASAL INTERHEMISPHERIC APPROACH FOR ANTERIOR COMMUNICATING ARTERY ANEURYSMS - <u>Junichi Yamamoto, MD, PhD</u>; Department of Neurosurgery, Albany Medical Center</p> <p>148: TRANSETHMOIDAL ENDOSCOPIC ENDONASAL TREATMENT OF ETHMOIDAL ARTERY DURAL ARTERIOVENOUS FISTULAS - <u>Nathan Quig, MD</u>, Michael Cools, MD, Darshan Shastri, MD, Michael Catalino, MD, Adam Zanation, MD, Deanna Sasaki-Adams; University of North Carolina</p> <p>149: GIANT FUSIFORM AND DOLICHOECTATIC ANEURYSMS OF THE BASILAR TRUNK AND VERTEBROBASILAR JUNCTION - CLINICOPATHOLOGICAL AND LONG-TERM FOLLOW-UP STUDY - <u>Satoshi Kiyofuji, MD</u><sup>1</sup>, Hirofumi Nakatomi, MD, PhD<sup>1</sup>, Hideaki Ono, MD, PhD<sup>1</sup>, Minoru Tanaka, MD, PhD<sup>1</sup>, Kazuo Tsutsumi, MD, PhD<sup>2</sup>, Hiroyasu Kamiyama, MD<sup>3</sup>, Nobuhito Saito, MD, PhD<sup>1</sup>, Yoshiaki Shiokawa, MD, PhD<sup>4</sup>, Akio Morita, MD, PhD<sup>5</sup>, Kelly Flemming, MD<sup>6</sup>, Michael J Link, MD<sup>7</sup>; <sup>1</sup>Department of Neurosurgery, the University of Tokyo Hospital, <sup>2</sup>Department of Neurosurgery, Showa General Hospital, <sup>3</sup>Department of Neurosurgery and Stroke, Teishinkai Hospital, <sup>4</sup>Department of Neurosurgery, Kyorin University, <sup>5</sup>Department of Neurosurgery, Nippon Medical University, <sup>6</sup>Department of Neurology, Mayo Clinic, <sup>7</sup>Department of Neurologic Surgery, Mayo Clinic</p> <p>150: PREDICTORS OF FUNCTIONAL OUTCOME IN PATIENTS WITH POOR-GRADE ANEURYSMAL SUBARACHNOID HEMORRHAGE - <u>Sami Khairy, MD</u>, Munzir Abbas, MD, Ahmed Aloraidi, MD, Ahmed Alkhami, MD, PhD; King Abdulaziz Medical City- Riyadh</p> <p>151: INITIAL EXPERIENCE WITH EXOSCOPIC-BASED INTRAOPERATIVE INDOCYANINE GREEN FLUORESCENCE VIDEO ANGIOGRAPHY IN CEREBROVASCULAR SURGERY: ASSESSMENT OF FEASIBILITY, SAFETY AND NEXT GENERATION FORM-FACTOR - <u>William Smithee, BSc</u>, Srikant Chakravarthi, MD, MSc, Austin Epping, BSc, Mikaeel Kassam, BSc, Alejandro Monroy-Sosa, MD, Bhavani Kura, MD, Richard A Rovin, MD, Melanie B Fukui, MD, Amin B Kassam, MD; Aurora Neuroscience Innovation Institute</p>	San Felipe
8:35am-9:35am	<p><b>Proffered Papers Sessions</b></p>	
	<p><b>Proffered Papers 20: Pituitary 2</b> – Moderators: Manish Aghi &amp; Pablo F. Recinos</p> <p>152: EPIDEMIOLOGY, NATURAL HISTORY, AND OPTIMAL MANAGEMENT OF NEUROHYPOPHYSEAL GERM CELL TUMORS - <u>Avital Perry, MD</u>, Hirokazu Takami, MD, PhD, Christopher S Graffeo, MD, Caterina Giannini, David J Daniels, MD, PhD; Mayo Clinic</p> <p>153: ENDOSCOPIC ENDONASAL SURGERY AS AN ALTERNATIVE TO RADIOTHERAPY FOR RECURRENT OR RESIDUAL PITUITARY ADENOMAS - Eugenio Cardenas, MD, PhD<sup>1</sup>, Ariel Kaen, MD, PhD<sup>1</sup>, <u>Edinson Najera, MD</u><sup>1</sup>, Pablo Remon, MD<sup>2</sup>, Ignacio Martin Schrader, MD<sup>1</sup>, Alfonso Soto, MD<sup>2</sup>; <sup>1</sup>Department of Neurological Surgery, Hospital Universitario Virgen del Rocío, Sevilla, Spain, <sup>2</sup>Department of Endocrinology and Nutrition, Hospital Universitario Virgen del Rocío, Sevilla, Spain</p> <p>154: INTRAOPERATIVE, HISTOLOGICAL AND STIMULATED RAMAN SCATTER MICROSCOPY EVALUATION OF CAVERNOUS SINUS MEDIAL WALL DISEASE IN FUNCTIONAL PITUITARY TUMORS - <u>Ahmed Mohyeldin, MD, PhD</u>, Ayoze Doniz-Gonzalez, MD, Pedro Augusto Sousa Rodrigues, MD, Guillermo Blasco garcia de Andoain, MD, Kumar Abhinav, MD, Juan C Fernandez-Miranda, MD; Stanford University</p> <p>156: OUTCOMES OF INTRAOPERATIVE ULTRASOUND FOR ENDOSCOPIC ENDONASAL TRANSSPHENOIDAL PITUITARY SURGERY - <u>Joseph Domino, MD</u><sup>1</sup>, Domenico Gattozzi, MD<sup>1</sup>, Megan Jack, MD, PhD<sup>1</sup>, Charoo Iyer, MBBS<sup>2</sup>, Nick Harn, MD, PhD<sup>1</sup>, David Beahm, MD<sup>1</sup>, Roukoz Chamoun, MD<sup>1</sup>; <sup>1</sup>University of Kansas Medical Center, <sup>2</sup>Medical College, Maharaja Sayajirao University of Baroda</p> <p>157: MODELING POST-OPERATIVE CORTISOL USING NORMALIZED DECAY RATES IN CUSHING'S DISEASE - <u>Michael P Catalino, MD, MSc</u>, Alexander Munoz, BA, Le Min, MD, PhD, Edward R Laws, Jr., MD; Brigham and Women's Hospital</p> <p>158: UNEXPECTED RESIDUAL AFTER ENDOSCOPIC TRANS-SPHENOIDAL SURGERY FOR LARGE AND GIANT PITUITARY ADENOMAS - <u>Ivo Peto, MD</u><sup>1</sup>, Timothy G White, MD<sup>2</sup>, Abdullah M Abunimer, MD<sup>3</sup>, Hussam Abou-Al-Shaar, MD<sup>4</sup>, Kevin Kwan, MD<sup>2</sup>, Katherine Wagner, MD<sup>2</sup>, Mark B Eisenberg, MD<sup>2</sup>, Margherita Bruni, MD<sup>2</sup>, Amir R Dehdashti, MD<sup>2</sup>; <sup>1</sup>University of South Florida, <sup>2</sup>Hofstra Northwell School of Medicine, <sup>3</sup>Harvard Medical School, <sup>4</sup>University of Pittsburgh Medical Center</p> <p>159: RECURRENCE OF RATHKE'S CLEFT CYSTS BASED ON GROSS TOTAL RESECTION OF CYST WALL: A META-ANALYSIS. - <u>Victor Lu, MD, PhD</u><sup>1</sup>, Avital Perry<sup>1</sup>, Christopher Graffeo, MD<sup>1</sup>, Krishnan Ravindran<sup>2</sup>, Jamie Van Gompel<sup>1</sup>; <sup>1</sup>Mayo Clinic, <sup>2</sup>University of Florida</p>	San Xavier

	<p><b>Proffered Papers 21: Endoscopic Endonasal</b> – Moderators: Kibwei A McKinney &amp; Nathan T Zwagerman</p> <p>160: PREDICTORS OF POSTOPERATIVE VISUAL OUTCOMES FOLLOWING SURGICAL OPERATION FOR CRANIOPHARYNGIOMAS - <u>Srujan Koppurapu</u>, Adham M Khalafallah, MD, Masaru Ishii, MD, PhD, Gary L Gallia, MD, PhD, Nicholas Rowan, MD, Debraj Mukherjee, MD, MPH; Johns Hopkins University School of Medicine</p> <p>162: THE BENEFITS OF PROGRESSIVE OCCIPITAL CONDYLECTOMY IN ENHANCING THE FAR LATERAL APPROACH TO THE FORAMEN MAGNUM - <u>Alexander X Tai, MD</u><sup>1</sup>, Aalap Herur-Raman<sup>2</sup>, Walter C Jean, MD<sup>3</sup>; <sup>1</sup>Medstar Georgetown University Hospital, <sup>2</sup>Surgical Theater, <sup>3</sup>George Washington University</p> <p>163: COMPARISON OF THE IMPACT ON SIMULATED AIRFLOW AND HEAT TRANSPORT BETWEEN THE SUPERIOR ETHMOIDAL APPROACH FOR ENDOSCOPIC ENDONASAL ANTERIOR CRANIAL BASE RESECTION AND THE TRADITIONAL ENDOSCOPIC ANTERIOR CRANIAL BASE APPROACH. - <u>Varun Patel, MD</u><sup>1</sup>, Rohan Viswanathan, BS<sup>2</sup>, Maria Peris-Celda, MD, PhD<sup>3</sup>, Tyler Kenning, MD<sup>3</sup>, Carlos Pinheiro-Neto, MD, PhD<sup>1</sup>; <sup>1</sup>Division of Otolaryngology / Head and Neck Surgery, Department of Surgery, Albany Medical Center, Albany, New York, <sup>2</sup>Albany Medical College, Albany, New York, <sup>3</sup>Department of Neurosurgery, Albany Medical Center, Albany, New York</p> <p>164: ENDOSCOPIC ENDONASAL ORBITAL SURGERY - <u>Jeffrey Glicksman, MD</u><sup>1</sup>, Maria Peris-Celda, MD, PhD<sup>2,3</sup>, Tyler Kenning, MD<sup>2</sup>, Edward Wladis, MD<sup>4</sup>, Carlos Pinheiro-Neto, MD, PhD<sup>1,2</sup>; <sup>1</sup>Division of Otolaryngology / Head and Neck Surgery, Department of Surgery, Albany Medical Center, Albany, New York, <sup>2</sup>Department of Neurosurgery, Albany Medical Center, Albany, New York, <sup>3</sup>Adjunct Assistant Professor, Department of Neurosurgery, Mayo Clinic, Rochester, Minnesota, <sup>4</sup>Department of Ophthalmology, Albany Medical Center, Albany, New York</p> <p>165: GAINS REALIZED IN PITUITARY CARCINOMA SURVIVAL: A CONTEMPORARY EVALUATION USING THE SEER DATABASE. - <u>Nathan J Wallace, BS</u>, Anand K Devaiah, MD; Boston University School of Medicine</p> <p>166: ENDOSCOPIC TRANSNASAL ODONTOIDECTOMY: A SINGLE-CENTER'S EXPERIENCE AND APPROACH TO PATHOLOGY OF THE CRANIOCERVICAL JUNCTION - <u>Rocco M Dabecco</u>, Raj Nangunoori, Alexander Yu; Allegheny General Hospital</p> <p>167: DISCONTINUATION OF POSTOPERATIVE PROPHYLACTIC ANTIBIOTICS FOR ENDOSCOPIC ENDONASAL SURGERY - Carolina G Benjamin, MD<sup>1</sup>, <u>Yosef Dastagirzada, MD</u><sup>2</sup>, Julia Bevilacqua, AGACNP-BC, ANPC<sup>2</sup>, Jason Gurewitz, BA<sup>2</sup>, Chandra Sen, MD<sup>2</sup>, John G Golfinos<sup>2</sup>, Dimitris Placantonakis<sup>2</sup>, Jafar J Jafar<sup>2</sup>, Rich Lebowtiz<sup>2</sup>, Seth Lieberman<sup>2</sup>, Ariane Lewis, MD<sup>2</sup>, Donato Pacione, MD<sup>2</sup>; <sup>1</sup>University of Miami, <sup>2</sup>NYU Langone Medical Center</p>	San Miguel
	<p><b>Proffered Papers 22: Meningiomas 3</b> – Moderators: Jose Landeiro &amp; James K. Liu</p> <p>168: AUTOMATED MENINGIOMA DETECTION AND SEGMENTATION USING DEEP NEURAL NETWORKS - <u>Maya Harary</u><sup>1</sup>, Alessandro Boaro<sup>2</sup>, Vasilios Kavouridis<sup>2</sup>, Jakub Kaczmarzyk<sup>3</sup>, Marco Mammì<sup>2</sup>, Hassan Dawood<sup>2</sup>, Satrajit Ghosh<sup>3</sup>, Omar Arnaout<sup>2</sup>; <sup>1</sup>Department of Neurosurgery, David Geffen School of Medicine, University of California Los Angeles, <sup>2</sup>Computational Neuroscience Outcomes Center, Department of Neurosurgery, Brigham and Women's Hospital, <sup>3</sup>McGovern Institute, Massachusetts Institute of Technology</p> <p>169: MOLECULAR TAXONOMY OF MENINGIOMA - <u>Wenya Linda Bi, MD, PhD</u><sup>1</sup>, Samantha Hoffman, BS<sup>1</sup>, Eleanor Woodward, BS<sup>1</sup>, Joseph Driver, MD<sup>1</sup>, Sherwin Tavakol, BA<sup>1</sup>, Ayal A Aizer, MD<sup>1</sup>, Malak Abdalthagafi<sup>2</sup>, Ossama Al-Mefty, MD<sup>1</sup>, Ian F Dunn<sup>3</sup>, Sandro Santagata, MD, PhD<sup>1</sup>; <sup>1</sup>Brigham and Women's Hospital, <sup>2</sup>Saudi Human Genome Laboratory, King Fahad Medical City and King Abdulaziz City for Science and Technology, <sup>3</sup>Oklahoma University Health Science Center</p> <p>170: GAMMA KNIFE RADIOSURGERY FOR PATIENTS WITH FORAMEN MAGNUM MENINGIOMAS: COHORT STUDY - <u>Salomon Cohen, MD</u>, Avital Perry, MD, Christopher S Graffeo, MD, Carlstrom P Lucas, MD, Pollock E Bruce, MD, Link J Michael, MD; Mayo Clinic, Rochester, Department of Neurologic Surgery</p> <p>171: SURGICAL IMPLICATION OF THE SUPRALABYRINTHINE AIRCELL TRACT IN COMBINED PETROSAL APPROACH - <u>Je Beom Hong, MD</u><sup>1</sup>, Chang Ki Hong, MD, PhD<sup>2</sup>, Hankyu Kim, MD, PhD<sup>3</sup>; <sup>1</sup>Kangbuk Samsung Hospital, <sup>2</sup>Gangnam Severance Hospital, <sup>3</sup>Cha Bundang Medical Center</p> <p>172: ACCESS CORRIDOR FOR INTENTIONALLY TARGET DEVASCULARIZATION OF FEEDING ARTERIES OF THE PETROCLIVAL MENINGIOMA - <u>Kentaro Watanabe, MD</u>; Jikei Medical University</p> <p>173: PHOSPHOPROTEOMIC AND KINOMIC SIGNATURE OF CLINICALLY AGGRESSIVE GRADE I (1.5) MENINGIOMAS REVEALS RB1 SIGNALING AS A NOVEL MEDIATOR AND BIOMARKER - <u>Jacob Ruzevick, MD</u>, Sam Emerson, MD, PhD, Kate Carroll, Manuel Ferreira Jr.; University of Washington</p> <p>174: PREDICTING DISCHARGE DISPOSITION FOLLOWING MENINGIOMA RESECTION USING A MULTI-INSTITUTIONAL NATURAL LANGUAGE PROCESSING MODEL - <u>Meredith A Monsour, BS</u><sup>1</sup>, Whitney E Muhlestein, MD<sup>2</sup>, Gabriel Friedman, MD<sup>3</sup>, Aniket Zinzuwadia, AB<sup>4</sup>, Marcus Zachariah, MD<sup>3</sup>, Jean-Valery Coumans, MD<sup>3</sup>, Bob Carter, MD, PhD<sup>3</sup>, Lola B Chambless, MD<sup>5</sup>; <sup>1</sup>Vanderbilt University School of Medicine, <sup>2</sup>Department of Neurosurgery, University of Michigan Medical Center, Ann Arbor, MI, USA, <sup>3</sup>Department of Neurosurgery, Massachusetts General Hospital, Boston, MA, USA, <sup>4</sup>Harvard Medical School, Boston, MA, USA, <sup>5</sup>Department of Neurological Surgery, Vanderbilt University Medical Center, Nashville, TN, USA</p>	San Gabriel

	<p><b>Proffered Papers 23: Schwannomas 3</b> – Moderators: Azam Syed Ahmed &amp; Pablo Ajler</p> <p>175: EXPLORING WHETHER STATINS OR METFORMIN INFLUENCE THE GROWTH OF VESTIBULAR SCHWANNOMAS - Shafeen Qazi, Sophia Tran, Sanjana Balachandra, <u>Daniel E Killeen, MD</u>, Jacob B Hunter, MD; University of Texas Southwestern Medical Center</p> <p>176: VESTIBULAR SCHWANNOMAS GUIDELINES - Roberto Leal Da Silveira, PhD, <u>Eder da Silva Rocha, MD</u>; Madre Teresa institute</p> <p>177: SUPERIOR SEMICIRCULAR CANAL DEHISCENCE REVISIONAL SURGERY OUTCOMES - <u>Kevin Ding, BS</u><sup>1</sup>, Prasanth Romiyo, BS<sup>1</sup>, Edwin Ng, BS<sup>1</sup>, Dillon Dejam, BS<sup>1</sup>, Roan N Anderson<sup>1</sup>, Adam Enomoto<sup>1</sup>, Courtney Duong, BS<sup>1</sup>, John P Sheppard<sup>1</sup>, Matthew Z Sun, MD<sup>1</sup>, H. Westley Phillips, MD<sup>1</sup>, Quinton Gopen, MD<sup>2</sup>, Isaac Yang, MD<sup>2</sup>; <sup>1</sup>UCLA Department of Neurosurgery, <sup>2</sup>UCLA Department of Head and Neck Surgery</p> <p>178: TRANS TEMPORAL VENOUS DECOMPRESSION FOR PULSATILE TINNITUS - <u>Patrick Slater, MD</u>; Austin Ear Clinic</p> <p>179: COCHLEAR IMPLANTATION AFTER RADIOSURGERY FOR VESTIBULAR SCHWANNOMA - <u>Neil S Patel, MD</u>, Michael J Link, MD, Brian A Neff, MD, Matthew L Carlson, MD, Colin L Driscoll, MD; Mayo Clinic</p> <p>180: CAN'T STOP, WON'T STOP: ASSESSING THE IMPACT OF TINNITUS ON PATIENT-REPORTED HEARING-RELATED QUALITY-OF-LIFE OUTCOMES IN VESTIBULAR SCHWANNOMA - <u>Avital Perry, MD</u><sup>1</sup>, Christopher S Graffeo, MD<sup>1</sup>, Maria Peris-Celda, MD, PhD<sup>2</sup>, Lucas P Carlstrom, MD, PhD<sup>1</sup>, Geffen Kleinstern, PhD<sup>1</sup>, Matthew L Carlson, MD<sup>1</sup>, Michael J Link, MD<sup>1</sup>; <sup>1</sup>Mayo Clinic, <sup>2</sup>Albany Med</p> <p>181: KEYHOLE MIDDLE FOSSA APPROACH WITH TITANIUM MESH "GULL WING" REPAIR FOR TEGMEN DEFECTS - <u>Andrew K Wong, MD</u><sup>1</sup>, Michael Shinnors, MD<sup>2</sup>, Ricky H Wong, MD<sup>2</sup>; <sup>1</sup>Rush University, <sup>2</sup>Northshore University</p> <p>182: VESTIBULAR SCHWANNOMA CLINICAL PHENOTYPES ARE ASSOCIATED WITH DIFFERENTIAL METHYLATION PATTERNS - <u>Avital Perry, MD</u>, Christopher S Graffeo, MD, MS, Lucas P Carlstrom, MD, PhD, Amanda Munoz Casabella, MD, Matthew L Carlson, MD, Colin L Driscoll, MD, Michael J Link, MD; Mayo Clinic</p>	San Augustine A & B
	<p><b>Proffered Papers 24: Reconstruction 2</b> – Moderators: Carlos Pinheiro-Neto &amp; Alexander A. Farag</p> <p>183: THE RHINOPHARYNGEAL (RP) FLAP AS AN ADJUNCT TO ENDOSCOPIC ENDONASAL RECONSTRUCTION OF LOWER CLIVAL AND CRANIOVERTEBRAL JUNCTION DEFECTS - <u>Pierre-Olivier Champagne, MD</u>, Georgios Zenonos, MD, Eric E Wang, MD, Carl H Snyderman, MD, Paul A Gardner, MD; University of Pittsburgh Medical Center</p> <p>184: PETROUS APEX CEPHALOCELES: RADIOLOGY FEATURES AND SURGICAL MANAGEMENT OF A RARE ENTITY - <u>Madeline Epsten</u>, Mehmet Kocak, MD, Andre Beer Furlan, MD, Bledi C Brahimaj, MD, Richard W Byrne, MD, R. Mark Wiet, MD; Rush University Medical Center</p> <p>185: EVALUATING SELLAR HEALING FOLLOWING VARIOUS RECONSTRUCTION TECHNIQUES IN TRANSSPHENOIDAL SURGERY: AN IMAGING AND ENDOSCOPIC REVIEW - <u>Mark B Chaskes, MD, MBA</u>, Joshua Mccambridge, MD, Chandala Chitguppi, MD, Tawfiq Khoury, MD, Pascal Lavergne, MD, Mindy R Rabinowitz, MD, Gurston G Nyquist, MD, Marc Rosen, Adam E Flanders, MD, James J Evans, MD; Thomas Jefferson University Hospital</p> <p>186: INFERIOR MEATUS MUCOSAL FLAP BASED ON THE INCISIVE FORAMEN ARTERY FOR SEPTAL RECONSTRUCTION AND RESURFACING OF SEPTUM DONOR SITE AFTER NASOSEPTAL FLAP HARVEST - <u>Randall S Ruffner, MD</u>, Marcelo Charles, MD, Tyler Kenning, MD, Maria Peris-Celda, MD, PhD, Carlos Pinheiro-Neto, MD, PhD; Albany Medical Center</p> <p>187: COMPARATIVE ANALYSIS OF AUTOGRAFT AND XENOGRAFT BASED SPINAL FLUID LEAK PREVENTION AFTER TRANSLABYRINTHINE RESECTION OF CEREBELLOPONTINE ANGLE TUMORS. - <u>Douglas J Totten, BA</u><sup>1</sup>, Nauman F Manzoor, MD<sup>2</sup>, Alexander D Sherry, BS<sup>1</sup>, Robert J Yawn, MD<sup>3</sup>, Reid C Thompson, MD<sup>4</sup>, David S Haynes, MD<sup>2</sup>, Alejandro Rivas, MD<sup>2</sup>; <sup>1</sup>Vanderbilt University School of Medicine, <sup>2</sup>Department of Otolaryngology, Vanderbilt University Medical Center, <sup>3</sup>Department of Otolaryngology, University of Tennessee Health Science Center, <sup>4</sup>Department of Neurologic Surgery, Vanderbilt University Medical Center</p> <p>188: OPERATIVE STRATEGY IN LATERAL SKULL BASE RECONSTRUCTION: COMPARATIVE OF RIGID AND NON RIGID TECHNIQUES. - <u>Kristen Yancey, MD</u><sup>1</sup>, Nauman F Manzoor, MD<sup>1</sup>, Douglas J Totten, BA<sup>2</sup>, Alexander D Sherry, BS<sup>2</sup>, Alejandro Rivas, MD<sup>1</sup>, David S Haynes, MD<sup>1</sup>; <sup>1</sup>Department of Otolaryngology, Vanderbilt University Medical Center, <sup>2</sup>Vanderbilt University School of Medicine</p> <p>189: SPONTANEOUS CEREBROSPINAL FLUID LEAKS FROM MULTIPLE ANTERIOR AND LATERAL SKULL BASE DEFECTS - Nofrat Schwartz, Deanna Sasaki-Adams, Kevin D Brown, Adam M Zanation, Brian D Thorp, <u>Brendan P O'Connell</u>; University of North Carolina School of Medicine</p> <p>190: THE ROLE OF DIAMOX AND HIGH-VOLUME LUMBAR PUNCTURE FOR TREATMENT OF IATROGENIC POST-OPERATIVE CEREBROSPINAL FLUID LEAK - <u>Aria Jamshidi, MD</u>, Aashish Shah, Rick Komotar, MD, Michael Ivan; Jackson Memorial Hospital</p>	San Felipe
9:40am-10:40am	<b>Proffered Papers Sessions</b>	

	<p><b>Proffered Papers 25: Pituitary 3</b> – Moderators: Garni Barkhoudarian &amp; Pablo Ajler</p> <p>191: THE IMPORTANCE OF LONG TERM FOLLOW UP AFTER ENDOSCOPIC PITUITARY SURGERY: DURABILITY OF RESULTS AND TUMOR RECURRENCE - <a href="#">Joao Paulo Almeida, MD</a>, Hirokazu Takami, MD, Raha Tabasinejad, MD, Miguel Marigil Sanchez, MD, PhD, Carlos Velasquez, MD, PhD, Gelareh Zadeh, MD, PhD, Fred Gentili, MD; University of Toronto</p> <p>192: LONG-TERM OUTCOMES OF TRANSPHENOIDAL SURGERY FOR MANAGEMENT OF GROWTH-HORMONE SECRETING ADENOMAS: SINGLE CENTER RESULTS - Mohammed Asha, MD, Hirokazu Takami, MD, Carlos Velasquez, MD, Selfy Oswari, MD, <a href="#">Joao Paulo Almeida, MD</a>, Gelareh Zadeh, MD, PhD, Fred Gentili, MD; University of Toronto</p> <p>193: PITUITARY INCIDENTALOMA AND NON-INCIDENTALOMA: A COMPARISON OF PRETREATMENT AND POSTOPERATIVE CHARACTERISTICS - <a href="#">Kurren S Gill, MD</a>, Chandala Chitguppi, MD, Rahul Alapati, Sarah Collopy, Prachi Patel, Tawfiq Khoury, MD, Pascal Lavergne, MD, Mindy Rabinowitz, MD, Gurston Nyquist, MD, Marc Rosen, MD, Christopher Farrell, MD, James Evans, MD; Thomas Jefferson University Hospital</p> <p>194: DO WE NEED INTRAOPERATIVE MAGNETIC RESONANCE IMAGING IN ALL ENDOSCOPIC ENDONASAL PITUITARY ADENOMA SURGERY CASES? A RETROSPECTIVE STUDY - <a href="#">Emrah Celtikci, MD</a>, Hakan Emmez, MD; Gazi University Faculty of Medicine Department of Neurosurgery</p> <p>195: ASSOCIATION OF PREOPERATIVE HEMORRHAGE WITH POSTOPERATIVE HORMONAL DYSFUNCTION IN SURGICALLY RESECTED PITUITARY ADENOMAS - <a href="#">Reyanne Strong</a><sup>1</sup>, Nathan Quig, MD<sup>2</sup>, Avinash Chandran, PhD<sup>3</sup>, Carlos Zamora, MD<sup>4</sup>, Carolyn Quinsey, MD<sup>2</sup>; <sup>1</sup>University of North Carolina School of Medicine, <sup>2</sup>Department of Neurosurgery, University of North Carolina School of Medicine, <sup>3</sup>Matthew Gfeller Sport-Related TBI Research Center, Department of Exercise and Sport Science, University of North Carolina, <sup>4</sup>Department of Radiology, Division of Neuroradiology, University of North Carolina School of Medicine</p> <p>196: PITUITARY APOPLEXY: MANAGEMENT AND OUTCOMES AT A SINGLE CENTER OVER 15 YEAR EXPERIENCE - <a href="#">Scott C Seaman, MD</a>, Mark C Dougherty, MD, Mario Zanaty, MD, Leslie A Bruch, MD, Scott M Graham, MD, Jeremy D Greenlee, MD; University of Iowa Hospitals and Clinics</p> <p>197: ENDOSCOPIC ENDONASAL APPROACH TO GIANT PITUITARY ADENOMAS IN LOW INCOME COUNTRY. SINGLE SURGEON EXPERIENCE FROM AZERBAIJAN. - <a href="#">Tural Rahimli, DR</a>; Baku Medical Plaza</p> <p>198: PREDICTING PITUITARY ADENOMAS CONSISTENCY WITH PREOPERATIVE MAGNETIC RESONANCE ELASTOGRAPHY - <a href="#">Salomon Cohen Cohen, MD</a><sup>1</sup>, Joshua D Hughes, MD<sup>1</sup>, Ziyang Yin, PhD<sup>2</sup>, Matthew K Ball, DO, MS<sup>3</sup>, John Huston III, MD<sup>2</sup>, Jamie J Van Gompel, MD<sup>1</sup>; <sup>1</sup>Mayo Clinic, Rochester, Department of Neurologic Surgery, <sup>2</sup>Mayo Clinic, Rochester, Department of Radiology, <sup>3</sup>Mayo Clinic, Rochester, Department of Pathology</p>	San Xavier
	<p><b>Proffered Papers 26: Malignancies 3</b> – Moderators: Eric W. Wang &amp; Paul Gidley</p> <p>199: ADENOID CYSTIC CARCINOMA OF THE SKULL BASE: RETROSPECTIVE NATIONAL COHORT ANALYSIS OF TREATMENT PARADIGMS AND OUTCOMES - <a href="#">Shekhar K Gadkaree, MD</a><sup>1</sup>, Anuraag S Parikh, MD<sup>1</sup>, Eric Barbarite<sup>1</sup>, Andrew Holcomb, MD<sup>1</sup>, Justin McCarty<sup>2</sup>, Stacey T Gray<sup>1</sup>, Derrick T Lin<sup>1</sup>; <sup>1</sup>Massachusetts Eye and Ear, Harvard Medical School, <sup>2</sup>Department of Surgery, St. Elizabeth's Medical Center, Tufts University School of Medicine, Boston, MA</p> <p>200: DECISION-TREE CLASSIFICATION OF CHORDOMAS AND CHONDROSARCOMAS - <a href="#">John Luebs</a><sup>1</sup>, Tyson Tragon, MD<sup>2</sup>, Katie Traylor, MD<sup>2</sup>, Carl H Snyderman, MD, MBA<sup>3</sup>; <sup>1</sup>SUNY Downstate Health Sciences University, <sup>2</sup>Department of Radiology, University of Pittsburgh Medical Center, <sup>3</sup>UPMC Center for Cranial Base Surgery</p> <p>201: THE ROLE OF CERVICAL AND PAROTID LYMPH NODES IN SURGICAL MANAGEMENT OF MALIGNANT TUMORS OF THE LACRIMAL SAC - <a href="#">Brian Swendseid, MD</a><sup>1</sup>, Joseph Godovchik<sup>1</sup>, Swar Vimawala<sup>1</sup>, Samuel Garrett<sup>1</sup>, Michael Topf, MD<sup>2</sup>, Adam Luginbuhl, MD<sup>1</sup>, David Cognetti, MD<sup>1</sup>, Joseph Curry, MD<sup>1</sup>; <sup>1</sup>Thomas Jefferson University Hospitals, <sup>2</sup>Stanford University</p> <p>202: NEW CLASSIFICATION OF ENDOSCOPIC TRANSNASAL NASOPHARYNGECTOMY FOR RECURRENT NASOPHARYNGEAL CARCINOMA: SHANGHAI EENT HOSPITAL EXPERIENCE - Hongmeng Yu<sup>1</sup>, Quan Liu, Xicai Sun<sup>1</sup>, Yurong Gu<sup>1</sup>, Houyong Li<sup>1</sup>, Dehui Wang<sup>1</sup>, Qingguo Meng<sup>2</sup>; <sup>1</sup>Department of Otolaryngology Eye, Ear, Nose and Throat Hospital Shanghai Medical College of Fudan University, <sup>2</sup>Department of Otolaryngology, Shenzhen Second People's Hospital</p> <p>203: ENDOSCOPIC ENDONASAL NASOPHARYNGECTOMY AND ITS USE IN RT3 AND RT4 RECURRENT NASOPHARYNGEAL CARCINOMA - <a href="#">Roberto M Soriano, MD</a>, Rima S Rindler, MD, Gustavo Pradilla, MD, C. Arturo Solares, MD; Emory University (SSO)</p> <p>204: RADIOLOGICAL FINDINGS OF MEDIAL ORBITAL WALL BONY AND PERIORBITAL DEHISCENCE IN SINONASAL MALIGNANCIES AS A PREDICTOR OF FINAL HISTOPATHOLOGIC ORBITAL INVASION - <a href="#">Prachi N Patel, BA</a><sup>1</sup>, Tawfiq Khoury, MD<sup>1</sup>, Chandala Chitguppi, MD<sup>1</sup>, Kurren Gill, MD<sup>1</sup>, Gurston Nyquist, MD<sup>1</sup>, Marc Rosen, MD<sup>1</sup>, Pascal Lavergne, MD, FRCSC<sup>2</sup>, James Evans, MD<sup>2</sup>, Mindy Rabinowitz, MD<sup>1</sup>; <sup>1</sup>Thomas Jefferson University, Department of Otolaryngology - Head and Neck Surgery, <sup>2</sup>Thomas Jefferson University, Department of Neurosurgery</p> <p>205: SURGICAL MANAGEMENT OF SKULL BASE CHORDOMAS: SINGLE CENTER RESULTS IN THE LAST 10 YEARS. - <a href="#">Joao Paulo Almeida, MD</a>, Randy Van Ommeren, MD, Jeffrey Zuccato, MD, Allan Vescan, MD, John de Almeida, MD, Eric Monteiro, MD, Ian Witterick, MD, Fred Gentili, MD, Gelareh Zadeh, MD, PhD; University of Toronto</p> <p>206: THE IMPACT OF INDUCTION CHEMOTHERAPY AND SOCIOECONOMIC FACTORS ON SURVIVAL IN SINONASAL UNDIFFERENTIATED CARCINOMA - <a href="#">Khodayar Goshtasbi, BS</a><sup>1</sup>, Brandon M Lehigh, BS<sup>2</sup>, Arash Abiri, BS<sup>1</sup>, Tyler Yasaka, BS<sup>2</sup>, Frank P Hsu, MD, PhD<sup>3</sup>, Gilbert Cadena, MD<sup>3</sup>, Edward C Kuan<sup>1</sup>; <sup>1</sup>University of California Irvine Department of Otolaryngology - Head and Neck Surgery, <sup>2</sup>University of California Irvine, <sup>3</sup>University of California Irvine Department of Neurological Surgery</p>	San Miguel

	<p><b>Proffered Papers 27: Meningiomas 4</b> – Moderators: Edward T El Rassi &amp; Francisco Guzman</p> <p>207: THIRTY-DAY COMPLICATIONS FOLLOWING INTRADURAL VERSUS EXTRADURAL EXCISION OF THE SKULL BASE - Khodayar Goshtasbi, BS<sup>1</sup>, Arash Abiri, BS<sup>1</sup>, Mehdi Abouzari, MD<sup>1</sup>, <u>Ronald Sahyouni, PhD<sup>2</sup></u>, Harrison W Lin, MD<sup>1</sup>, Hamid R Djalilian, MD<sup>1</sup>, Edward C Kuan, MD, MBA<sup>1</sup>; <sup>1</sup>University of California Irvine Department of Otolaryngology - Head and Neck Surgery, <sup>2</sup>University of California Irvine</p> <p>208: CASE SERIES OF SKULL BASE MENINGIOMA RESECTIONS IN THE OCTOGENARIAN POPULATION - <u>Dorian M Kusyk, MD</u>, Gordon Mao, MD, Alexander Yu, MD; Allegheny General Hospital</p> <p>209: IDENTIFICATION OF THE AGGRESSIVE ATYPICAL MENINGIOMA: HISTOPATHOLOGY, PROTEOMIC SIGNATURES AND GENOTYPING - <u>Kate Carroll, MD</u>, Jake Ruzevick, MD, Sam Emerson, MD, PhD, Manuel Ferreira Jr.; University of Washington</p> <p>210: MANAGEMENT OF PETROCLIVAL TUMORS - <u>Diego Mendez Rosito, MD</u>; Centro Medico Nacional 20 de Noviembre, ISSSTE</p> <p>211: EVALUATING THE SAFETY OF LIGATING THE ANTERIOR SUPERIOR SAGITTAL SINUS - <u>Racheal Peterson, MD</u>, Jennifer Kosty, MD, Bharat Guthikonda, MD; LSUHSC Shreveport</p> <p>212: SHORT TERM OLFATORY CHANGES AFTER ENDOSCOPIC TRANSSPHENOIDAL PITUITARY SURGERIES: IDENTIFICATION, DISCRIMINATION AND THRESHOLD RESULTS - Hazan Basak, Deniz Uluc, <u>Suha Beton, Assoc Prof</u>, Gokmen Kahilogullari, Cem Mecoc, Prof; Ankara University</p> <p>213: FREE FLAP RECONSTRUCTION OF SKULL BASE DEFECTS: A RETROSPECTIVE REVIEW - Sen J Ninan, BA, <u>Katherine Liu, BA</u>, Todd Spock, MD, Eric Lee, MD, Andrey Filimonov, MD, Brett Miles, MD, Alfred M Illoreta, MD; Icahn School of Medicine at Mount Sinai</p> <p>214: PREDICTIVE VALUE OF THE ACS-NSQIP SURGICAL RISK CALCULATOR IN PATIENTS UNDERGOING TRANSSPHENOIDAL HYPOPHYSECTOMY - <u>Ashlee N Seldomridge<sup>1</sup></u>, Meghan T Turner, MD<sup>2</sup>; <sup>1</sup>West Virginia University School of Medicine, <sup>2</sup>Department of Otolaryngology/Head &amp; Neck Surgery, West Virginia University School of Medicine</p>	San Gabriel
	<p><b>Proffered Papers 28: Schwannomas 4</b> – Moderators: Azam Ahmed &amp; Juan Gomez-Amador</p> <p>215: EFFICACY AND SAFETY OF BEVACIZUMAB FOR VESTIBULAR SCHWANNOMA IN NEUROFIBROMATOSIS TYPE 2: A SYSTEMATIC REVIEW AND META-ANALYSIS OF TREATMENT OUTCOMES. - <u>Victor Lu<sup>1</sup></u>, Ravindran Krishnan<sup>2</sup>, Christopher Graffeo<sup>1</sup>, Avital Perry<sup>1</sup>, Jamie Van Gompel<sup>1</sup>, David Daniels<sup>1</sup>, Michael Link<sup>1</sup>; <sup>1</sup>Mayo Clinic, <sup>2</sup>University of Florida</p> <p>216: NOVEL GRADING SYSTEM OF SIGMOID SINUS DEHISCENCE FOR RADIOLOGIC EVALUATION OF PULSATILE TINNITUS - <u>Shelby Willis, BS<sup>1</sup></u>, Courtney Duong, BS<sup>2</sup>, Isaac Yang, MD<sup>2</sup>, Quinton Gopen, MD<sup>1</sup>; <sup>1</sup>Department of Head and Neck Surgery, University of California Los Angeles, <sup>2</sup>Department of Neurosurgery, University of California Los Angeles</p> <p>217: THE CLINICAL IMPLICATIONS OF SPONTANEOUS HEMORRHAGE IN VESTIBULAR SCHWANNOMAS - <u>Christopher S Hong, MD</u>, Lan Jin, PhD, Yawaei Zhang, PhD, Wyatt B David, MS, Brian Shear, BS, E Z Erson-Omay, PhD, Robert K Fulbright, MD, Anita Huttner, MD, John Kveton, MD, Jennifer Moliterno, MD; Yale University School of Medicine</p> <p>218: PRELIMINARY RESULTS OF SEMI-SITTING RETROSIGMOID SURGERY FOR VESTIBULAR SCHWANNOMAS FROM A NORTH AMERICAN SKULL BASE PRACTICE - <u>Domenico A Gattozzi, MD</u>, Mairaj T Sami, MD, Casey Rosso, BS, Roukoz B Chamoun, MD, Kushal J Shah, MD, Hinrich Staecker, MD, PhD, James Lin, MD, Helena Wichova, MD, Paul J Camarata, MD, FAANS, FACS; University of Kansas Medical Center</p> <p>219: SURGERY AFTER SURGERY FOR VESTIBULAR SCHWANNOMA - <u>Lukasz Przepiorka, MD<sup>1</sup></u>, Przemyslaw Kunert, MD, PhD<sup>1</sup>, Tomasz Dziedzic, MD, PhD<sup>1</sup>, Wiktoria Rutkowska<sup>2</sup>, Andrzej Marchel, MD, PhD<sup>1</sup>; <sup>1</sup>Department of Neurosurgery, Medical University of Warsaw, Warsaw, Poland, <sup>2</sup>Medical University of Warsaw, Warsaw, Poland</p> <p>220: QUALITY OF LIFE ASSESSMENT AMONG VESTIBULAR SCHWANNOMA PATIENTS TREATED WITH MICROSURGERY VS. STEREOTACTIC RADIOSURGERY VS. OBSERVATION. - <u>Komal Naeem, MD</u>, Mohamed Labib, MD, Malika Bhargava, Michele Wang, Randall Porter; Barrow Neurological Institute</p> <p>221: SURGICAL RESECTION AFTER RADIOSURGERY FOR THE MANAGEMENT OF VESTIBULAR SCHWANNOMAS: A SYSTEMATIC REVIEW - <u>Max Whitmeyer<sup>1</sup></u>, Bledi C Brahimaj, MD<sup>2</sup>, Andre Beer Furlan, MD<sup>2</sup>, Sameer Alvi, MD<sup>3</sup>, Richard W Byrne, MD<sup>2</sup>, Madeline Epsten<sup>2</sup>, R. Mark Wiet, MD<sup>2</sup>; <sup>1</sup>Ohio State University, <sup>2</sup>Rush University Medical Center, <sup>3</sup>Northwestern Medicine Regional Medical Group</p> <p>222: SIGMOID SINUS PATENCY FOLLOWING VESTIBULAR SCHWANNOMA RESECTION VIA RETROSIGMOID VERSUS TRANSLABYRINTHINE RESECTION - <u>Andrea M Ziegler, MD<sup>1</sup></u>, Nadeem El-Kouri, MD<sup>2</sup>, Zaneta Dymon, MD<sup>1</sup>, David Serrano, MD<sup>1</sup>, Mariah Bashir, MD<sup>1</sup>, Douglas Anderson, MD<sup>1</sup>, John Leonetti, MD<sup>1</sup>; <sup>1</sup>Loyola University Medical Center, <sup>2</sup>Loyola University Stritch School of Medicine</p>	San Augustine A&B

	<p><b>Proffered Papers 29: Reconstruction 3</b> – Moderators: Lee Zimmer &amp; Somasundaram Subramaniam</p> <p>223: MINIMIZING POSTOPERATIVE CSF LEAKS: AN ALGORITHM FOR SELLAR RECONSTRUCTION FOLLOWING TRANSPHENOIDAL PITUITARY SURGERY - <a href="#">Stephanie Flukes, MD</a>, Lily Mclaughlin, Marc A Cohen, MD, Vivian Tabar, MD; Multidisciplinary Pituitary and Skull Base Tumor Program, Memorial Sloan Kettering Cancer Center</p> <p>224: SURGICAL OUTCOMES OF THE ENDONASAL ENDOSCOPIC APPROACH WITHIN A STANDARDIZED MANAGEMENT PROTOCOL FOR REPAIR OF SPONTANEOUS CSF LEAKS: A RETROSPECTIVE REVIEW OF 46 PATIENTS - <a href="#">Daniel Kreatsoulas, MD</a><sup>1</sup>, Varun Shah, BS<sup>2</sup>, Douglas Hardesty, MD<sup>1</sup>; <sup>1</sup>The Ohio State University Wexner Medical Center, <sup>2</sup>The Ohio State University College of Medicine</p> <p>225: INSTITUTIONAL INSIGHT ON FATLESS RECONSTRUCTION OF THE SKULL BASE FOR CSF LEAK REPAIR FOLLOWING ENDOSCOPIC TRANSNASAL TRANSPHENOIDAL SURGERY: 44 CASE SERIES. - <a href="#">Sophie M Peeters, MD</a>, Marvin Bergsneider, MD, Marilene Wang, MD, Jivianne Lee, MD, Jeffrey Suh, MD, Won Kim, MD; UCLA</p> <p>226: OUTCOMES FOR REPAIR OF MIDDLE CRANIAL FOSSA ENCEPHALOCELES USING PEDICLED TEMPORALIS MYOFASCIAL FLAPS WITH BONE GRAFTS - <a href="#">Matthew R Bartindale, MD</a>, Douglas D Backous, MD; Puget Sound ENT</p> <p>227: STRAWS DON'T SUCK - <a href="#">Erin K Reilly, MD</a>, Mindy R Rabinowitz, MD, Colin T Huntley, MD, Maurits S Boon, MD, Judd Fastenberg, MD, Gregory A Epps, MD, Swar Vimawala, Chandala Chitguppi, Jena Patel, Gurston G Nyquist, Marc R Rosen, James J Evans; Thomas Jefferson University Hospital</p> <p>229: RELATIONSHIP BETWEEN RECURRENCE RATES OF RATHKE'S CLEFT CYSTS AND SURGICAL APPROACHES TO SELLAR RECONSTRUCTION - <a href="#">Rebecca Limb, BMBS, BMedSci</a>, James King, FRACS, MBBS, PhD; Royal Melbourne Hospital, Melbourne, Australia</p> <p>230: SOFT GASKET SEAL: REFINING THE CLOSURE TECHNIQUE FOLLOWING EEA. CASE SERIES AND REVIEW OF LITERATURE - <a href="#">Thiago Albonette Felicio, MD</a><sup>1</sup>, Gustavo Guimarães Rangel, MD<sup>2</sup>, Mostafa Shahein, MD<sup>1,3</sup>, Giuliano Schmidt Bertazzo Silveira, MD<sup>1</sup>, Rafael Martinez-Perez, MD<sup>1</sup>, Marcus Zachariah, MD, PhD<sup>1</sup>, Luis C Requena-Requena, MD<sup>1</sup>, Douglas Hardesty, MD<sup>1</sup>, Bradley A Otto, MD<sup>2</sup>, Ricardo L Carrau, MD<sup>2</sup>, Daniel M Prevedello, MD<sup>1</sup>; <sup>1</sup>The Ohio State University Wexner Medical Center, Department of Neurological Surgery, <sup>2</sup>The Ohio State University Wexner Medical Center, Department of Otolaryngology and Head and Neck, <sup>3</sup>Aswan University, Department of Neurological Surgery, Aswan, Egypt</p>	San Felipe
10:45am-11:45am	<b>Proffered Papers Sessions</b>	

	<p><b>Proffered Papers 30: Pituitary 4</b> – Moderators: Garni Barkhoudarian &amp; Manish K. Aghi</p> <p>231: VISUAL AND ENDOCRINE RECOVERY FOLLOWING CONSERVATIVE AND SURGICAL TREATMENT OF PITUITARY APOPLEXY: A META-ANALYSIS - Khodayar Goshtasbi, BS, Arash Abiri, BS, <u>Ronald Sahyouni, PhD</u>, Hossein Mahboubi, MD, Sophia Raefsky, BS, Edward C Kuan, MD, MBA, Frank P Hsu, MD, PhD, Gilbert Cadena, MD; University of California Irvine</p> <p>233: PITUITARY ADENOMA RECURRENCE: MODELLING USING A NEW MODIFICATION OF THE SIPAP CLASSIFICATION - <u>Mohammed S Alahmari, MD</u><sup>1</sup>, Fahad Alkherayf, MSc, MD<sup>2</sup>, Andrea Lasso, MSc<sup>1</sup>, Fatmahalzahra Banaz, MD<sup>1</sup>, Sepideh Mohajeri, MD<sup>1</sup>, Pourya Masoudian, MD<sup>1</sup>, Andre Lamothe, MD<sup>1</sup>, Charles Agbi, MD<sup>2</sup>, Lisa Caulley, MSc, MD<sup>1</sup>, Mohammad Alshardan, MD<sup>2</sup>, Shaun Kilty, MD<sup>1</sup>; <sup>1</sup>Department of Otolaryngology-Head and Neck Surgery, University of Ottawa, Ottawa, Canada., <sup>2</sup>Division of Neurosurgery, Department of Surgery, University of Ottawa, Ottawa, Canada</p> <p>234: MARSUPIALIZATION OF RATHKE'S CLEFT CYSTS DOES NOT INCREASE THE RISK OF POST-OPERATIVE INTRACRANIAL INFECTION. - <u>Thad W Vickery, MD</u><sup>1</sup>, Sophie Peeters, MD<sup>2</sup>, Alina Chen, BA<sup>3</sup>, Sahyouni Ronald, BS<sup>4</sup>, Edward C Kuan, MD, MBA<sup>4</sup>, Marvin Bergsneider, MD<sup>2</sup>, Wang Marilene, MD<sup>1</sup>; <sup>1</sup>David Geffen School of Medicine at UCLA, Department of Head and Neck Surgery, <sup>2</sup>David Geffen School of Medicine at UCLA, Department of Neurosurgery, <sup>3</sup>David Geffen School of Medicine at UCLA, <sup>4</sup>University of California Irvine School of Medicine, Department of Head and Neck Surgery</p> <p>235: SURGICAL OUTCOME OF ENDOSCOPIC TRANSSPHENOIDAL PITUITARY ADENOMA RESECTION IN ELDERLY PATIENTS COMPARED TO YOUNGER PATIENTS. - <u>Kira A Murphy, MD</u><sup>1</sup>, Chandala Chitguppi, MD<sup>1</sup>, Pascal Lavergne, MD<sup>2</sup>, Prachi Patel, BA<sup>1</sup>, Tawfiq Khoury, MD<sup>1</sup>, Mindy Rabinowitz, MD<sup>1</sup>, Gurston G Nyquist, MD<sup>1</sup>, Marc R Rosen, MD<sup>1</sup>, Christopher J Farrell, MD<sup>2</sup>, James J Evans, MD<sup>2</sup>; <sup>1</sup>Department of Otolaryngology – Head and Neck Surgery, Thomas Jefferson University Hospital, <sup>2</sup>Thomas Jefferson University Hospital</p> <p>236: RACIAL AND ETHNIC DIFFERENCES IN PRESENTING CHARACTERISTICS OF PITUITARY ADENOMA PATIENTS AND OUTCOMES - <u>Angela M Richardson</u>, Taylor Hartlein, G D Brusko, Ricardo J Komotar, Jacques J Morcos, Corinna G Levine; University of Miami / Jackson Memorial Hospital</p> <p>237: CAVERNOUS SINUS EXPLORATION IN CUSHING'S DISEASE: INDICATIONS AND OUTCOMES - <u>Elizabeth Hogan, MD</u><sup>1</sup>, Gretchen Scott,, RN<sup>2</sup>, Charlampos Lysikatos-Lyssikatos, MD<sup>3</sup>, Raven McGlotten, RN<sup>4</sup>, Constantine Stratakis, MD, DSc<sup>5</sup>, Lynnette Nieman, MD<sup>3</sup>, Prashant Chittiboina, MD<sup>2</sup>; <sup>1</sup>George Washington University Department of Neurosurgery and Surgical Neurology Branch, National Institute of Neurological Disorders and Stroke, <sup>2</sup>Surgical Neurology Branch, National Institute of Neurological Disorders and Stroke, <sup>3</sup>Eunice Kennedy Shriver National Institute of Diabetes and Kidney Disease, National Institutes of Health, <sup>4</sup>National Institute of Diabetes and Digestive and Kidney Diseases, <sup>5</sup>Section on Endocrinology and Genetics, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health</p> <p>238: ANALYSIS OF PREOPERATIVE IMAGING AS A PREDICTIVE MARKER FOR INTRAOPERATIVE AND POSTOPERATIVE SURGICAL MANAGEMENT IN THE ENDOSCOPIC ENDONASAL RESECTION OF PITUITARY MACROADENOMAS - Laila Perez de San Roman Mena, MD, <u>Srikant Chakravarthi, MD, MSc</u>, Melanie B Fukui, MD, Austin Epping, BSc, Alejandro Monroy-Sosa, MD, Sammy Khalili, MD, Juanita M Celix, MD, Bhavani Kura, MD, Richard A Rovin, MD, Amin B Kassam, MD; Aurora Neuroscience Innovation Institute</p>	San Xavier
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**P002: MANAGING CSF LEAK WITH TEMPORALIS MUSCLE FLAP FOR CHALLENGING SKULL BASE DEFECT AFTER RADIATION THERAPY** - [Wei-Hsin Wang, MD](#)<sup>1</sup>, Ming-Ying Lan, MD, PhD<sup>2</sup>; <sup>1</sup>Department of Neurosurgery, Taipei Veterans General Hospital, National Yang-Ming University, Taiwan, <sup>2</sup>Department of Otolaryngology, Taipei Veterans General Hospital, National Yang-Ming University, Taiwan

**P003: MICROSURGICAL ANATOMY OF THE LABYRINTHINE AND SUBARCUATE ARTERIES AND CLINICAL IMPLICATIONS** - [Laura Salgado-Lopez, MD](#), Maria Peris-Celda, MD, PhD; Department of Neurosurgery, Albany Medical Center, Albany, NY

**P004: CLASSIFICATION OF THE SUPRAMEATAL TUBERCLE AND MORPHOMETRIC ANALYSIS WITH SURGICAL APPROACH TO THE TEMPORAL BONE** - Humberto Reyna, MD, [Sergio Reyna, MD](#), Jose Espinoza, MD, Enrique Lopez, MD, Diego Mendez, PhD; CMN 20 Noviembre ISSSTE

**P005: AN ANATOMIC STUDY OF THE INTERCAVERNOUS SINUSES** - Timothy Banks<sup>1</sup>, Jennifer Kosty, MD<sup>1</sup>, Racheal Wolfson, MD<sup>1</sup>, Rimmel Dossani<sup>2</sup>, Bharat Guthikonda, MD<sup>1</sup>; <sup>1</sup>Louisiana State University HSC Shreveport, <sup>2</sup>University at Buffalo

**P006: ANATOMICAL STEP-BY-STEP DISSECTION OF COMPLEX SKULL BASE APPROACHES FOR TRAINEES: SURGICAL ANATOMY OF THE RETROSIGMOID APPROACH** - [Christopher S Graffeo, MD](#)<sup>1</sup>, Maria Peris Celda, MD, PhD<sup>2</sup>, Avital Perry, MD<sup>1</sup>, Lucas P Carlstrom<sup>1</sup>, Colin L Driscoll, MD<sup>1</sup>, Michael J Link, MD<sup>1</sup>; <sup>1</sup>Mayo Clinic, <sup>2</sup>Albany Med

**P007: SKULL BASE ANATOMY IN CHARGE PATIENTS WITH BILATERAL CHOANAL ATRESIA** - [Christopher Pool, MD](#)<sup>1</sup>, Einat Slonimsky, MD<sup>1</sup>, Roshan Nayak, BS<sup>2</sup>, Linda Engle, BS<sup>1</sup>, Jay Zhu, PhD<sup>1</sup>, Meghan Wilson, MD<sup>1</sup>; <sup>1</sup>Penn State Hershey Medical Center, <sup>2</sup>Icahn School of Medicine at Mount Sinai

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**P009: HISTOLOGY OF THE VERTEBRAL ARTERY-DURAL JUNCTION: RELEVANCE TO POSTEROLATERAL APPROACHES TO THE SKULL BASE** - [Robert Rennert](#)<sup>1</sup>, Martin Powers<sup>1</sup>, Jeffrey Steinberg<sup>1</sup>, Takanori Fukushima<sup>2</sup>, John Day<sup>3</sup>, Alexander Khelessi<sup>1</sup>, Michael Levy<sup>1</sup>; <sup>1</sup>UCSD, <sup>2</sup>Carolina Neuroscience Institute, <sup>3</sup>University of Arkansas

**P010: EAR THROUGH NOSE: AN ENDOSCOPIC ENDONASAL APPROACH TO IAC AND COCHLEA. ANATOMIC STUDY** - [Yury Anania, MD](#)<sup>1</sup>, Ricardo Gomez Arroyo, MD<sup>1</sup>, Eric W Wang, MD<sup>2</sup>, Georgios Zenonos, MD<sup>3</sup>, Carl H Snyderman, MD, MBA<sup>2</sup>, Gardner A Paul, MD<sup>3</sup>; <sup>1</sup>Center for Cranial Base Surgery, University of Pittsburgh, <sup>2</sup>Department of Otolaryngology, University of Pittsburgh Medical Center, <sup>3</sup>Department of Neurosurgery, University of Pittsburgh Medical Center

ty of Pittsburgh Medical Center

**P011: MORPHOMETRIC ANALYSIS OF THE PETROCLIVAL ANGLE IN ADULTS USING HIGH RESOLUTION CT SCANS** - Ahmad Alhourani, MD, [Zaid Aljuboori, MD](#), Candice Nguyen, BS, Heegok Yeo, BS, Brian Williams, MD, Norberto Andaluz, MD; University of Louisville

**P012: ANATOMICAL STUDY OF THE JUGULAR FORAMEN IN CADAVEROUS SPECIMENS IN THE MEXICAN POPULATION, VARIETIES AND CONSTANTS.** - Alfredo Espinosa Mora, MD, Humberto Reyna Mendez, MD, Enrique Lopez Berumen, MD, [Carlos Erosa Velázquez, MD](#), Diego Méndez Rosito, MD; CMN 20 DE Noviembre

**P013: MICROSURGICAL ANATOMY OF THE TRIANGLES OF THE POSTERIOR FOSSA: NEUROSURGICAL RELEVANCE.** - [Alejandro Monroy-Sosa, MD](#), Srikanth Chakravarthi, MD, Jonathan Ortiz Rafael, MD, Austin Epping, Richard Rovin, MD, Melanie Fukui, Amin Kassam, MD; Aurora Neuroscience Innovation Institute

**P014: SURGICAL-ANATOMICAL PILLARS OF POSTERIOR PETROSECTOMY: A TRIDIMENSIONAL VIEW.** - [Alejandro Monroy-Sosa, MD](#), Srikanth Chakravarthi, MD, Austin Epping, Richard Rovin, MD, Melanie Fukui, Amin Kassam; Aurora Neuroscience Innovation Institute

**P015: NUANCES OF THE SURGICAL MANAGEMENT OF THE PARANASAL AND VENTRAL CRANIAL BASE MALIGNANCIES: THE ENDONASAL ENDOSCOPIC APPROACH** - [Alejandro Monroy-Sosa, MD](#), Srikanth Chakravarthi, MD, MSc, Austin Epping, BSc, Juanita M Celix, MD, Richard A Rovin, MD, Melanie B Fukui, MD, Amin B Kassam, MD; Aurora Neuroscience Innovation Institute

**P016: THE ROLE OF THE PETROCLIVAL FISSURE AS A SURGICAL LANDMARK FOR THE HYPOGLOSSAL CANAL** - [Roberto M Soriano, MD](#), Gustavo Pradilla, MD, C. Arturo Solares, MD; Emory University (SSO)

**P017: PERICLINOID AND PERICAVERNOUS SURGICAL CORRIDORS TO THE CAVERNOUS SINUS: AN EXTENSIVE ANATOMOSURGICAL ANALYSIS** - Alexander I Evins, Giovanni Barbagli, [Lukasz Przepiórka](#), Michael G Kim, Jimmy J Xia, Gabriel M Longo, Paolo Di Russo, Philip E Stieg, Antonio Bernardo; Weill Cornell Medicine, Neurological Surgery

**P018: NEAR DEHISCENCE OF THE ENDOLYMPHATIC DUCT AND SAC** - [Erika Moxley, MS](#), Anna K Bareiss, MD, Markus Lammle, MD, Peter Amenta, MD, FAANS, Neal M Jackson, MD; Tulane University

**P019: ANATOMICAL STEP-BY-STEP DISSECTION OF COMPLEX SKULL BASE APPROACHES FOR TRAINEES: SURGICAL ANATOMY OF THE TRANSLABYRINTHINE APPROACH** - [Avital Perry, MD](#)<sup>1</sup>, Christopher S Graffeo, MD<sup>1</sup>, Lucas Carlstrom, MD, PhD<sup>1</sup>, Colin L Driscoll, MD<sup>1</sup>, Michael J Link, MD<sup>1</sup>, Maria Peris-Celda, MD, PhD<sup>2</sup>; <sup>1</sup>Mayo Clinic, <sup>2</sup>Albany Med

**P020: EXTREME HYPERPNEUMATIZATION OF THE SKULL BASE AND C-SPINE ASSOCIATED WITH MENINGITIS: MECHANISMS AND MANAGEMENT** - [Emily Pascal, BS](#)<sup>2</sup>, Keonho A Kong, MD<sup>1</sup>, Kevin McLaughlin, MD<sup>1</sup>, Dwayne Anderson, MD<sup>3</sup>, Daniel W Nuss, MD, FACS<sup>1</sup>; <sup>1</sup>Louisiana State University Health Sciences Center - New Orleans, <sup>2</sup>Tufts University, <sup>3</sup>Department of Radiology, Our Lady of the Lake Regional Medical Center

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**P021: THE ANTERIOR TENTORIAL FOLDS: SURGICAL SIGNIFICANCE AND MANAGEMENT** - [Michael G Kim](#)<sup>1</sup>, Alexander I Evins<sup>2</sup>, Philip E Stieg<sup>2</sup>, Antonio Bernardo<sup>2</sup>; <sup>1</sup>Department of Neurosurgery, Westchester Medical Center, <sup>2</sup>Weill Cornell Medicine, Neurological Surgery

**P022: A SKULL BASE SURGEON'S GPS: 27 ANATOMICAL TRIANGLES OF THE ANTERIOR, POSTERIOR AND MIDDLE FOSSAE** - [Dimitri Benner](#)<sup>1</sup>, Benjamin K Hendricks, MD<sup>2</sup>, Mark C Preul, MD<sup>2</sup>, Michael T Lawton, MD<sup>2</sup>; <sup>1</sup>Medical University of Vienna, <sup>2</sup>Barrow Neurological Institute

**P023: THE CLINOID SPACE: SURGICAL ANATOMY AND RELEVANCE FOR ENDOSCOPIC APPROACHES** - Pedro Augusto Sousa Rodrigues, MD, [Ayoze Doniz-Gonzalez, MD](#), Ahmed Mohyeldin, Guillermo Blasco Garcia de Andoain, Lingzhao Meng, Qingguo Meng, MD, Kumar Abhinav, Juan C. Fernandez-Miranda, MD; Stanford University

**P024: THE PETROUS PROCESS OF SPHENOID BONE: A SURGICAL LANDMARK FOR THE IDENTIFICATION OF ABDUCENS NERVE IN ENDOSCOPIC ENDONASAL SURGERY.** - [Ayoze Doniz-Gonzalez, MD](#), Pedro Augusto Sousa Rodrigues, MD, Guillermo Blasco Garcia de Andoain, MD, Ahmed Mohyeldin, MD, PhD, Qingguo Meng, MD, Lingzhao Meng, MD, Juan C. Fernandez-Miranda, MD; Stanford University Medical Center

**P025: THE EXTENDED RETROSIGMOID APPROACH FOR HIGH-RIDING POSTERIOR INFERIOR CEREBELLAR ARTERY ANEURYSMS. PART I: A QUANTITATIVE ANATOMICAL ANALYSIS OF THE GLOSSOPHARYNGO-COCHLEAR TRIANGLE** - [Xiaochun Xiaochun Zhao, DR](#), Ali Meybodi, Komal Naeem, Engenii Belyk, Mohamed Labib, Mark Preul, Michael Lawton; Barrow Neurological Institute

**P026: THE ANTERIOR INCISURAL WIDTH AS A PREOPERATIVE INDICATOR FOR INTRADURAL SPACE EVALUATION: AN ANATOMICAL INVESTIGATION** - [Xiaochun Zhao](#), Mohamed Labib, Komal Naeem, Preul Mark, Michael Lawton, Lopez Gonzalez Miguel; Barrow Neurological Institute

**P027: DOLENC APPROACH FOR THE CRANIOTOMY CLIPPING OF A CAROTID-OPHTHALMIC GIANT ANEURYSM: A CASE REPORT** - Gaoyang Fan<sup>1</sup>, [Lei Zhao](#)<sup>2</sup>, Yanchun Sun<sup>1</sup>, Hao Han<sup>1</sup>, Chunhai Su<sup>1</sup>, Lijian Zheng<sup>1</sup>, Lei Feng<sup>1</sup>; <sup>1</sup>Jining No.1 People's Hospital, <sup>2</sup>Air Force Medical University

**P028: COMPARATIVE ANATOMICAL ANALYSIS BETWEEN MINIPIPERIONAL AND SUPRAORBITAL APPROACHES IN THE TREATMENT OF ANTERIOR CIRCULATION ANEURYSMS** - [Rafael Martinez-Perez](#), Thiago Albonette-Felicio, Giuliano Silveira-Bertazzo, Luis Requena, Ruichun Li, Douglas Hardesty, Ricardo Carrau, Daniel Prevedello; Wexner Medical Center, The Ohio State University

**P029: RE-IMPLANTATION BYPASS USING ONE LIMB OF A DOUBLE ORIGIN POSTERIOR INFERIOR CEREBELLAR ARTERY FOR TREATMENT OF A RUPTURED, FUSIFORM PICA ANEURYSM** - [Fabio Frisoli, MD](#), Joshua S Catapano, MD, Stefan Koester, Gabriella Paisan, MD, Michael Lang, MD, Michael T Lawton, MD; Barrow Neurological Institute

**P031: FLOW DIVERSION OF A TRAUMATIC MIDDLE CEREBRAL ARTERY PSEUDOANEURYSM WITH THE PIPELINE FLEX EMBOLIZATION DEVICE** - [Zaid Aljuboori, MD](#), Nicolas Khattar, MD, Dale Ding, MD, Robert James, MD; University of

Louisville

**P032: THE NEED FOR CRITICAL APPRAISAL OF "BIG DATA" RESEARCH IN CEREBROVASCULAR NEUROSURGERY** - [Kris-ten M Scheitler, MD](#)<sup>1</sup>, Christopher S Graffeo, MD, MS<sup>1</sup>, Avital Perry, MD<sup>1</sup>, Lucas P Carlstrom, MD, PhD<sup>1</sup>, L. Madison Michael II, MD<sup>2</sup>, Michael J Link, MD<sup>1</sup>, Paul Klimo Jr, MD, MPH<sup>2</sup>; <sup>1</sup>Mayo Clinic, <sup>2</sup>University of Tennessee Health Science Center

**P033: EFFECTS OF PREOPERATIVE EMBOLIZATION ON PETROCLIVAL MENINGIOMAS: OPERATIVE IMPACT, OUTCOMES AND COMPLICATIONS** - [Sam Emerson, MD, PhD](#), Jake Ruzevick, MD, Rajeev Sen, MD, Kate Carroll, MD, Manuel Ferreira Jr, MD, PhD; University of Washington

**P034: ECTOPIC RATHKE'S CLEFT CYSTS: REVIEW OF AN UNUSUAL ENTITY** - [S Newman, BA](#)<sup>1</sup>, R Rindler, MD<sup>2</sup>, A Boucher, MD<sup>2</sup>, S Neill, MD<sup>1</sup>, G Pradilla, MD<sup>2</sup>; <sup>1</sup>Emory University School of Medicine, <sup>2</sup>Emory University Department of Neurosurgery

**P035: VOLUMETRIC GROWTH RATES OF UNTREATED CAVERNOUS SINUS MENINGIOMAS** - Carolina Benjamin, MD<sup>1</sup>, Kimberly Ashayeri<sup>2</sup>, Zane Schnurman, MD<sup>2</sup>, Eman Kazi, BS<sup>2</sup>, Reed Mullen<sup>2</sup>, Donato Pacione, MD<sup>2</sup>, Chandra Sen, MD<sup>2</sup>, John G Golfinos, MD<sup>2</sup>, Jafar Jafar<sup>2</sup>, Dimitris Placantonakis, MD<sup>2</sup>, Douglas Kondziolka<sup>2</sup>; <sup>1</sup>University of Miami, <sup>2</sup>NYU Langone Medical Center

**P036: TREATMENT STRATEGY AND CLINICAL OUTCOME FOR CAVERNOUS SINUS LESION** - [Takashi Sugawara, PhD](#), Yoji Tanaka, PhD, Taketoshi Maehara, PhD; Department of Neurosurgery, Tokyo Medical and Dental University

**P037: ANOTHER CAVERNOUS SINUS SYNDROME** - [Steven A Newman, MD](#); University of Virginia

**P038: BILATERAL SEQUENTIAL SPONTANEOUS OTOGENIC PNEUMOCEPHALUS: LESSONS IN PATHOPHYSIOLOGY AND MANAGEMENT** - [Scott B Shapiro, MD](#), Noga Lipschitz, MD, Parker Tumlin, Bryan Krueger, MD, Jonathan A Forbes, MD, Ravi N Samy, MD; University of Cincinnati College of Medicine

**P039: POLYMICROBIAL INTRACEREBRAL ABSCESS GROWING ACHROMOBACTER XYLOSOXIDANS AND MYCOBACTERIUM AVIUM COMPLEX** - [Juliana Rotter, MD](#), Christopher S Graffeo, MD, MS, Hannah E Gilder, MD, Lucas P Carlstrom, MD, PhD, Avital Perry, Michael J Link, MD; Mayo Clinic

**P040: FETAL BOVINE COLLAGEN GRAFTS FOR REPAIR OF TEGMEN DEFECTS AND ENCEPHALOCELES VIA MIDDLE CRANIAL FOSSA APPROACH** - [Anand Patel, MS](#)<sup>1</sup>, Matthew R Bartindale, MD<sup>2</sup>, Jehad A Zakaria, MD<sup>2</sup>, Anand V Germanwala, MD<sup>2</sup>, Douglas E Anderson, MD<sup>2</sup>, Sam J Marzo, MD<sup>2</sup>, Matthew L Kircher, MD<sup>2</sup>, John P Leonetti, MD<sup>2</sup>, Vikram C Prabhur, MD<sup>2</sup>; <sup>1</sup>Stritch School of Medicine, <sup>2</sup>Loyola University Medical Center

**P041: PRESENTATION AND MANAGEMENT OF WOUND CLOSURE FAILURE AFTER SPHENO-CLIVAL EXPANDED ENDONASAL SURGERY: SINGLE INSTITUTION EXPERIENCE.** - [Abel David, MD](#), Nicole Jiam, MD, Jose Gurrola II, Manish Agh, MD, Philip Theodosopolous, Michael W McDermott, MD, Ivan H El-Sayed; University California San Francisco

**P042: IATROGENIC CEREBROSPINAL LEAK ARISING FROM A PERSISTENT FONTICULUS FRONTALIS** - [William C Harris, MD, MS](#)<sup>1</sup>, Edward D McCoull, MD, MPH<sup>2</sup>; <sup>1</sup>Tulane University Department of Otorhinolaryngology, <sup>2</sup>Ochsner Clinic Foundation Department of Otorhinolaryngology; Tulane University Depart-

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**P043: LIQUORHOEA □ CONSERVATIVE OR SURGERY, OR BUT BOTH OF THEM IS TRUE?** - Jan Hemza, MD, PhD, PhD, MPA; Dpt. of Neurosurgery Faculty Hospital at Saint Ann

**P044: IDIOPATHIC INTRACRANIAL HYPERTENSION PRESENTING AS SPONTANEOUS CSF LEAK** - Christopher S Hong, MD, Eugenia M Vining, MD, R P Manes, MD, Sacit B Omay, MD; Yale University School of Medicine

**P045: A SIMPLIFIED TRANSPERTYGOID TECHNIQUE TO LATERAL SPHENOID ENCEPHALOCELES: A SHORTER RUN FOR A LONGER SLIDE** - Dennis M Tang, MD<sup>1</sup>, Jonathan Y Ting<sup>2</sup>, Troy D Woodard, MD<sup>1</sup>, Pablo F Recinos, MD<sup>1</sup>, Varun R Kshetry, MD<sup>1</sup>, João Paulo Almeida, MD<sup>1</sup>, Elisa Illing<sup>2</sup>, Kolin Rubel<sup>2</sup>, Aaron Cohen-Gadol, MD<sup>2</sup>, Raj Sindwani, MD<sup>1</sup>; <sup>1</sup>Cleveland Clinic Foundation, <sup>2</sup>Indiana University Health

**P046: MANAGEMENT OF CEREBELLAR DYSPLASIA, CHIARI I MALFORMATION, SYRINGOMYELIA AND HYDROCEPHALUS IN A PATIENT WITH BANNAYAN-RILEY-RUVALCABA SYNDROME** - Ali O Jamshidi; Kaiser Permanente

**P049: COMBINED TRANS-ORAL, TRANS-NASAL ENDOSCOPIC SURGERY WITH IMMEDIATE CRANIO-CERVICAL FUSION FOR GIANT CHORDOMAS OF THE CLIVUS AND CRANIO-CERVICAL JUNCTION □ STATE OF THE ART TEAM WORK** - Alessandra Cataldo Russomando, MD, Ron Eliashar, MD; Hadassah Medical Center

**P050: ENDOSCOPIC ENDONASA APPROACH TO LARGE ANTERIOR SKULL BASE CHONDROSARCOMA: CASE REPORT** - Tural Hidayetov, MD, Tural Rahimli, DR; Baku Medical Plaza

**P051: CRANIAL NERVE VI PALSYP AS PRESENTING SIGN OF PREVIOUSLY UNDIAGNOSED METASTATIC PROSTATE ADENOCARCINOMA TO THE CLIVUS** - Jennifer E Douglas, MD<sup>1</sup>, John YK Lee, MD, MSCE<sup>2</sup>, Karthik Rajasekaran, MD<sup>1</sup>; <sup>1</sup>Department of Otorhinolaryngology - Head and Neck Surgery, University of Pennsylvania Health System, <sup>2</sup>Department of Neurosurgery, University of Pennsylvania Health System

**P052: INTRA-OPERATIVE EVALUATION OF SIGMOID SINUS VELOCITY IN TRANSLABYRINTHINE CRANIOTOMIES FOR VESTIBULAR SCHWANNOMAS USING DOPPLER ULTRASOUND** - Zachary R Barnard, MD, MS, Anne K Maxwell, MD, Tommy J Muelleman, MD, William H Slattery, MD, Guatam U Mehta, MD, MS, Gregory P Lekovic, MD, PhD; House Institute

**P054: MANAGEMENT OF FRONTAL MUCOCELE AFTER PERICRANIAL FLAP RECONSTRUCTION OF ANTERIOR SKULL BASE RESECTION DEFECT** - Matthew Kim, MD<sup>1</sup>, Carl Snyderman, MD, MBA<sup>2</sup>, Andrew Tassler, MD<sup>1</sup>; <sup>1</sup>Weill Cornell Medical College, <sup>2</sup>University of Pittsburgh School of Medicine

**P056: DEFINING THE COMPLICATIONS LANDSCAPE OF INTERNAL NEUROLYSIS FOR THE TREATMENT OF TRIGEMINAL NEURALGIA VIA A SYSTEMATIC REVIEW OF THE LITERATURE** - Jacob Mazza, BS, Victor Sabourin, MD, Jeffery Head, BA, Pascal Lavergne, MD, Tomas Garzon, MD, Anthony Stefanelli, MD, Fadi Al-Saiegh, MD, James J Evans, MD; Thomas Jefferson University

**P057: COMBINED PIPELINE EMBOLIZATION DEVICE WITH ENDOSCOPIC ENDONASAL FASCIA LATA/MUSCLE GRAFT REPAIR AS A SALVAGE TECHNIQUE FOR TREATMENT OF**

**IATROGENIC CAROTID ARTERY INJURY AND PSEUDOANEURYSM** - Jordina Rincon-Torroella, MD, Ann Liu, MD, Matthew T. Bender, MD, Cameron G. McDougall, MD, Anthony P. Tufaro, DDS, MD, Alexander L. Coon, MD, Douglas D. Reh, MD, Gary L. Gallia, MD, PhD; Johns Hopkins Hospital

**P058: COMPLICATIONS OF ENDOSCOPIC ENDONASAL SKULL BASE SURGERY FOR SELLAR PATHOLOGY - AN INSTITUTIONAL EXPERIENCE.** - Amey Savardekar, Tim Banks, Jennifer Kosty, Bharat Guthikonda; Neurosurgery, LSUHSC, Shreveport

**P059: ECONOMICS OF THE TREATMENT OF CRANIOSPINAL CHORDOMA AND CHONDROSARCOMA AND THE FEASIBILITY OF USING THE BUNDLED PAYMENT MODEL.** - Zaid Aljuboori, MD, Beatrice Ugiliweneza, PhD, Norberto Andaluz, MD, Maxwell Boakye, MD, MPH/MBA, Brian Williams, MD; University of Louisville

**P060: AN ORBITAL FLOOR IMPLANT ANGULATION GUIDE WITH 3D PRINTED CUSTOMIZATION** - Henry Bair, BS<sup>1</sup>, Giancarlo A Garcia, MD<sup>2</sup>, Emily Charlson, MD<sup>2</sup>, Andrea Kossler<sup>2</sup>, Benjamin P Erickson<sup>2</sup>; <sup>1</sup>Stanford University School of Medicine, Stanford, CA, <sup>2</sup>Byers Eye Institute, Stanford University School of Medicine, CA

**P061: SURGICAL STRATEGY USING EXTENDED ENDOSCOPIC TRANSSPHENOIDAL APPROACH FOR CRANIOPHARYNGIOMA: SINGLE CENTER EXPERIENCE** - Masahiko Tosaka, Rei Yamaguchi, Masanori Aihara, Takaaki Miyagishima, Yuhei Yoshimoto; Gunma University Graduate School of Medicine

**P062: ENDOSCOPIC ENDONASAL TRANSSPHENOIDAL SURGERY FOR CRANIOPHARYNGIOMAS: PEARLS AND PITFALLS FROM A LARGE CASE SERIES** - Andrew B Boucher, MD, Sarah Newman, BS, Bray P David, MD, Adriana G Ioachimescu, MD, PhD, FACE, Nelson M Oyesiku, MD, PhD, FACS; Emory University

**P064: ENDONASAL ENDOSCOPIC SURGERY OF CRANIOPHARYNGIOMAS: A CASE SERIES** - Bakhtiyar Pashaev, MD<sup>1</sup>, Dmitriy Bochkarev, MD<sup>1</sup>, Valeriy Danilov, MD<sup>2</sup>, Andrey Alekseev, MD<sup>1</sup>, Gulnar Vagapova, MD<sup>3</sup>; <sup>1</sup>Interregional Clinical Diagnostic Center, <sup>2</sup>Kazan Medical State University, <sup>3</sup>Kazan Medical State Academy

**P066: MINIMALLY INVASIVE TUBULAR APPROACH FOR OCCIPITAL CONDYLAR BIOPSY AND RESECTION** - Andrew Platt, MD<sup>1</sup>, Melissa Stamates, MD<sup>2</sup>, Ricky Wong, MD<sup>2</sup>; <sup>1</sup>University of Chicago, <sup>2</sup>Evanston Hospital

**P067: RETRO-ODONTOID INTRADURAL SYNOVIAL CYST DECOMPRESSED VIA AN ENDOSCOPE-ASSISTED FAR LATERAL APPROACH C1-C2 HEMILAMINECTOMY WITHOUT FUSION: USE OF DENTICULATE LIGAMENT AS INTRAOPERATIVE LANDMARK** - Christos F Deamont, DO<sup>1</sup>, Michael Fana, MS<sup>2</sup>, Donald Labarge, MD<sup>2</sup>, Sunil Manjila, MD<sup>2</sup>; <sup>1</sup>Norton Community Hospital, <sup>2</sup>McLaren Bay City Hospital

**P068: INFEROLATERAL TRANSORBITAL APPROACH TO THE PETROUS APEX .. AN ADJUNCTIVE APPROACH TO THE EEA** - Moustafa Ali<sup>1,2</sup>, Janmais Marin, MD<sup>1</sup>, Daniel Prevedello, MD, Professor Of Neurosurgery<sup>1</sup>, Bradley Otto, MD, Professor of Otolaryngology<sup>1</sup>, Ray Cho, MD<sup>1</sup>, Ricardo Carrau, MD, Professor of Otolaryngology<sup>1</sup>; <sup>1</sup>Ohio State University, <sup>2</sup>Assiut University, Egypt

**P069: TRANSORBITAL APPROACH TO THE THE INTERNAL CAROTID ARTERY -A NOVEL ADJUNCTIVE APPROACH TO**

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**P070: QUANTIFICATION ANALYSIS OF MINIMALLY INVASIVE TECHNIQUES TO THE INFRATEMPORAL FOSSA** - [Moustafa Ali, MD](#)<sup>1</sup>, Nyall London, MD, PhD, Assistant Prof of Otolaryngology<sup>2</sup>, Daniel Prevedello, Professor<sup>3</sup>, Tekin Baglam, MD<sup>3</sup>, Ray Cho, Associate Professor Clinical<sup>3</sup>, Bradley A Otto, Associate Professor Clinical<sup>3</sup>, Ricardo L Carrau, MD, Professor of Otolaryngology<sup>2</sup>; <sup>1</sup>Ohio State University / Assiut University, Egypt, <sup>2</sup>Johns Hopkins Hospital, <sup>3</sup>Ohio State University

**P072: EXTENDED ENDOSCOPIC TRANSNASAL TRANSPHENOIDAL REMOVAL OF TUBERCULUM SELLAE MENINGIOMAS: ILLUSTRATIVE REPORTS ON THE IMPORTANCE OF PREOPERATIVE CASE SELECTION AND PLANNING IN EXTENT OF RESECTION AND OUTCOMES.** - [Ness Jerold A. Justo, MD, MBA](#), Michael N Sabalza, Peter Jarin; The Medical City Philippines

**P073: DO WE NEED PROPHYLACTIC ANTIBIOTIC USE IN ENDOSCOPIC TRANSPHENOIDAL PITUITARY SURGERY?** - Ioana D Moldovan, MD, MSc<sup>1</sup>, Charles Agbi, MD<sup>2</sup>, Shaun Kilty, MD<sup>2</sup>, [Fahad Alkherayf, MD, MSc](#)<sup>2</sup>; <sup>1</sup>Ottawa Hospital Research Institute, <sup>2</sup>University of Ottawa

**P074: ENDOSCOPIC ENDONASAL APPROACH TO THE ORBIT: AN ANATOMICAL AND CLINICAL STUDY** - Matteo Zoli, MD<sup>1</sup>, [Thiago Albonette Felicio, MD](#)<sup>2</sup>, Giuliano Schmidt Bertazzo Silveira, MD<sup>2</sup>, Rafael Martinez-Perez, MD<sup>2</sup>, Gustavo Guimarães Rangel, MD<sup>3</sup>, Mostafa Shahein, MD<sup>2,4</sup>, Marcus Zachariah, MD, PhD<sup>2</sup>, Douglas Hardesty, MD<sup>2</sup>, Bradley A Otto, MD<sup>3</sup>, Ricardo L Carrau, MD<sup>3</sup>, Daniel M Prevedello, MD<sup>2</sup>; <sup>1</sup>Center of Surgery for Pituitary Tumours, Department of Neurosurgery, IRCCS Istituto delle Scienze Neurologiche of Bologna, Italy, <sup>2</sup>The Ohio State University Wexner Medical Center, Department of Neurological Surgery, <sup>3</sup>The Ohio State Wexner Medical Center, Department of Otolaryngology and Head and Neck, <sup>4</sup>Aswan University, Department of Neurological Surgery, Aswan, Egypt

**P075: ENDONASAL ENDOSCOPIC MANAGEMENT OF A CRANIOPHARYNGEAL CANAL MENINGOENCEPHALOCELE IN A SIX-MONTH-OLD PATIENT** - Hazan Basak, MD, [Suha Beton, Assoc Prof](#), Gokmen Kahilogullari, Assoc Prof, Cem Meco, Prof; Ankara University

**P076: ENDOSCOPIC APPROACH OF METASTATIC RENAL CLEAR CELL CARCINOMA IN INFRATEMPORAL FOSSA** - [Hana Caroline Morais Higa, MD](#)<sup>1</sup>, Miguel Soares Tepedino, MD, PhD<sup>1</sup>, Daniel Herchenhorn, MD, PhD<sup>2</sup>, Ricardo José Lopes da Cruz, MD<sup>3</sup>; <sup>1</sup>Policlínica de Botafogo, Rio de Janeiro, <sup>2</sup>Centro de Oncologia de D'Or, Rio de Janeiro, <sup>3</sup>Hospital Samaritano - UHG, Rio de Janeiro

**P077: EXPANDED EXPOSURE AND DETAILED ANATOMIC ANALYSIS OF THE SUPERIOR ORBITAL FISSURE AND THE ASSOCIATED NEUROVASCULAR STRUCTURES** - [Lifeng Li](#)<sup>1</sup>, Nyall R. London Jr.<sup>2</sup>, Daniel M Prevedello<sup>3</sup>, Ricardo L Carrau<sup>4</sup>; <sup>1</sup>Department of Otolaryngology-Head & Neck Surgery, Beijing Tongren Hospital, Capital Medical University, Beijing, China, <sup>2</sup>Department of Otolaryngology-Head & Neck Surgery, Johns Hopkins School of Medicine, Baltimore, Maryland, <sup>3</sup>Department of Neurological Surgery, The James Cancer Hospital at the Wexner Medical Center of The Ohio State University,

Columbus, Ohio, <sup>4</sup>Department of Otolaryngology-Head & Neck Surgery, The James Cancer Hospital at the Wexner Medical Center of The Ohio State University, Columbus, Ohio

**P078: COMPARISON OF ENDOSCOPIC TRANSETHMOIDAL AND PRELACRIMAL APPROACHES FOR EXPOSURE OF THE MEDIAL INTRACONAL SPACE: A CADAVERIC STUDY** - [Lifeng Li](#)<sup>1</sup>, Nyall R. London Jr.<sup>2</sup>, Daniel M Prevedello<sup>3</sup>, Ricardo L Carrau<sup>4</sup>; <sup>1</sup>Department of Otolaryngology-Head & Neck Surgery, Beijing Tongren Hospital, Capital Medical University, Beijing, China, <sup>2</sup>Department of Otolaryngology-Head & Neck Surgery, Johns Hopkins School of Medicine, Baltimore, Maryland, <sup>3</sup>Department of Neurological Surgery, The James Cancer Hospital at the Wexner Medical Center of The Ohio State University, Columbus, Ohio, <sup>4</sup>Department of Otolaryngology-Head & Neck Surgery, The James Cancer Hospital at the Wexner Medical Center of The Ohio State University, Columbus, Ohio

**P079: OROPHARYNGEAL RECONSTRUCTION AFTER TRANSORAL ROBOTIC RADICAL TONSILLECTOMY: WHEN RECONSTRUCTION IS INDICATED?** - [Katherine P Lipinski, BA](#)<sup>1</sup>, Randall S Ruffner, MD<sup>2</sup>, Karthik S Shastri, MD<sup>2</sup>, Lisa Galati, MD<sup>2</sup>, Carlos D Pinheiro-Neto, MD, PhD<sup>3</sup>; <sup>1</sup>Albany Medical College, Albany, New York, <sup>2</sup>Division of Otolaryngology / Head and Neck Surgery, Department of Surgery, Albany Medical Center, Albany, New York, <sup>3</sup>Division of Otolaryngology / Head and Neck Surgery, Department of Surgery, Department of Neurosurgery, Albany Medical Center, Albany, New York.

**P080: TRANSEPTAL TRANSPHENOIDAL APPROACH TO HYPOPHYSECTOMY: COMPARISONS OF SINONASAL QUALITY OF LIFE AND COMPLICATIONS** - [Alexander Zhu](#)<sup>1</sup>, Jonathan Simmonds, MD<sup>2</sup>, Brian Duff, MD<sup>1</sup>; <sup>1</sup>Brown University, <sup>2</sup>Tufts University

**P081: DISCORDANT RADIOGRAPHIC AND ENDOSCOPIC FINDINGS REGARDING ORBITAL INVASION IN ESTHESIO-NEUROBLASTOMA: CASE REPORT AND REVIEW OF THE LITERATURE** - [Prashanth J Prabakaran, BS](#), Tyler J Willman, MD, Timothy M McCulloch, MD, Azam S Ahmed, MD, Ian J Koszewski, MD; University of Wisconsin School of Medicine and Public Health

**P082: ENDOSCOPIC ENDONASAL TRANSTUBERCULUM TRANSPLANUM APPROACH FOR RESECTION OF GIANT PITUITARY ADENOMA: □THE SECOND FLOOR□ STRATEGY TO AVOID POSTOPERATIVE PITUITARY APOPLEXY** - [Dante L Pezzutti, BS](#), Daniel M Prevedello, MD; The Ohio State University College of Medicine

**P083: ENDOSCOPIC ENDONASAL FENESTRATION AND MARSUPIALIZATION OF PETROUS APEX CHOLESTEROL GRANULOMAS USING SILASTIC □CIGARETTE□ STENT-ASSISTED NASOSEPTAL FLAP** - Christopher Markosian, BA, [Kevin Zhao, DO](#), Grant Arzumanov, DO, Pankaj Agarwalla, MD, Giant Lin, MD, Wayne D Hsueh, MD, Jean A Eloy, MD, James K Liu, MD; Rutgers New Jersey Medical School

**P084: USE OF ENDOSCOPIC TECHNIQUE IN RESECTION OF TRIGEMINAL SCHWANNOMA** - [Alice E Huang](#)<sup>1</sup>, Garret W Choby, MD<sup>2</sup>, Jacob Dey, MD<sup>2</sup>, Matthew L Carlson, MD<sup>2</sup>, Jamie J Van Gompel, MD<sup>3</sup>, Janalee K Stokken, MD<sup>2</sup>; <sup>1</sup>Mayo Clinic School of Medicine, <sup>2</sup>Mayo Clinic Department of Otolaryngology, <sup>3</sup>Mayo Clinic Department of Neurosurgery

**P085: THE ROLE OF ENDOSCOPIC ENDONASAL APPROACH TO THE AXIS COMBINED WITH INFERIOR CLIVECTOMY AND**

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**EXTENDED FAR MEDIAL APPROACHES: CORRELATION OF MORPHOMETRIC DATA WITH STEREOTACTIC CT LANDMARKS IN CADAVERIC DISSECTION** - [Giuliano S Bertazzo-Silveira, MD<sup>1</sup>](#), [Sunil V Manjila, MD<sup>2</sup>](#), [Rafael Martinez-Perez, MD<sup>1</sup>](#), [Thiago F Albonette, MD<sup>1</sup>](#), [Ricardo L Carrau, MD<sup>3</sup>](#), [Daniel M Prevedello, MD<sup>1</sup>](#); <sup>1</sup>The Ohio State University Wexner Medical Center, Department of Neurological Surgery, <sup>2</sup>Department of Neurosurgery, McLaren Hospital, Bay Region, Bay City MI, USA, <sup>3</sup>The Ohio State University Wexner Medical Center, Department of Otolaryngology and Head and Neck

**P086: MORPHOMETRIC DATA ON THE WORKING ANGLE AND AREA OF NEUROSURGICAL EXPOSURE FOR ANTEROMEDIAL SKULL BASE LESIONS USING EXTENDED ENDOSCOPIC ENDONASAL TRANSCLIVAL APPROACHES: VALIDATION USING AMMIRATI MANEUVERABILITY GRADING SYSTEM AND NEURONAVIGATION.** - [Giuliano S Bertazzo-Silveira, MD<sup>1</sup>](#), [Sunil V Manjila, MD<sup>2</sup>](#), [Rafael Martinez-Perez, MD<sup>1</sup>](#), [Thiago F Albonette, MD<sup>1</sup>](#), [Ricardo L Carrau, MD<sup>3</sup>](#), [Daniel M Prevedello, MD<sup>1</sup>](#); <sup>1</sup>The Ohio State University Wexner Medical Center, Department of Neurological Surgery, <sup>2</sup>Department of Neurosurgery, McLaren Hospital, Bay Region, Bay City MI, USA, <sup>3</sup>The Ohio State University Wexner Medical Center, Department of Otolaryngology and Head and Neck

**P087: ENDOSCOPIC ENDONASAL SURGERY (EES) FOR CRANIOPHARYNGIOMAS: EXPERIENCE OF THE NEUROSURGERY INSTITUTE DR. ALFONSO ASENJO, CHILE.** - [Patricio Sepúlveda, MD](#), [Matías Gomez, MD](#), [Homero Sariago, MD](#), [Patricia Walker, MD](#), [Cristian Naudy, MD](#); Neurosurgery Institute Dr. Alfonso Asenjo

**P088: GIANT OSSIFYING FIBROMA OF THE ETHMOID SINUS, ORBIT AND ANTERIOR SKULL BASE: ENDOSCOPIC ENDONASAL APPROACH** - [Danielle de Lara<sup>1</sup>](#), [Thiago B Sonogo, MD<sup>2</sup>](#), [Beatriz Sartori, MD<sup>2</sup>](#), [Alaina E Sordi<sup>1</sup>](#), [João G Valim<sup>1</sup>](#); <sup>1</sup>Universidade Regional de Blumenau, <sup>2</sup>Hospital Santa Isabel

**P092: SKULL BASE TUMORS TREATED VIA ENDONASAL ENDOSCOPIC APPROACHES. CASE SERIES.** - [Bakhtiyar Pashaev, MD<sup>1</sup>](#), [Dmitriy Bochkarev, MD<sup>1</sup>](#), [Valeriy Danilov, MD<sup>2</sup>](#), [Andrey Alekseev, MD<sup>1</sup>](#), [Gulnar Vagapova, MD<sup>3</sup>](#), [Vladimir Krasnozhon, MD<sup>3</sup>](#); <sup>1</sup>Interregional Clinical Diagnostic Center, <sup>2</sup>Kazan Medical State University, <sup>3</sup>Kazan Medical State Academy

**P093: INTEGRATION OF AN ENHANCED RECOVERY AFTER ANESTHESIA PROGRAM FOR PATIENTS UNDERGOING SKULL BASE TUMOR SURGERY** - [Stephanie Flukes, MD](#), [Ilya Laufer, MD](#), [Martin Hanson, MD](#), [Jennifer Cracchiolo, Eliza Geer, MD](#), [Vivian Tabar, MD](#), [Marc A Cohen, MD](#); Multidisciplinary Pituitary and Skull Base Tumor Program, Memorial Sloan Kettering Cancer Center

**P094: ENDOSCOPIC REMOVAL OF A RETAINED BULLET FROM THE PLANUM SPHENOIDALE** - [William C Harris, MD, MS<sup>1</sup>](#), [Edward D McCoul, MD, MPH<sup>2</sup>](#); <sup>1</sup>Tulane University Department of Otorhinolaryngology, <sup>2</sup>Tulane University Department of Otorhinolaryngology and Ochsner Clinic Foundation Department of Otorhinolaryngology

**P095: ENDOSCOPIC SURGERY FOR TUMORS IN AND AROUND THE THIRD VENTRICLE** - [Kenichi Oyama<sup>1</sup>](#), [Toshio Hirohata<sup>1</sup>](#), [Keisuke Onoda<sup>1</sup>](#), [Shigeyuki Tahara<sup>2</sup>](#), [Akira Teramoto<sup>3</sup>](#), [Akio Morita<sup>2</sup>](#), [Akira Matsuno<sup>1</sup>](#); <sup>1</sup>Department of Neurosurgery, Teikyo University School of Medicine, <sup>2</sup>Department of Neurological Surgery, Nippon Medical School, <sup>3</sup>Shonan University of Medical Science

**P097: ENDOSCOPIC ENDONASAL FREE FLAP RECONSTRUC-**

**TION AFTER FAILED CRANIALIZATION: A CASE REPORT** - [Patrik Pipkorn](#), Assistant Professor, [Adam P Liebenendorfer](#), Jake Lee; Washington University in St. Louis School of Medicine

**P098: ENDOSCOPIC TRANSNASAL COMBINED TRANSORAL APPROACH FOR GIANT PARAPHARYNGEAL SPACE TUMORS** - [Xicai Sun](#), [Huan Wang](#), [Quan Liu](#), [Weidong Zhao](#), [Yurong Gu](#), [Houyong Li](#), [Chunquan Zheng](#), [Hongmeng Yu](#), [Dehui Wang](#); Department of Otolaryngology, Eye, Ear, Nose and Throat Hospital, Shanghai Medical College of Fudan University

**P099: ENDOSCOPIC ENDONASAL TRANSSPHEOIDAL RESECTION OF PITUITARY APOPLEXY: ASSESSMENT OF VISUAL AND ENDOCRINE OUTCOMES** - [Rosemary T Behmer Hansen, MA, MPH<sup>1</sup>](#), [Kevin Zhao, DO<sup>1</sup>](#), [Christine Yen, BA<sup>1</sup>](#), [Grant Arzumanov<sup>1</sup>](#), [Wayne D Hsueh, MD<sup>2</sup>](#), [Jean Anderson Eloy, MD<sup>2</sup>](#), [James K Liu, MD<sup>3</sup>](#); <sup>1</sup>Rutgers New Jersey Medical School, <sup>2</sup>Department of Otolaryngology Head & Neck Surgery, Rutgers New Jersey Medical School, <sup>3</sup>Neurologic Institute of New Jersey Departments of Neurological Surgery and Otolaryngology, Center for Skull Base and Pituitary Surgery

**P100: ESTABLISHMENT AND CHARACTERIZATION OF TWO NOVEL OLFACTORY NEUROBLASTOMA CELL LINES** - [Tianna Zhao, MD, PhD<sup>1</sup>](#), [Lisa M Rooper, MD<sup>2</sup>](#), [Debraj Mukherjee, MD, MPH<sup>1</sup>](#), [Nicholas R Rowan, MD<sup>3</sup>](#), [Masaru Ishii, MD, PhD<sup>3</sup>](#), [Christine L Hann, MD, PhD<sup>4</sup>](#), [Gary L Gallia, MD, PhD<sup>1</sup>](#); <sup>1</sup>Department of Neurosurgery, Johns Hopkins University School of Medicine, <sup>2</sup>Department of Pathology, Johns Hopkins University School of Medicine, <sup>3</sup>Department of Otolaryngology, Johns Hopkins University School of Medicine, <sup>4</sup>Department of Oncology, Johns Hopkins University School of Medicine

**P101: MALIGNANT PERIPHERAL NERVE SHEATH TUMOR OF THE INTRATEMPORAL FACIAL NERVE: A FIRST CASE REPORT AND REVIEW OF THE LITERATURE** - [Eric N Appelbaum](#), [Nathan R Lindquist, MD](#), [Alex D Sweeney, MD](#); Baylor College of Medicine

**P103: PAROTID MASS AND OROFACIAL GRANULOMATOSIS - A DIAGNOSTIC DILEMMA WITH REVIEW OF LITERATURE** - [Shaswati Sengupta Datta, MS, ENT](#); Jagannath Gupta Institute of Medical Sciences, Budge Budge,

**P104: LOCOREGIONAL SKULL BASE RECURRENCE MASKED BY CHRONIC OTOMASTOIDITIS IN A PATIENT WITH HPV-RELATED OROPHARYNGEAL SQUAMOUS CELL CARCINOMA TREATED WITH PRIMARY CHEMORADIATION.** - [Christie McGee, MD](#), [Giovana Thomas, MD](#); University of Miami Miller School of Medicine, Department of Otolaryngology

**P105: LESIONS OF THE PETROUS APEX: PICTOGRAPHIC DISTINCTION AT CT AND MR IMAGING.** - [Andres Rojas, MD](#), [Matias Gomez, MD](#) Otolaryngology, [Katherine Walker, MD](#) Otolaryngology, [Homero Sariago, MD](#) Otolaryngology, [Aaron Vidal, MD](#) Neuroradiology, [Roberto Marileo, MD](#) Neuroradiology, [Francisca Montoya, MD](#) Neuroradiology; Chilean Neurosurgical Institute Asenjo

**P106: BILATERAL MIDDLE CRANIAL FOSSA ENCEPHALOCELES SHOWCASING TEGMEN TYMPANI AND TEGMEN MASTOIDEUM DEFECTS** - [Anna K Bareiss, MD](#), [Markus Lammle, MD](#), [Peter Amenta, MD](#), [FAANS](#), [Neal M Jackson, MD](#); Tulane University School of Medicine

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**P107: INTER-RATER RELIABILITY AND ACCURACY OF CISS VERSUS CONTRASTED T1 VIBE FOR THE PRESENCE OF OPTIC CANAL INVASION IN TUBERCULUM SELLA MENINGIOMAS** - Hamid Borghai-Razavi<sup>1</sup>, Baha'eddin A Muhsen<sup>1</sup>, Ingrid Wu<sup>2</sup>, Alankrita Raghavan<sup>3</sup>, Jeniffer Bullen<sup>2</sup>, Christopher Karakasis<sup>2</sup>, Sarah Stock<sup>2</sup>, Matthew Poturalski<sup>2</sup>, Jonathan Lee<sup>2</sup>, Varun Kshetry<sup>3</sup>, Pablo Recinos<sup>3</sup>; <sup>1</sup>Department of Neurosurgery, Cleveland Clinic Florida, Weston, Florida, <sup>2</sup>Imaging Institute, Cleveland Clinic, Cleveland, Ohio, <sup>3</sup>Department of Neurosurgery, Cleveland Clinic, Cleveland, Ohio

**P108: TOLOSA HUNT SYNDROME: CASE REPORT** - [Jesus Gimeno Hernandez, MD, PhD](#), Ricardo Ginestal Lopez, MD, PhD, Marta Vanesa Garcia Yepes, MD, Alberto Francisco Gomez Esteban, MD, Pablo Perez Alonso, MD, Ana Sanchez Prieto, MD, Rosario Garcia Monescillo, MD, Maria Cruz Iglesias Moreno, MD, PhD; Hospital Clinico San Carlos

**P109: PSEUDOMONAL OSTEOMYELITIS OF THE ANTERIOR SKULL BASE: CASE REPORT AND REVIEW OF THE LITERATURE** - Daniel Zhu<sup>1</sup>, [Amanda Wong](#)<sup>1</sup>, Daniel Russo<sup>1</sup>, Tristan Tham<sup>2</sup>, Aron Pollack<sup>2</sup>; <sup>1</sup>Donald and Barbara Zucker School of Medicine at Hofstra/Northwell, <sup>2</sup>New York Head and Neck Institute

**P110: OUTCOMES OF EARLY FUNCTIONAL ENDOSCOPIC SINUS SURGERY FOR ORBITAL COMPLICATIONS OF ACUTE RHINOSINUSITIS** - Saangyoung E Lee, BS, [Mark W Gelpi, MD](#), William C Brown, MD, Adam M Zanation, MD, Brent A Senior, MD, Charles S Ebert Jr., MD, MPH, Adam J Kimple, MD, PhD, Brian D Thorp, MD; University of North Carolina at Chapel Hill Department of Otolaryngology/Head and Neck Surgery

**P111: PAIN IS TEMPORARY, EBV IS FOREVER: EPSTEIN-BARR VIRUS-ASSOCIATED LYMPHOPROLIFERATIVE DISORDER CAUSING TRIGEMINAL NEUROPATHY** - [Cheyanne Silver, MD](#)<sup>1</sup>, Lucas P Carlstrom, MD, PhD<sup>2</sup>, Christopher S Grafeo, MD<sup>2</sup>, Avital Perry, MD<sup>3</sup>, Michael J Link, MD<sup>2</sup>; <sup>1</sup>Department of Otorhinolaryngology, Mayo Clinic, <sup>2</sup>Department of Neurologic Surgery, Mayo Clinic

**P112: FACT IS STRANGER THAN FICTION: NOCARDIA FARCINICA PITUITARY ABSCESS IN AN IMMUNOCOMPETENT PATIENT** - [Kristen M Scheitler, MD](#), Lucas P Carlstrom, MD, PhD, Avital Perry, MD, Christopher S Grafeo, MD, MS, Fredric B Meyer, MD; Mayo Clinic

**P114: EVALUATING THE CLINICAL, MEDICOLEGAL, AND ECONOMIC IMPACT OF CONTINUOUS TRACKING OF MULTIDISCIPLINARY SKULL BASE CONFERENCE DISEASE AND PATIENT METRICS** - [Perry T Mansfield, MD, FRCSC](#), Hannah G Goldman, BS, Kathryn M Liang, Allison A Nguyen, Riley C Henderson; Senta Clinic

**P115: QUALITATIVE ASSESSMENT OF INTRANASAL PRESSURES DURING INCENTIVE SPIROMETRY** - [Swar Vimawala, BS](#)<sup>1</sup>, Erin Reilly, MD<sup>2</sup>, Colin Huntley, MD<sup>2</sup>, Maurits Boon, MD<sup>2</sup>, Gurston Nyquist, MD<sup>2</sup>, Marc R Rosen<sup>2</sup>, James Evans<sup>3</sup>, Mindy R Rabinowitz, MD<sup>2</sup>; <sup>1</sup>Cooper Medical School of Rowan University, <sup>2</sup>Thomas Jefferson University Hospital - Department of Otolaryngology Head and Neck Surgery, <sup>3</sup>Thomas Jefferson University Hospital - Department of Neurological Surgery

**P116: ANATOMIC CONSIDERATIONS OF MICROVASCULAR FREE TISSUE RECONSTRUCTION OF CLIVAL DEFECTS: EXPANDING THE ALGORITHM FOR SKULL BASE RECONSTRUCTION IN ENDOSCOPIC ENDONASAL SURGERY** - [Leila J Mady, MD, PhD, MPH](#), Thomas M Kaffenberger, MD, Katie L Melder, MD, Paul A Gardner, MD, Carl H Snyderman, MD, Shaum Sri-dharan, MD, Eric W Wang, MD; University of Pittsburgh Medical Center

**P117: PRIMARY DURAL REPAIR USING TITANIUM MICRO-CLIPS FOLLOWING LATERAL SKULL BASE SURGERY** - [Camilie K Milton, BS](#), Panayiotis Pelargos, MD, Ali Palejwala, MD, Griffin Ernst, MD, Rachad Mhawej, MD, Greg A Krempl, MD, Alexander G Bien, MD, Chad A Glenn, MD; University of Oklahoma Health Sciences Center

**P118: VERTICAL VECTOR SURGICAL KNOT IN ENDOSCOPIC ENDONASAL SURGERY AND REPAIR: AN EXONASAL KNOT FOR ENDONASAL APPLICATION** - [Karam Asmaro, MD](#), Jack Rock, MD, John Craig, MD; Henry Ford Health System

**P119: FENESTRATION OF A SYMPTOMATIC INTRASELLAR ARACHNOID CYST THROUGH AN EYELID INCISION** - [Zaid Aljuboori, MD](#), Jeremy Clark, MD, Brian Williams, MD; University of Louisville

**P120: PREVALENCE OF PEDIATRIC ORBITAL ROOF FRACTURES AS A FUNCTION OF ORBITAL DIMENSIONS** - [Stephen C Dryden, MD](#), Adrianna Eder, Andrew G Meador, MD, Mason Schofield, James C Fleming, MD, FACS, Brian T Fowler, MD; University of Tennessee Health Science Center, Hamilton Eye Institute

**P121: SKULL BASE APPROACHES TO CEREBROVASCULAR PATHOLOGIES: SURGICAL STRATEGIES AND OUTCOME ANALYSIS** - [Mohsen Nouri, MD](#), Julia R Schneider, Amrit K Chilulwal, MD, Timothy G White, MD, Amir R Dehdashti; Department of Neurosurgery, North Shore University Hospital, Northwell Health, Manhasset, New York.

**P123: ROLE OF INTRAOPERATIVE MRI IN ENDOSCOPIC ENDONASAL TRANSPHENOIDAL PITUITARY SURGERY** - [Yosef Dastagirzada, MD](#)<sup>1</sup>, Carolina G Benjamin, MD<sup>2</sup>, Julia Bevilacqua, AGACNP-BC, ANPC<sup>1</sup>, Jason Gurewitz, BA<sup>1</sup>, John G Golfinos, MD<sup>1</sup>, Dimitris Placantonakis, MD<sup>1</sup>, Chandra Sen, MD<sup>1</sup>, Jafar Jafar<sup>1</sup>, Girish Fatterpekar, MD<sup>1</sup>, Seth Lieberman, MD<sup>1</sup>, Rich Lebowitz, MD<sup>1</sup>, Donato Pacione, MD<sup>1</sup>; <sup>1</sup>NYU Langone Medical Center, <sup>2</sup>University of Miami

**P124: FRAMELESS STEREOTACTIC PLACEMENT OF BRACHYTHERAPY SEEDS WITHIN A PITUITARY ADENOMA VIA ENDOSCOPIC, ENDONASAL APPROACH: A TECHNICAL NOTE.** - [Aaron R Pliitt, MD](#), Ashleigh Halderman, MD, Robert Timmerman, MD, Samuel L Barnett, MD; UT Southwestern

**P126: ROLE OF THE EXTRADURAL ANTERIOR CLONIDECTOMY TO APPROACH THE PARAOLINOID REGION USING MINIMALLY INVASIVE APPROACHES: AN ANATOMIC STUDY** - [Rafael Martinez-Perez](#), Thiago Albonette-Felicio, Giuliano Silveira-Bertazzo, Marcus Zachariah, Douglas Hardesty, Ricardo Carrau, Daniel Prevedello; Wexner Medical Center, The Ohio State University

**P127: ANATOMIC ASSESSMENT OF THE LIMITS OF AN ENDOSCOPICALLY-ASSISTED RETROLABYRINTHINE APPROACH TO THE INTERNAL AUDITORY CANAL** - Thomas J Muelleman, MD, Anne K Maxwell, MD, Kevin A Peng, MD, Derald E Brackmann, MD, Gregory P Lekovic, MD, PhD, [Gautam U Mehta, MD](#); House Ear Institute

**P128: FROM CHOLESTEATOMA TO SQUAMOUS CELL CARCINOMA: A CASE REPORT** - [Juan Carlos Yanez-Siller](#), Carissa Wentland, DO, Norman S Litofsky, MD, Arnaldo L Rivera, MD; University of Missouri-Columbia

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**P129: THE RETROLABYRINTHINE PRE-SIGMOID APPROACH: AN UNDERUTILIZED APPROACH FOR SAFE RESECTION OF EXPANSIVE CP ANGLE TUMORS** - [Jacob Ruzevick, MD](#), Sam Emerson, MD, PhD, Kate Carroll, MD, Manuel Ferreira, MD, PhD; University of Washington

**P130: ANATOMICAL STEP-BY-STEP DISSECTION OF COMPLEX SKULL BASE APPROACHES FOR TRAINEES: SURGICAL ANATOMY OF THE ANTERIOR PETROSAL APPROACH** - [Laura Salgado-Lopez, MD](#), Christopher S Graffeo, MD<sup>2</sup>, Lucas P Carlstrom, MD, PhD<sup>2</sup>, Avital Perry, MD<sup>2</sup>, Carlos D Pinheiro-Neto, MD, PhD<sup>3</sup>, Collin L W Driscoll, MD<sup>4</sup>, Michael J Link, MD<sup>2</sup>, Maria Peris-Celda, MD, PhD<sup>1</sup>; <sup>1</sup>Department of Neurosurgery, Albany Medical Center, Albany, NY, <sup>2</sup>Department of Neurologic Surgery, Mayo Clinic, Rochester, MN, <sup>3</sup>Division of Otolaryngology and Head and Neck Surgery, Department of Surgery, Albany Medical Center, Albany, NY, <sup>4</sup>Department of Otolaryngology, Mayo Clinic, Rochester, MN

**P131: OBJECTIVE QUANTIFICATION OF HEARING LOSS IN PATIENTS WITH SUPERIOR SEMICIRCULAR CANAL DEHISCENCE** - Quinton Gopen, MD, Dillon Dejam, BS, Shelby Willis, BS, Michelle Hong, BS, Courtney Duong, BS, Meachelle Lum, Leslie Hwang, Taranjit Kaur, Tyler Miao, Michael Johannis, Alexis French, Isaac Yang, MD; University of California, Los Angeles

**P132: THE ASTERION TO TRANSVERSE PROCESS OF THE ATLAS LINE AS A SURGICAL LANDMARK: ANATOMICAL AND RADIOLOGICAL STUDY** - Jaafar Basma<sup>1</sup>, Dom E Mahoney<sup>2</sup>, Christos Anagnostopoulos<sup>3</sup>, [L. Madison Michael](#)<sup>1</sup>, Jeffrey M Sorenson<sup>1</sup>, Nickalus R Khan<sup>1</sup>, Sanjeet Rangarajan<sup>4</sup>, Angelo Pichieri<sup>3</sup>; <sup>1</sup>Department of Neurosurgery, University of Tennessee Health Science Center, Memphis, Tennessee, <sup>2</sup>Faculty of Health Sciences, University of Bristol, Bristol, United Kingdom, <sup>3</sup>Department of Neurosurgery, North Bristol Trust, Bristol, United Kingdom, <sup>4</sup>Department of Otolaryngology, University of Tennessee Health Science Center, Memphis, Tennessee

**P133: GLIOBLASTOMA IN THE CEREBELLOPONTINE ANGLE IN A PATIENT WITH NEUROFIBROMATOSIS TYPE I: A CASE REPORT AND REVIEW OF THE LITERATURE** - Mohammad K Shukairy, BS<sup>1</sup>, [Andrea Ziegler, MD](#)<sup>2</sup>, Douglas Anderson, MD<sup>2</sup>, John Leonetti, MD<sup>2</sup>; <sup>1</sup>Wayne State University School of Medicine, <sup>2</sup>Loyola University Medical Center

**P134: ANTIBIOTIC USE IN LATERAL SKULL BASE SURGERY: A SURVEY OF THE NORTH AMERICAN SKULL BASE SOCIETY** - [K L Li](#)<sup>1</sup>, C H Fang<sup>1</sup>, V S Hawn<sup>1</sup>, V Agarwal<sup>2</sup>, V R Kshetry<sup>3</sup>, E Bellile<sup>4</sup>, N A Akbar<sup>1</sup>, E L McKean<sup>5</sup>, W M Abuzeid<sup>1</sup>, H S Moskowitz<sup>2</sup>; <sup>1</sup>Department of Otorhinolaryngology-Head and Neck Surgery, Albert Einstein College of Medicine, Bronx, NY, <sup>2</sup>Department of Neurosurgery, Albert Einstein College of Medicine, Bronx, NY, <sup>3</sup>Department of Neurosurgery, Cleveland Clinic, Cleveland, OH, <sup>4</sup>Department of Biostatistics, University of Michigan, Ann Arbor, MI, <sup>5</sup>Department of Otolaryngology-Head and Neck Surgery, University of Michigan, Ann Arbor, MI

**P135: ADVANCED CUTANEOUS SQUAMOUS CELL CARCINOMA EXTENDING TO THE TEMPORAL BONE** - Michael Schachtel<sup>1</sup>, [Ben Panizza](#)<sup>1</sup>, Arturo Solares<sup>2</sup>, Mitesh Gandhi<sup>1</sup>, Mark Midwinter<sup>3</sup>, James Bowman<sup>1</sup>; <sup>1</sup>Princess Alexandra Hospital, Brisbane, <sup>2</sup>Emory University Hospital, Atlanta, <sup>3</sup>University of Queensland, Brisbane

**P136: PERINEURAL SPREAD OF THE FACIAL NERVE FROM CUTANEOUS SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK - EPIDEMIOLOGY AND SURVIVAL OUTCOMES** - Michael Schachtel, [Ben Panizza](#), James Bowman, Mitesh Gandhi; Princess Alexandra Hospital, Brisbane

**P137: HEMATOLOGIC MALIGNANCIES AFFECTING THE SKULL BASE: TWO UNIQUE CASES AND A LITERATURE REVIEW** - [Eric Barbarite, MD](#), Shekhar K Gadkaree, MD, Anuraag S Parikh, MD, Kevin S Emerick, MD, Derrick T Lin, MD, Stacey T Gray, MD; Massachusetts Eye and Ear Infirmary

**P139: POPULATION-BASED DATABASE SURVIVAL ANALYSES OF INTRACRANIAL MENINGIOMAS.** - [Zaid Aljuboori, MD](#), Ahmad Alhourani, MD, Alexandra Schaber, APRN, Shiao Woo, MD, Eyas Hattab, MD, Mehran Yusuf, MD, Megan Nelson, MD, Norberto Andaluz, MD, Dale Ding, MD, Brian Williams, MD; University of Louisville

**P141: CHROMOSOME INSTABILITY AND TRANSCRIPTOMIC SUBPOPULATIONS UNDERLIE INTRATUMOR HETEROGENEITY IN MENINGIOMA** - [Stephen T Magill, MD, PhD](#), Harish N Vasudevan, MD, PhD, Kyounghee Seo, S. John Liu, PhD, Stephanie Hilz, PhD, Javier E Villanueva-Meyer, MD, Abrar Choudhury, Benjamin Demare, Steve E Braunstein, MD, Nancy Ann Oberheim Bush, MD, PhD, Manish K Aghi, MD, PhD, Philip V Theodosopoulos, MD, Penny K Sneed, MD, Adam R Abate, PhD, Mitchel S Berger, MD, Michael W McDermott, MD, Daniel A Lim, MD, PhD, Erik M Ullian, PhD, Joseph F Costello, PhD, David R Raleigh, MD, PhD; University of California, San Francisco

**P142: MIDDLE FOSSA MENINGIOMA PRESENTING WITH EXTERNAL AUDITORY CANAL MASS, CONDUCTIVE HEARING LOSS, AND FACIAL WEAKNESS** - [Joseph Lockwood, MD](#), Kendra Harris, MD, Rizwan Aslam, DO, Peter Amenta, MD, Neal Jackson, MD; Tulane Medical Center

**P144: ENDOSCOPIC ENDONASAL TREATMENT OF FRONTAL SINUS MENINGOENCEPHALOCELE** - [Jesus Gimeno Hernandez, MD, PhD](#), Carla Fernandez Garcia, MD, Melchor Saiz Pardo-sanz, MD, Manuel Gomez Serrano, MD, PhD, Ivan Muerte Moreno, MD, Jose Roan Roan, MD, Eduardo Castillo Serrano, MD, PhD, Andrea Lopez Salcedo, MD, PhD; Hospital Clinico San Carlos

**P145: MANAGEMENT OF CHOLESTEATOMA AND TEGMEN DEHISCENCE: COMPLEXITIES AND NUANCE** - [Isaac D Erbele, MD](#)<sup>1</sup>, Gauri Mankekar, MD, PhD<sup>2</sup>, Moises A Arriaga, MD<sup>1</sup>; <sup>1</sup>Louisiana State University Health Sciences Center, <sup>2</sup>Louisiana State University Health Sciences Center Shreveport

**P146: ENDOSCOPIC MICROVASCULAR DECOMPRESSION FOR CARDIAC SYNCOPE/ARRHYTHMIA □ VASOGLOSSOPHARYNGEAL NEURALGIA** - [Rachel Blue, MD](#)<sup>1</sup>, Michael F Spadola, MD<sup>1</sup>, Michael McAree, BS<sup>2</sup>, John YK Lee, MD<sup>1</sup>; <sup>1</sup>University of Pennsylvania, <sup>2</sup>Rowan School of Medicine

**P147: TEFLON □ OR IVALON®: A SCOPING REVIEW OF IMPLANTS USED IN MICROVASCULAR DECOMPRESSION FOR TRIGEMINAL NEURALGIA** - Elliot Pressman, BS, BA<sup>1</sup>, R. Tushar Jha, MD<sup>1</sup>, Gleb Zavadskiy, MS<sup>2</sup>, Jay I Kumar, MD, MBA<sup>1</sup>, [Ivo Peto, MD](#)<sup>1</sup>, Harry van Loveren, MD<sup>1</sup>, Jamie J van Gompel, MD<sup>3</sup>, Siviero Agazzi, MD<sup>1</sup>; <sup>1</sup>Department of Neurosurgery and Brain Repair, University of South Florida, Tampa, FL, USA, <sup>2</sup>Muma College of Business, University of South Florida, Tampa, FL, <sup>3</sup>Department of Neurosurgery, Mayo Clinic, Rochester, MN

**P148: MICRO-RNA MUTATIONS ACROSS MULTIPLE RESECTIONS OF A GIANT NONFUNCTIONAL PITUITARY ADENOMA** - Abhijeet Gummadavelli, MD, Lily McCarthy, Zeynep Erson, PhD, Eugenia Vining, MD, Murat Gunel, MD, [S. Bulent Omay, MD](#); Yale University SOM

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**P149: A CASE OF THE USE OF GENOMIC SIGNATURES IN THE DIAGNOSIS OF CUSHING DISEASE(CD)** - Keerti Murari, MD, Mona Gossman, MD, Amit Mahajan, MD, Zeynep Erson, PhD, Silvio Inzucchi, MD, [S. Bulent Omay, MD](#); Yale University SOM

**P150: RETRIEVAL OF AN INTRACRANIALY MIGRATED DENTAL INJECTION NEEDLE THROUGH THE FORAMEN OVALE USING AN EXTRA-DURAL APPROACH** - Salah Aoun, Tarek El Ahmadieh, MD, Vin Shen Ban, MD, Hunt Batjer, MD, [Sam Barnett, MD](#); The University of Texas Southwestern

**P151: THE PERFORATOR BONE CHIP AS A CONVENIENT AND EFFECTIVE AUTOLOGOUS BONE GRAFT FOR MIDDLE FOSSA ENCEPHALOCELE REPAIR: A TECHNICAL REPORT** - [Timothy A Webb](#)<sup>1</sup>, Weston Northam<sup>2</sup>, Matthew Dedmon<sup>2</sup>, Nofrat Schwartz<sup>2</sup>, Deanna Sasaki-Adams<sup>2</sup>; <sup>1</sup>Virginia Commonwealth University, <sup>2</sup>University of North Carolina

**P152: THE VALUE OF 68GA-DOTATATE PET/CT IN SINONASAL NEUROENDOCRINE CARCINOMA MANAGEMENT AND DETECTION OF LOCAL AND DISTANT METASTASES: CASE STUDY AND REVIEW OF LITERATURE** - [Katherine Liu](#), Sen Ninan, David Goldrich, Andrey Filimonov, MD, Joshua Zeiger, MD, Satish Govindaraj, MD, Alfred Marc Illoreta, MD; Mount Sinai

**P153: USE OF ADVANCED DIGITAL TECHNOLOGY TO ENHANCE SUB-TOTAL SCHWANNOMA RESECTION** - [Holly E Oemke](#), Leslie Schlachter, Joshua Bederson; Mount Sinai Hospital

**P156: ENDONASAL RESECTION OF THE CARTILAGINOUS EUSTACHIAN TUBE WITH NASOSEPTAL FLAP CLOSURE FOR REFRACTORY CSF FISTULA FOLLOWING PREVIOUS MASTOID AND MIDDLE EAR OBLITERATION.** - [Stephen Hernandez, MD](#), Vilija Vaitaitis, MD, Kevin McLaughlin, MD, Daniel Nuss, MD; Louisiana State University Health Sciences Center

**P157: COMPOSITE REVERSE SEPTAL FLAP FOLLOWING SUBTOTAL SEPTECTOMY: A NOVEL TECHNIQUE FOR RE-ESTABLISHING TIP SUPPORT FOLLOWING ONCOLOGIC RESECTION** - [Stephen Hernandez, MD](#)<sup>1</sup>, Griffin Santarelli, MD<sup>2</sup>, Adam Kimple, MD<sup>2</sup>, Charles Ebert, MD<sup>2</sup>, Brian Thorp, MD<sup>2</sup>, Adam Zanation, MD<sup>2</sup>; <sup>1</sup>LSU Health Sciences Center, <sup>2</sup>University of North Carolina - Chapel Hill

**P158: TRIPPLICITY - THREEFOLD OF SKULL BASE TUMOR □ ATYPIC MENINGIOMA SPHENOIDAL WING LEFT, LOW GRADE OLFATORY NEUROBLASTOMA OF SPHENOIDAL SINUSES, NERURINOMA N VIII. SIN. □ VERY RARE CASE REPORT** - [Jan Hemza, MD, PhD, MPA](#); Dpt. of Neurosurgery Faculty Hospital at Saint Ann

**P159: RISK FACTORS IMPACTING OPERATIVE MORTALITY AND OVERALL SURVIVAL IN ADULTS TREATED FOR SKULL BASE CHORDOMA AND CHONDROSARCOMA** - [Adam L Holtzman, MD](#)<sup>1</sup>, James E Bates, MD<sup>1</sup>, Christopher G Morris, MS<sup>1</sup>, Michael S Rutenberg, MD, PhD<sup>1</sup>, Ronny L Rotondo, MD<sup>1</sup>, Daniel J Indelicato, MD<sup>1</sup>, Daryoush Tavanaiepour, MD<sup>2</sup>, William M Mendenhall, MD<sup>1</sup>; <sup>1</sup>Department of Radiation Oncology, University of Florida College of Medicine, Jacksonville, FL, <sup>2</sup>Department of Neurosurgery, University of Florida College of Medicine, Jacksonville, FL

**P160: OSTEOPLASTIC FLAP WITHOUT OBLITERATION FOR MASSIVE FRONTO-ORBITAL FIBROUS DYSPLASIA: A NOVEL SURGICAL APPROACH, CASE REPORT, AND LITERATURE REVIEW** - [Zachary D Urdang](#)<sup>1</sup>, Sallie Long, MD<sup>2</sup>, Marc Otten, MD<sup>3</sup>, David Gudis, MD<sup>3</sup>; <sup>1</sup>OHSU, <sup>2</sup>Cornell/Columbia, <sup>3</sup>Columbia

**P161: BENIGN GRANULAR CELL TUMOR MASQUERADING AS THYROID EYE DISEASE** - [Ryan Laroche, MD](#)<sup>1</sup>, Tadhg Schempf, MD<sup>2</sup>, Peter Hwang, MD<sup>3</sup>, Benjamin Erickson, MD<sup>3</sup>; <sup>1</sup>University of Colorado, <sup>2</sup>University of Pittsburgh, <sup>3</sup>Stanford University

**P162: UNUSUAL POSTOPERATIVE OUTCOMES OF VAGAL NERVE LESIONS □ A CASE SERIES** - [Mackenzie O'Connor, BS](#), Kira Murphy, MD, Chandala Chitguppi, MD, Joseph Curry, MD, Adam Luginbuhl, MD; Thomas Jefferson University

**P163: FACIAL NERVE SCHWANNOMA COMPLICATED BY ACUTE HEMORRHAGE POST TREATMENT WITH STEREOTACTIC RADIOSURGERY** - [Mohammad Hassan A Noureldine, MD, MSc](#)<sup>1</sup>, R. Tushar Jha, MD<sup>2</sup>, Ivo Peto, MD<sup>3</sup>, Patrick Malafronte, MD<sup>4</sup>, Kyle Allen, MD<sup>3</sup>, Siviero Agazzi, MD, MBA, FACS<sup>3</sup>; <sup>1</sup>Johns Hopkins University School of Medicine, <sup>2</sup>Boston University School of Medicine and Boston Medical Center, <sup>3</sup>University of South Florida Morsani College of Medicine, <sup>4</sup>Ruffolo, Hooper & Associates, M.D., P.A.

**P164: SKULL BASE NODULAR FASCIITIS IN AND ADOLESCENT MALE** - [Conor M Devine, MD](#), Mark D Rizzi, MD, Tricia Bhatti, MD; Children's Hospital of Philadelphia

**P165: REMOVAL OF INTRACRANIAL K-WIRE THROUGH COMBINED ENDOSCOPIC AND PTERIONAL APPROACH** - [Reginald Fong, MD](#), Christoph Griessenauer, MD, Andrew Conger, MD; Geisinger

**P166: APPLICABILITY OF EEA IN AN 2 MONTH OLD INFANT WITH NASAL CHONDROMESENCHYMAL HAMARTOMA** - [Gustavo G Rangel](#), Erin Hamersley, Annie Drapeau, Selene Koo, Patrick Walz; Nationwide Childrens Hospital - OSU

**P167: NOVEL PINEAL GERMINOMA MODEL DEMONSTRATES SENSITIVITY TO MTOR INHIBITION** - [Dominique Higgins, MD, PhD](#)<sup>1</sup>, Pavan S Upadhyayula, BA<sup>1</sup>, Alexander A Sosunov, MD, PhD<sup>1</sup>, George J Zanazzi, MD, PhD<sup>2</sup>, Aayushi Mahajan, MS<sup>1</sup>, Nelson Humala, BA<sup>1</sup>, Stergios Zacharoulis, MD<sup>1</sup>, Peter Canoll, MD, PhD<sup>1</sup>, Guy M McKhann II, MD<sup>1</sup>, Neil A Feldstein, MD<sup>1</sup>, Jeffrey N Bruce, MD<sup>1</sup>; <sup>1</sup>Columbia University Medical Center, <sup>2</sup>Dartmouth-Hitchcock Medical Center

**P168: PITUITARY MACROADENOMA PRESENTING WITH COMPLETE NASAL OBSTRUCTION: A CASE REPORT AND LITERATURE REVIEW** - [Mitchell McDonough, BSc](#)<sup>1</sup>, Andre A Le Roux, MBBS<sup>2</sup>, Christopher J Chin<sup>2</sup>; <sup>1</sup>Dalhousie Medicine New Brunswick, <sup>2</sup>Dalhousie University

**P169: EXPANDED ENDOSCOPIC ENDONASAL TRANS-TUBERCULUM TRANSPLANUM RESECTION OF A GIANT THYROID-STIMULATING HORMONE PRODUCING MACROADENOMA: A CASE REPORT** - [Dante L Pezzutti, BS](#), Daniel M Prevedello, MD; The Ohio State University College of Medicine

**P170: CASE REPORT OF INTERNAL CAROTID ARTERY ANEURYSM AND PITUITARY ADENOMA: CAUSAL OR BY CHANCE RELATIONSHIP?** - [Mostafa Shahein](#)<sup>1,2</sup>, Douglas A Hardesty, MD<sup>1</sup>, Ricardo L Carrau<sup>3</sup>, Bradley A Otto<sup>3</sup>, Daniel M Prevedello<sup>1</sup>; <sup>1</sup>Department of Neurological Surgery, The Ohio State University, Wexner Medical Center, Columbus, Ohio, <sup>2</sup>Department of Neurosurgery, Aswan University, <sup>3</sup>Department of Otolaryngology □ Head and Neck Surgery, The Ohio State University, Wexner Medical Center Columbus, Ohio

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**P171: CYCLIC CUSHING'S DISEASE IN MIXED GANGLIOCYTOMA-PITUITARY ADENOMA TUMOR: CASE REPORT** - [Yury Anania, MD<sup>1</sup>](#), Venteicher S Andrew, MD, PhD<sup>2</sup>, Pearce M Thomas, MD, PhD<sup>3</sup>, Gardner A Paul, MD<sup>4</sup>; <sup>1</sup>Center for Cranial Base Surgery, University of Pittsburgh, <sup>2</sup>Department of Neurosurgery, University of Minnesota, <sup>3</sup>Department of Pathology, University of Pittsburgh, <sup>4</sup>Department of Neurosurgery, University of Pittsburgh Medical Center

**P172: PITUITARY STALK GANGLIOGLIOMAS** - [Oluwaseun Omofoye, MD, MS](#), Griffith Harsh, MD; UC Davis

**P174: THE EFFECTIVENESS OF ENDOSCOPIC ENDONASAL SURGERY FOR PITUITARY ADENOMAS: CLINICAL OUTCOMES AND POSTOPERATIVE COMPLICATIONS AT A SINGLE INSTITUTION** - [Edinson Najera, MD<sup>1</sup>](#), Eugenio Cardenas, MD, PhD<sup>1</sup>, Ariel Kaen, MD, PhD<sup>1</sup>, Pablo Remon, MD<sup>2</sup>, Ignacio Martin Schrader, MD<sup>1</sup>, Alfonso Soto, MD<sup>2</sup>; <sup>1</sup>Departments of Neurological Surgery, Hospital Universitario Virgen del Rocío, Sevilla, Spain, <sup>2</sup>Department of Endocrinology and Nutrition, Hospital Universitario Virgen del Rocío, Sevilla, Spain

**P175: PITUITARY HYPERPLASIA CAUSING COMPLETE BITEMPORAL HEMIANOPSIA WITH RESOLUTION FOLLOWING SURGICAL DECOMPRESSION: CASE REPORT** - [Nataly Raviv](#), Tyler J Kenning, Carlos D Pinheiro-Neto, Maria Peris-Celda; Albany Medical Center

**P176: TUMOR CONSISTENCY AS A PREDICTOR OF SUCCESSFUL PSEUDOCAPSULAR DISSECTION OF PITUITARY ADENOMAS** - [Giyarpuram N Prashant, MD](#), Won Kim, MD, Marilene Wang, MD, Marvin Bergsneider, MD; UCLA

**P177: COMPLETELY RESECTED PITUITARY MACROADENOMAS HAVE A LOW RISK OF LONG-TERM RADIOGRAPHIC PROGRESSION** - [Jennifer A Kosty, MD<sup>1</sup>](#), Yair M Gozal, MDPH<sup>2</sup>, Mario Zuccarello, MD<sup>3</sup>, Norberto O Andaluz, MD<sup>4</sup>, Lee A Zimmer, MD, PhD<sup>5</sup>, Bharat Guthikonda, MD<sup>1</sup>; <sup>1</sup>Louisiana State University HSC Shreveport, <sup>2</sup>Mayfield Clinic, <sup>3</sup>University of Cincinnati, <sup>4</sup>University of Louisville, <sup>5</sup>Mercy Health

**P178: ENDOSCOPIC ETHMOIDO-PTERYGOIDO-SPHENOIDAL APPROACH TO THE CAVERNOUS SINUS IN RECURRENT INVASIVE PITUITARY ADENOMA** - [Rafael Martinez-Perez](#), Giuliano Silveira-Bertazzo, Bradley A Otto, Ricardo L Carrau, Daniel Prevedello; Wexner Medical Center, The Ohio State University

**P179: POST-OPERATIVE CARE COORDINATION FOR ACOUSTIC NEUROMA PATIENTS: IMPROVING PATIENT SATISFACTION** - [Allie Mains, NP](#), Mario Zuccarello, MD, Ravi Samy, MD, Scott Shapiro, MD; University of Cincinnati

**P180: UTILITY OF POST-OPERATIVE NASAL STEROID IRRIGATIONS IN SINONASAL TUMOR PATIENTS** - Theodore C Lin, BS<sup>1</sup>, Cameron P Heyd, BS<sup>2</sup>, Sylvia Horne, BS<sup>3</sup>, [Auddie M Sweis, MD<sup>1</sup>](#), Tran B Locke, MD<sup>1</sup>, Heather Ungerer, BS<sup>1</sup>, George Gardner, BS<sup>1</sup>, James N Palmer, MD<sup>1</sup>, Nithin D Adappa, MD<sup>1</sup>; <sup>1</sup>Department of Otorhinolaryngology - Head and Neck Surgery, University of Pennsylvania, Philadelphia, PA, <sup>2</sup>Lake Erie College of Osteopathic Medicine, Bradenton, FL, <sup>3</sup>State University of New York Downstate Medical Center, Brooklyn, NY

**P181: IMPROVED SINONASAL QUALITY OF LIFE OUTCOMES FOLLOWING ENDOSCOPIC ENDONASAL REPAIR OF SPONTANEOUS CEREBROSPINAL FLUID LEAKS** - [Feras Y Ackall, MD](#), Lyndon Chan, MBBS, Hons, Kevin Choi, MD, Jordan Teitelbaum, DO, Patrick Codd, MD, Ali Zomorodi, MD, Ralph Abi Hachem, MD, MSc, David W Jang, MD; Duke University Medical Center

**P182: HAVE INFLUENCE OF POSTSURGERY QUALITY OF LIFE CHOICE OF SURGERY APPROACH?** - [Jan Hemza, MD, PhD, PhD, MPA](#); Dpt. of Neurosurgery Faculty Hospital at Saint Ann

**P183: SINONASAL MORBIDITY FOLLOWING CHEMORADIATION IN NASOPHARYNGEAL CARCINOMA PATIENTS** - [Matthew Stewart, BS<sup>1</sup>](#), Chandala Chitguppi, MD<sup>1</sup>, Kira Murphy, MD<sup>1</sup>, Tawfiq Koury, MD<sup>1</sup>, Mackenzie O'Connor, BS<sup>1</sup>, James J Evans, MD<sup>2</sup>, Mindy Rabinowitz, MD<sup>1</sup>, Marc Rosen, MD<sup>1</sup>, Gurston G Nyquist, MD<sup>1</sup>; <sup>1</sup>Department of Otolaryngology & Head and Neck Surgery, Thomas Jefferson University Hospital, <sup>2</sup>Department of Neurological Surgery & Thomas Jefferson University Hospital

**P184: REPEAT GAMMA-KNIFE RADIOSURGERY FOR RECURRENT GLOSSOPHARYNGEAL NEURALGIA: CASE REPORT AND LITERATURE REVIEW** - Joel Kaye, BS<sup>1</sup>, [Lekhaj C Daggubati, MD<sup>2</sup>](#), James McInerney, MD<sup>2</sup>; <sup>1</sup>Robert Wood Johnson Medical School, <sup>2</sup>Penn State Hershey Medical Center

**P185: A CURE FOR PAINS? A NOVEL APPROACH TO MANAGEMENT OF PROTON-ASSOCIATED INTERNAL NASAL STENOSIS (PAINS)** - [Stephanie Flukes, MD](#), Matthew Bott, MD, Martin Hanson, MD, Marc A Cohen, MD; Department of Surgery, Memorial Sloan Kettering Cancer Center

**P186: SINONASAL ADENOCARCINOMA WITH ENDOCRINE DIFFERENTIATION: CASE REPORT AND REVIEW OF LITERATURE.** - Khalil Issa, MD<sup>1</sup>, John Madden, MD, PhD<sup>2</sup>, David Jang, MD<sup>1</sup>, AR Zomorodi, MD<sup>3</sup>, [Ralph Abi Hachem, MD<sup>1</sup>](#); <sup>1</sup>Department of Head and Neck Surgery & Communication Sciences, Duke University Medical Center, Durham, NC, USA, <sup>2</sup>Department of Pathology, Duke University Medical Center, Durham, NC, USA, <sup>3</sup>Division of Neurosurgery, Duke University Medical Center, Durham, North Carolina, USA

**P187: MEDICALLY REFRACTORY CUSHING'S SYNDROME AS A PARANEOPLASTIC MANIFESTATION OF ESTHESIONEUROBLASTOMA** - [Jordan A Malenke, MD](#), Justin Morse, MD, Lola Chambless, MD, Justin Turner, MD, PhD; Vanderbilt University Medical Center

**P188: AGGRESSIVE NEURO-CRANIAL JUVENILE PSAMMOMATOID OSSIFYING FIBROMA** - [Cheyanne M Silver, MD<sup>1</sup>](#), Lucas P Carlstrom, MD, PhD<sup>2</sup>, Christopher S Graffeo, MD<sup>2</sup>, Avital Perry, MD<sup>2</sup>, Garret W Choby, MD<sup>1</sup>, Michael J Link, MD<sup>2</sup>; <sup>1</sup>Department of Otorhinolaryngology, Mayo Clinic, <sup>2</sup>Department of Neurologic Surgery, Mayo Clinic

**P189: AGGRESSIVE JUVENILE ANGIOFIBROMAS** - [Steven A Newman, MD](#), Spencer Payne, MD, Jose Mattos, MD; University of Virginia

**P190: NON-NEOPLASTIC ETIOLOGIES OF EROSION DISEASE OF THE FRONTAL AND ETHMOID SINUSES.** - Jose L Mattos, MD, [Steven A Newman, MD](#), Mark J Jameson, MD; University of Virginia

**P191: NASAL OBSTRUCTION IN A PATIENT WITH SCHWANNOMATOSIS** - Thomas Yusin, BS<sup>1</sup>, Cinthia Orlov, MD<sup>2</sup>, Debraj Mukherjee, MD, MPH<sup>2</sup>, [Nicholas R Rowan, MD<sup>2</sup>](#); <sup>1</sup>Tulane University School of Medicine, <sup>2</sup>Johns Hopkins Medical Institute

**P192: SINONASAL UNDIFFERENTIATED CARCINOMA (SNUC) FOLLOWING RADIATION FOR ESTHESIONEUROBLASTOMA** - [Kristen M Scheitler, MD](#), Salomon Cohen Cohen, MD, Jeffrey Janus, MD, Garret Choby, MD, Jamie J Van Gompel, MD; Mayo Clinic

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**P193: PRIMARY NEUROENDOCRINE TUMOR OF THE SPHENOID SINUS: THREE CASE REPORTS** - [Idoya Zazpe](#), Daniel De Frutos, Carlos Beaumont, Coro Zubimendi, Juan Carlos Garcia, Onditz Arechaga; Hospital Of Navarra

**P194: OUTCOMES OF AGGRESSIVE SURGICAL RESECTION OF SINONASAL INVERTED PAPILLOMA WITH REMOVAL OF BONE AT THE ATTACHMENT SITE.** - [Yufan Lin](#), Carlos D Pinheiro-Neto, MD, PhD; Albany Medical Center

**P195: ECTOPIC OLFACTORY NEUROBLASTOMA: A CASE REPORT** - [Gregory D Disse](#)<sup>1</sup>, Matthew Bobinski, MD, PhD<sup>2</sup>, Mirna Lechpammer, MD, PhD<sup>3</sup>, Toby O Steele, MD<sup>4</sup>, Kiarash Shahlaie, MD, PhD<sup>1</sup>; <sup>1</sup>Department of Neurological Surgery, University of California, Davis, <sup>2</sup>Department of Radiology, University of California, Davis, <sup>3</sup>Department of Pathology, University of California, Davis, <sup>4</sup>Department of Otolaryngology, University of California, Davis

**P196: BIPHENOTYPIC SINONASAL SARCOMA A NEWLY RECOGNIZED SINONASAL NEOPLASM: CASE REPORT AND REVIEW OF THE LITERATURE** - [Somtochi Okafor, BA](#), Ashleigh Halderman, MD, Justin Bishop, MD, Matthew Ryan, MD, Bradley Marple, MD; University of Texas Southwestern Medical Center

**P197: ANTERIOR CRANIAL BASE MENINGEAL HEMANGIOPERICYTOMA** - [Jesus Gimeno Hernandez, MD, PhD](#), Juan Manuel Revuelta Barbero, MD, Carla Fernandez Garcia, MD, Andres Camilo Vargas Jimenez, MD, Manuel Gomez Serrano, MD, PhD, Pablo Sarrio Solera, MD, PhD, Diana Hernandez Hidalgo, MD, Melchor Saiz Pardo-sanz, MD, Maria Cruz Iglesias Moreno, MD, PhD; Hospital Clinico San Carlos

**P198: SMARCB1-DEFICIENT SINONASAL CARCINOMA: A CASE REPORT AND SYSTEMATIC REVIEW** - [Sean M Parsel, DO](#)<sup>1</sup>, Basit A Jawad, MD<sup>1</sup>, Edward D McCoul, MD, MPH<sup>2</sup>; <sup>1</sup>Tulane University, <sup>2</sup>Ochsner Clinic Foundation

**P199: MANAGEMENT OF ETHMOID BIPHENOTYPIC SARCOMA - A RARE SKULL BASE MALIGNANCY** - [Justin C Morse, MD](#), Jordan Malenke, MD, Jacob Snyder, Eric Succar, MD, Mitra Mehad, MD, Rakesh Chandra, MD, MMHC; Vanderbilt University Medical Center

**P200: COMBINED SYNTHETIC AND NON-AUTOLOGOUS GASKET SEAL FOR SKULL BASE REPAIR AFTER ENDOSCOPIC TRANSPHENOIDAL SURGERIES** - [Justin C Morse, MD](#), Jordan Malenke, MD, Shanik Fernando, MD, Chris Puchi, BS, Rakesh Chandra, MD, MMHC, Naweed Chowdhury, MD, Lola Chambless, MD, Justin Turner, MD, PhD; Vanderbilt University Medical Center

**P202: COMPARATIVE ANALYSIS OF AUTOGRAFT AND XENOGRAFT BASED MULTILAYER LATERAL SKULL BASE RECONSTRUCTION FOR ENCEPHALOCELE AND CSF LEAKS.** - [Nau-man F Manzoor, MD](#)<sup>1</sup>, Douglas J Totten, BA<sup>2</sup>, Kristen Yancey, MD<sup>1</sup>, Alexander D Sherry, BS<sup>2</sup>, Marc L Bennett, MD<sup>1</sup>, David S Haynes, MD<sup>1</sup>, Alejandro Rivas, MD<sup>1</sup>; <sup>1</sup>Department of Otolaryngology, Vanderbilt University Medical Center, <sup>2</sup>Vanderbilt University School of Medicine

**P203: MIDDLE FOSSA ENCEPHALOCELES TREATED VIA THE TRANSMASTOID APPROACH** - Tyler Scullen, MD<sup>1</sup>, Peter S Amenta, MD<sup>1</sup>, Zane Freeman, DO<sup>2</sup>, Mansour Mathkour, MD<sup>1</sup>, [Joseph Lockwood](#)<sup>1</sup>, Neal Jackson, MD<sup>2</sup>; <sup>1</sup>Tulane University Department of Neurosurgery, <sup>2</sup>Tulane University Department of Otolaryngology

**P204: SELLAR TROUGH TRAP DOOR TRANS-CLIVAL RECONSTRUCTION** - [Andrew K Wong, MD](#)<sup>1</sup>, Joseph Raviv, MD<sup>2</sup>, Ricky H Wong, MD<sup>2</sup>; <sup>1</sup>Rush University, <sup>2</sup>Northshore University HealthSystem

**P205: UTILIZING THE TRANSPTERYGOID/PARAPHARYNGEAL CORRIDOR FOR FREE FLAP RECONSTRUCTION OF CRANIO-ORBITAL DEFECTS: A CASE SERIES** - [Ricardo J Ramirez, MD](#), Jake J Lee, MD, Patrik Pipkorn, MD, MSCI; Washington University in St. Louis

**P206: THE USE OF COMPOSITE CARTILAGOMUCOSAL NASOSEPTAL FLAP FOR SKULL BASE RECONSTRUCTION AFTER RESECTION OF A SUPRASellar MASS** - [Kent V Curran](#)<sup>1</sup>, Tyler J Kenning, MD<sup>2</sup>, Maria Peris-Celda, MD, PhD<sup>2</sup>, Carlos Pinheiro-Neto, MD, PhD<sup>3</sup>; <sup>1</sup>Albany Medical College, <sup>2</sup>Department of Neurosurgery, Albany Medical Center, Albany, New York, <sup>3</sup>Division of Otolaryngology/Head and Neck Surgery, Department of Surgery, Albany Medical Center, Albany, New York

**P208: ANTERIOR SKULL BASE RECONSTRUCTION USING NASOSEPTAL FLAP: CADAVERIC FEASIBILITY STUDY** - [Ju Hyung Moon, MD](#)<sup>1</sup>, Kyoung Su Sung, MD<sup>2</sup>, Jaejoon Lim, MD<sup>3</sup>, Chang Ki Hong<sup>4</sup>; <sup>1</sup>Severance Hospital, Yonsei University, <sup>2</sup>Dong-A University Hospital, <sup>3</sup>Bundang CHA Medical Center, <sup>4</sup>Gangnam Severance Hospital, Yonsei University

**P209: SINONASAL MORBIDITY FOLLOWING A REGENERATED OXIDIZED CELLULOSE ONLY FOR SELLAR RECONSTRUCTION** - [Mark B Chaskes, MD, MBA](#), Tawfiq Khoury, MD, Pascal Lavergne, MD, Gurston G Nyquist, MD, Mindy R Rabbinowitz, MD, Christopher Farrell, MD, Marc R Rosen, MD, James J Evans, MD; Thomas Jefferson University Hospital

**P210: FAT AS A BIOLOGICAL DRESSING: A NOVEL ADJUNCT TO SKULL BASE RECONSTRUCTION** - John M Byrne IV, BA<sup>1</sup>, Ari Stone, BA<sup>2</sup>, Margaret Tallmadge, BS<sup>1</sup>, Krista Brackman, BS<sup>1</sup>, Bhavani Kura, MD<sup>2</sup>, Juanita Celix, MD, MPH<sup>2</sup>, Amin Kassam, MD, FRCSC<sup>2</sup>, [Sammy Khalili, MD, MSc, FRCSC](#)<sup>2</sup>; <sup>1</sup>Aurora Research Institute, <sup>2</sup>Aurora Neuroscience Innovation Institute

**P211: MANAGEMENT OF PENETRATING ANTERIOR SKULL BASE INJURY FROM TRANS-NASAL FOREIGN BODY** - [Rebecca Limb, BMBS, BMedSci](#), Martin Hunn, MBChB, PhD, FRACS; Alfred Hospital, Melbourne, Australia

**P212: THE USE OF RESORBABLE AND INTEGRATIVE COLLAGEN SPONGES TO OBLITERATE THE INTRASellar SPACE AND ACHIEVE A FATLESS, SPHERICAL DURAL RECONSTRUCTION FOLLOWING TRANSPHENOIDAL SURGERY** - [Won Kim, MD](#), Sophie Peeters, MD, Giyarpuram Prashant, MD, Matthew Sun, MD, Jasmine Dicesare, Marilene Wang, MD, Jeffrey Suh, MD, Jivianne Lee, MD, Marvin Bergsneider, MD; UCLA

**P215: GANGLIONEUROMA OF THE INTERNAL AUDITORY CANAL** - Mark E Russo, MD<sup>1</sup>, Emma C Celano, MD<sup>2</sup>, [H J Kim, MD](#)<sup>1</sup>, Amjad Anaizi, MD<sup>2</sup>, Metin Ozdemirli, MD, PhD<sup>3</sup>; <sup>1</sup>Department of Otolaryngology, Georgetown University, <sup>2</sup>Department of Neurosurgery, Georgetown University, <sup>3</sup>Department of Pathology, Georgetown University

**P216: KNOW YOUR ABCS: ANEURYSMAL BONE CYST OF THE TEMPORAL BONE** - [Nitesh P Patel, MD](#), Lucas P Carlstrom, MD, PhD, Avital Perry, Collin Driscoll, Michael J Link; Mayo Clinic

# Poster Listings (Cont.)

**P217: GIANT RENAL CELL CARCINOMA METASTASIS TO THE SKULL BASE WITH TEMPORAL BONE INVASION: A CASE REPORT AND REVIEW OF THE LITERATURE** - Lauren A Linker, MD<sup>1</sup>, Samuel H Smith, MD<sup>1</sup>, Scott Collier, MD<sup>2</sup>, L. Madison Michael II, MD<sup>3</sup>, Robert J Yawn, MD<sup>1</sup>; <sup>1</sup>University of Tennessee Health Science Center, Department of Otolaryngology, <sup>2</sup>University of Tennessee Health Science Center, Department of Pathology, <sup>3</sup>University of Tennessee Health Science Center, Department of Neurosurgery

**P218: DOES THE METHOD OF VISUALIZATION IMPACT THE PERFORMANCE OF A NEW SURGICAL TASK IN NOVICE SUBJECTS?** - [Mikaeel Kassam, BSc](#), Srikanth Chakravarthi, MD, MSc, Austin Epping, BSc, Sarah Erpenbeck, BSc, Maharaj Singh, PhD, Melanie B Fukui, MD, Amin B Kassam, MD, Richard A Rovin, MD; Aurora Neuroscience Innovation Institute

**P219: MINIMALLY INVASIVE APPROACHES: A COMPARISON BETWEEN EYEBROW SUPRAORBITAL ENDOSCOPIC APPROACH AND EYELID TRANSORBITAL ENDOSCOPIC APPROACH TO ANTERIOR AND MIDDLE CRANIAL FOSSAE** - [Ricardo A Gomez Arroyo, MD](#), Yury Anania, MD, Shen Han, MD, Carl Snyderman, MD, Wang Erick, MD, Georgios Zenonos, MD, Paul Gardner, MD; UPMC

**P220: TRANSPETROSAL TRANSLABRYINTHINE APPROACH FOR OBLITERATION OF LARGE PERIMESECEPHALIC DURAL ARTERIOVENOUS FISTULA** - [Darshan N Shastri, MD](#), Nathan Quig, MD, Brian Sindelar, MD, Deanna Sasaki-Adams, MD; University of North Carolina

**P221: INTRAORBITAL ARTERIOVENOUS FISTULA MIMICKING AN ANTERIOR CRANIAL FOSSA DURAL ARTERIOVENOUS FISTULA** - [Hae Gi Park, MD](#); Severance Hospital, Yonsei University College of Medicine

**P223: SURGICAL RESECTION OF BRAINSTEM CAVERNOMA: A SYSTEMATIC REVIEW OF THE LITERATURE** - Ryan Hess, Ahmad Kareem Almekkawi, Karl R Abi-Aad, Rudy J Rahme, Devi P Patra, Evelyn Turcotte, [Bernard R Bendok](#); Mayo Clinic

**P224: PREOPERATIVE EMBOLIZATION OF A GLOMUS VAGALE TUMOR RESECTED VIA THE RETROSIGMOID APPROACH** - Tyler Scullen, MD<sup>1</sup>, Zane Freeman, DO<sup>2</sup>, [Joseph Lockwood](#)<sup>1</sup>, Neal Jackson, MD<sup>2</sup>, Peter Amenta, MD<sup>1</sup>; <sup>1</sup>Tulane University Department of Neurosurgery, <sup>2</sup>Tulane University Department of Otolaryngology

**P225: UTILIZATION OF THE TRANSOTIC APPROACH FOR SELECT CASES OF VESTIBULAR SCHWANNOMA RESECTION** - [Scott B Shapiro, MD](#), Noga Lipschitz, MD, Nathan Kemper, Gavriel Kohlberg, MD, Allie Mains, MSN, FNP, CNRN, RN-FA, Myles L Pensak, MD, Joseph T Breen, MD, Mario V Zuccarello, MD, Ravi N Samy, MD; University of Cincinnati College of Medicine

**P226: ENDOSCOPIC THIRD VENTRICULOSTOMY IN A PATIENT WITH GIANT BILATERAL VESTIBULAR SCHWANNOMAS** - [Ali O Jamshidi](#); Kaiser Permanente

**P227: AN AUTOMATED METHOD FOR DETERMINING VESTIBULAR SCHWANNOMA SIZE AND GROWTH** - Nicholas George-Jones, Kai Wang, Jing Wang, PhD, [Jacob B Hunter, MD](#); University of Texas Southwestern Medical Center

**P228: EXPLORING THE ASSOCIATION BETWEEN APPARENT DIFFUSION COEFFICIENT VALUES ON MAGNETIC RESONANCE IMAGING AND THE RESPONSE OF VESTIBULAR SCHWANNOMA TO RADIATION** - [Daniel E Killeen, MD](#)<sup>1</sup>, Carlos L Perez, MD<sup>2</sup>, Rati Chkheidze, MD<sup>3</sup>, Samantha Moore, MD<sup>3</sup>, Anthony M Tolisano, MD<sup>1</sup>, Joe W Kutz, MD, FACS<sup>1</sup>, Brandon Isaacson, MD, FACS<sup>1</sup>, Jacob B Hunter, MD<sup>1</sup>; <sup>1</sup>Department of Otolaryngology & Head and Neck Surgery, University of Texas Southwestern Medical Center, Dallas, TX, U.S.A, <sup>2</sup>Department of Radiology, University of Texas Southwestern Medical Center, Dallas, Texas, U.S.A., <sup>3</sup>Department of Pathology, University of Texas Southwestern Medical Center, Dallas, Texas, U.S.A.

**P229: REGIONAL VARIATION IN PATIENT PARTICIPATION AND TREATMENT AMONG ACOUSTIC NEUROMA ASSOCIATION SURVEY RESPONDENTS ACROSS THE UNITED STATES** - [John P Marinelli, MD](#)<sup>1</sup>, Samuel A Spear, MD<sup>1</sup>, Debbie L Hahs-Vaughn, PhD<sup>2</sup>, Robert J Macielak, MD<sup>3</sup>, Michael J Link, MD<sup>4</sup>, Allison Feldman, MPA<sup>5</sup>, Chad Nye, PhD<sup>5</sup>, Matthew L Carlson, MD<sup>3</sup>; <sup>1</sup>Department of Otolaryngology-Head and Neck Surgery, San Antonio Military Medical Center, San Antonio, TX, <sup>2</sup>Department of Learning Sciences and Educational Research, University of Central Florida, Orlando, FL, <sup>3</sup>Department of Otolaryngology-Head and Neck Surgery, Mayo Clinic, Rochester, MN, <sup>4</sup>Department of Neurologic Surgery, Mayo Clinic, Rochester, MN, <sup>5</sup>Acoustic Neuroma Association, Cumming, GA

**P231: IMPACT OF PETROMEATAL BONE ANGLE ON DEGREE OF TUMOR RESECTION AND FACIAL NERVE INJURY FOR VESTIBULAR SCHWANNOMAS DURING THE TRANSLABRYINTHINE APPROACH** - [Mohammad Hassan A Noureldine, MD, MSc](#)<sup>1</sup>, David Aum, BSc<sup>2</sup>, Gleb Zavadskiy, PhD<sup>3</sup>, Ivo Peto, MD<sup>2</sup>, Keaton Piper, MD<sup>2</sup>, Konrad Bach, MD<sup>2</sup>, Harry van Loveren, MD<sup>2</sup>, Siviero Agazzi, MD, MBA, FACS<sup>2</sup>; <sup>1</sup>Johns Hopkins University School of Medicine, Institute for Brain Protection Sciences, Johns Hopkins All Children's Hospital, Saint Petersburg, FL, <sup>2</sup>University of South Florida Morsani College of Medicine, Tampa General Hospital, Tampa, FL, <sup>3</sup>University of South Florida Muma College of Business, Tampa, FL

**P232: PITUITARY HEMITRANSPOSITION FOR THE RESECTION OF A PILOCYTIC ASTROCYTOMA IN A MIDDLE AGED MAN WITH MULTIPLE SCLEROSIS** - [Ali O Jamshidi](#); Kaiser Permanente

**P233: FUNCTIONAL OUTCOME OF SPHENOID WING MENINGIOMA SURGERY IN NIGERIA** - [Okezie O Kanu, MD, FWACS](#)<sup>1</sup>, Omotayo Ojo, MD, MRCS<sup>1</sup>, Olufemi Bankole, MD, FWACS<sup>1</sup>, Eghosa Morgan, MD, FWACS<sup>2</sup>, Babatunde Adetunmbi, MD, FWACS<sup>1</sup>, John O Olatosi, MD, FWACS<sup>1</sup>; <sup>1</sup>College Of Medicine, University Of Lagos / Lagos University Teaching Hospital, <sup>2</sup>Irrhua Specialist Hospital, Benin, Nigeria

# Acoustic Neuroma Education Day

**Friday, February 7, 2020**

Acoustic Neuroma Education Day will provide a comprehensive review of the state of the art in Acoustic Neuroma Biology, Treatment and Patient Outcomes. The program is geared for neurosurgeons, otolaryngologists and related disciplines involved in the care of these patients. The session will be divided into three components covering: Acoustic Neuroma morphology, biology and function; Acoustic Neuroma Treatment; and Acoustic Neuroma outcomes and alternative treatments.

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

- » Recognize recent developments in epidemiology, molecular genetics and imaging in treatment planning for acoustic neuroma patients.
- » Choose Acoustic Neuroma treatment based on the most recent techniques available.
- » Manage Acoustic Neuroma patients based on the best outcomes data available.

7:30AM-7:32AM	<b>Acoustic Neuroma Education Day</b> <i>Moises Arriaga</i>	9:35AM-10:05AM	<b>Break with Exhibitors</b>
7:32AM-7:40AM	<b>Three -Dimensional Anatomy of Acoustic Neuroma</b> <i>Juan C. Fernandez-Miranda</i>	10:05AM-12:20PM	<b>General Session</b>
7:40AM-7:48AM	<b>Genetics and Treatment Implications</b> <i>Brad Welling</i>	12:20PM-1:20PM	<b>Lunch in the Exhibit Hall</b>
7:48AM-7:56AM	<b>Acoustic Neuroma Molecular Profiling</b> <i>Ksenia A Aaron</i>	1:20PM-1:22PM	<b>Acoustic Neuroma Education Day- Management of Tumors</b> <i>Moises Arriaga</i>
7:56AM-8:04AM	<b>Experimental Models for Acoustic Neuroma Treatment Evaluation</b> <i>Christine T Dinh</i>	1:22PM-1:30PM	<b>Observation as Management</b> <i>Colin L. W. Driscoll</i>
8:04AM-8:12AM	<b>Natural History of Growth</b> <i>Matthew Luke Carlson</i>	1:30PM-1:38PM	<b>Follow Up Strategies and What Growth to Treat</b> <i>Marc Schwartz</i>
8:12AM-8:20AM	<b>Hearing in Untreated Acoustic Neuroma</b> <i>Oliver F Adunka</i>	1:37 PM-1:44PM	<b>Audience Discussion of Observation Presentations</b>
8:20AM-8:28AM	<b>Non-Hearing Functional Outcomes in Untreated Acoustic Neuroma</b> <i>Jacob B Hunter</i>	1:44PM-1:52PM	<b>Total, Subtotal and Near Total Resection</b> <i>Sarah E Mowry</i>
8:28AM-8:36AM	<b>Hearing Criteria to Image for Possible Acoustic Neuroma</b> <i>Joseph Paul Roche</i>	1:52PM-2:00PM	<b>Middle Fossa: Exposure, Out comes and Pitfalls</b> <i>Oliver F Adunka</i>
8:36AM-8:42AM	<b>Imaging Strategies</b> <i>Claudia F.E. Kirsch</i>	2:00PM-2:08PM	<b>Retrosigmoid: Exposure, Out comes and Pitfalls</b> <i>Michael Link</i>
8:42AM-8:50AM	<b>Audiogram and ABR in Pre-Treatment Decision Making</b> <i>R Mark Wiet</i>	2:08PM-2:16PM	<b>Translabyrinthine : Exposure, Outcomes and Pitfalls</b> <i>Rick Friedman</i>
8:50AM-8:58AM	<b>Vestibular Tests in Decision Making</b> <i>Isaac Erbele</i>	2:16PM-2:24PM	<b>Open and Endoscopic Trans-External Canal Approaches</b> <i>Brandon Isaacson</i>
8:58AM-09:06AM	<b>Facial Nerve Evaluation in Decision Making</b> <i>Marcos Tatagiba</i>	2:24 PM-2:30PM	<b>Discussion of Surgical Approaches Presentations</b>
9:06AM-09:35AM	<b>Moderator Discussion - Q&amp;A</b>	2:30PM-2:38PM	<b>Position in Surgery: Supine, Prone, Sitting and Lateral</b> <i>Jennifer A Moliterno Gunel</i>
		2:38PM-2:46PM	<b>CSF Leak Prevention: Fat, Plates and Cement</b> <i>Marcos Tatagiba</i>
		2:46PM-2:54PM	<b>Face-to-Face; Four-Hands Approach</b>

# Acoustic Neuroma Education Day (Cont.)

Friday, February 7, 2020

2:54PM-3:02PM	<b>Update on Gamma Knife: Technique and Outcomes</b> <i>Jennifer A Moliterno Gunel</i>	<b>Botox</b> <i>Jackie Diels</i>
3:02PM-3:10PM	<b>Comparing Radiation Techniques: Cyberknife, Gamma Knife, and other Linc-Based Treatments</b> <i>Joshua Matthew Sappington</i>	4:58PM-5:06PM <b>Corneal Neurotization Surgery</b> <i>Laura Hetzler</i>
3:10PM-3:25PM	<b>Moderator Discussion - Q&amp;A</b>	5:06PM-5:14PM <b>Q&amp;A</b>
3:25PM-4:00PM	<b>Break with Exhibitors</b>	5:14PM-5:22PM <b>Hearing Outcomes in Acoustic Neuroma</b> <i>Erika Woodson</i>
4:00PM-4:02PM	<b>Acoustic Neuroma Education Day - Alternative Treatments and Patient Outcomes</b> <i>Moises Arriaga</i>	5:22PM-5:30PM <b>Post-Treatment Amplification, BAHA and Cochlear Implant</b> <i>Brendan P O`Connell</i>
4:02PM-4:10PM	<b>Avastin and Other Medical Therapies for Acoustic Neuroma</b> <i>Konstantina Stankovic</i>	5:30PM-5:38PM <b>Tinnitus after Observation, Radiation and Surgery</b> <i>Yu Lan Mary Ying</i>
4:10PM-4:18PM	<b>Visualization Alternatives: Exoscope-Endoscope-Microscope</b> <i>Brandon Isaacson</i>	5:38PM-5:46PM <b>Balance Outcomes and Treatment Strategies with Observation, Radiation and Surgery</b> <i>Richard Gurgel</i>
4:18PM-4:26PM	<b>Treatment of Recurrences Following Radiation and Surgery</b> <i>Peter Morone</i>	5:46PM-6:00PM <b>Q&amp;A</b>
4:26PM-4:34PM	<b>Acoustic Neuroma Quality of Life</b> <i>Ted McRackan</i>	
4:34PM-4:42PM	<b>Facial Nerve Outcomes</b> <i>Siviero Agazzi</i>	
4:42PM-4:50PM	<b>Facial Reanimation Surgery</b> <i>Laura Hetzler</i>	
4:50PM-4:58PM	<b>Facial Physical Therapy and</b>	

# Orbital Education Day

**Saturday, February 8, 2020**

This day will examine the anatomy, physiology, pathology, and treatment of the orbit and orbital disease. Anyone wishing to learn about

how to keep the eye safe while operating nearby is welcome to attend.

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

- » Accurately diagnose orbital disease.
- » Plan appropriate multidisciplinary evaluation of disease in and around the orbit.
- » Prepare a comprehensive surgical, medical, and radiation plan for disease in and around the orbit.
- » Manage complications of surgery in and around the orbit

7:30AM-7:35AM	<b>Introduction</b> <i>S Tonya Stefko</i>	2:50PM-3:05PM	<b>Sphenoid Wing Meningioma: Approaches and Goals</b> <i>Darlene Lubbe</i>
7:35AM-7:50AM	<b>Embryology of the Orbit</b> <i>Raymond I Cho</i>	3:05PM-3:25PM	<b>Q&amp;A</b>
7:50AM-8:15AM	<b>Anatomy of the Orbit</b> <i>Mindy Robyn Rabinowitz</i>	3:25PM-4:00PM	<b>Break with Exhibitors</b>
8:15AM-8:30AM	<b>History of Orbital Surgery</b> <i>Steven Newman</i>	4:00PM-4:15PM	<b>Radiotherapy and the Orbit</b> <i>Dukagjin M Blakaj</i>
8:30AM-8:45AM	<b>Imaging of Orbital Disease</b> <i>Tanya Rath</i>	4:15PM-4:30PM	<b>Complications of Orbital and Periorbital Surgery</b> <i>Somasundaram Subramaniam</i>
8:45AM-9:00AM	<b>Postop Pain Management in Orbital Surgery</b> <i>Ted Wladis</i>	4:30PM-4:45PM	<b>Considerations of Orbital Disease/Surgery in Children</b> <i>Mike Kazim</i>
9:00AM-9:15AM	<b>Not a Tumor (Orbital Inflammatory Disease)</b> <i>James Garrity</i>	4:45PM-5:00PM	<b>Lacrimal Dysfunction after Skull Base Surgery</b> <i>Sang H Hong</i>
9:15AM-9:35AM	<b>Panel Discussion of Surgical Videos</b> <i>Raymond I Cho, Ben Bleier, Carl Snyderman, &amp; Andrei Koerbel</i>	5:00PM-5:15PM	<b>Optic Nerve Gliomas/ONSM</b> <i>Andrei Koerbel</i>
9:35AM-10:05AM	<b>Break with Exhibitors</b>	5:15PM-5:25PM	<b>The Anesthetic Cornea</b> <i>Michelle Latting</i>
10:05AM-12:20PM	<b>General Session</b>	5:25PM-5:50PM	<b>Reconstruction After Orbital and Periorbital Surgery</b> <i>Eric W. Wang, Ben Bleier, Kris Moe, &amp; Dan Rootman</i>
12:20PM-1:20PM	<b>Lunch in the Exhibit Hall</b>	5:55PM-6:00PM	<b>Q&amp;A</b>
1:20PM-1:35PM	<b>Neuro-ophthalmology Exam and Treatment Planning</b> <i>Howard Krauss</i>		
1:35PM-01:50PM	<b>Vascular Pathology in and Around the Orbit</b> <i>Dan Rootman</i>		
1:50PM-2:05PM	<b>Surgery in the Orbit – Which Approach?</b> <i>Alessandro Paluzzi</i>		
2:05PM-2:20PM	<b>Surgery Near the Orbit – Which Approach?</b> <i>Davide Locatelli</i>		
2:20PM-2:35PM	<b>Orbital Preservation or Not in Sinonasal Cancer Surgery</b> <i>Jeffrey M. Sorenson</i>		
2:35PM-2:50PM	<b>Endoscopic Orbital Anatomy</b>		

# Primer Course

Friday, February 7, 2020

This course provides a broad overview of skull base pathology and both surgical and nonsurgical management of tumors affecting this region. Attendees just entering the field of skull base surgery, those wanting a refresher on different aspects of skull base surgery, and those wishing to learn different approaches or different techniques for operating in this area and avoiding and managing complications that may arise will benefit most from this session.

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

- » Select the appropriate treatment approach for specific skull base pathologies and tumor locations.
- » Compare the nuances of different open and endoscopic approaches to various regions of the skull base.
- » Manage both neurosurgical or rhinologic complications that may arise from skull base surgery.

1:20PM-1:25PM	<b>Introduction</b> <i>Zara M Patel</i>	3:10PM-3:13PM	<b>Q&amp;A</b> <i>Nithin D. Adappa</i>
1:25PM-1:34PM	<b>Anatomy of the Skull Base</b> <i>Charles S. Ebert</i>	3:13PM-3:22PM	<b>Radiosurgical Management of Skull Base Tumors</b> <i>Melanie Hayden Gephart</i>
1:34PM-1:37PM	<b>Q&amp;A</b> <i>Charles S. Ebert</i>	3:22PM-3:25PM	<b>Q&amp;A</b> <i>Melanie Hayden Gephart</i>
1:37PM-1:46PM	<b>Radiology and Pathology of Common Skull Base Tumors and Disease Processes</b> <i>Griffin D Santarelli</i>	3:25PM-4:00PM	<b>Break with Exhibitors</b>
1:46PM-1:49PM	<b>Q&amp;A</b> <i>Griffin D Santarelli</i>	4:00PM-4:09PM	<b>Management of Neurosurgical Complications in Skull Base Surgery</b> <i>Robert Dodd</i>
1:49PM-1:58PM	<b>Patient Factors when deciding on Skull Base Treatment</b> <i>Patrick Michael Colley</i>	4:09 PM-4:12PM	<b>Q&amp;A</b> <i>Robert Dodd</i>
1:58PM-2:01PM	<b>Q&amp;A</b> <i>Patrick Michael Colley</i>	4:12PM-4:21PM	<b>Management of Rhinologic Complication in Skull Base Surgery</b> <i>Stacey Gray</i>
2:01PM-2:10PM	<b>Selection of Approach and Treatment Goals in Skull Base Surgery</b> <i>Anthony G. Del Signore</i>	4:21PM-4:24PM	<b>Q&amp;A</b> <i>Stacey Gray</i>
2:10PM-2:13PM	<b>Q&amp;A</b> <i>Anthony G. Del Signore</i>	4:24PM-4:33PM	<b>Post operative Neurosurgical Management</b> <i>Nathan T Zwagerman</i>
2:13PM-2:22PM	<b>Overview: Open Cranial Approaches to the Skull Base</b> <i>John Y.K. Lee</i>	4:33PM-4:36PM	<b>Q&amp;A</b> <i>Nathan T Zwagerman</i>
2:22PM-2:25PM	<b>Q&amp;A</b> <i>John Y.K. Lee</i>	4:36PM-4:45PM	<b>Post Operative ENT Management</b> <i>Adam J Kimple</i>
2:25PM-2:34PM	<b>Trans-Orbital Approaches to the Skull Base</b> <i>Darlene Lubbe</i>	4:45PM-4:48PM	<b>Q&amp;A</b> <i>Adam J Kimple</i>
2:34PM-2:37PM	<b>Q&amp;A</b> <i>Darlene Lubbe</i>	4:48PM-4:57PM	<b>Adjunctive Treatments for Skull Base Tumors</b> <i>Alexander A. Farag</i>
2:37PM-2:46PM	<b>Endoscopic Approaches to the Middle Cranial Fossa</b> <i>Devyani Lal</i>	4:57PM-5:00PM	<b>Q&amp;A</b> <i>Alexander A. Farag</i>
2:46PM-2:49PM	<b>Q&amp;A</b> <i>Devyani Lal</i>	5:00PM-5:09PM	<b>Overview of Types of Craniotomy for Skull Base Surgery</b> <i>Theodore H. Schwartz</i>
2:49PM-2:58PM	<b>Endoscopic Approaches to the Posterior Cranial Fossa</b> <i>Jean Anderson Eloy</i>	5:09PM-5:12PM	<b>Q&amp;A</b> <i>Theodore H. Schwartz</i>
2:58PM-3:01PM	<b>Q&amp;A</b> <i>Jean Anderson Eloy</i>	5:12PM-5:30PM	<b>Q&amp;A and Final Remarks</b>
3:01PM-3:10PM	<b>Reconstructing the Skull Base</b> <i>Nithin D. Adappa</i>		

## 2020 NASBS Skull Base Dissection Course

WEDNESDAY, FEBRUARY 5 & THURSDAY, FEBRUARY 6, 2020

### CME Accreditation

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 PESI, Inc. and North American Skull Base Society. PESI, Inc. is accredited by the ACCME to provide continuing medical education for physicians.

### AMA PRA Designation Statement

The PESI, Inc. designates this live educational activity for a maximum of **9.25 AMA PRA Category 1 Credit(s)<sup>™</sup>**. Physicians should only claim credit commensurate with the extent of their participation in the activity.

### International CME

International Physicians are formally eligible for AMA PRA Category 1 Credit<sup>™</sup>.

### Physician Assistants

AAPA accepts Category 1 credit from AOACCME, Prescribed credit from AAFP, and AMA PRA Category 1 Credit<sup>™</sup> for the PRA from organizations accredited by ACCME.

### Registered Dietitians

For the purpose of recertification the Commission on Dietetic Registration recognizes courses accredited with AMA PRA Category 1 Credit<sup>™</sup>.

### Nurses

For the purpose of recertification, the American Nurses Credentialing Center accepts AMA PRA Category 1 Credit<sup>™</sup> issued by organizations accredited by the ACCME.

### CA Nurses

Aspen CME Services is approved by the California Board of Registered Nursing, Provider number CEP14739, for 19 contact hours.

### Pharmacists

For the purpose of recertification, the American Council of Pharmacy Education accepts AMA PRA Category 1 Credit<sup>™</sup> issued by organizations accredited by the ACCME (Accreditation Council for Continuing Medical Education) for attendance at structured learning activities.

### Satisfactory Completion for credits:

All attendees must have completed and turned in a course attendance/evaluation form prior to leaving the conference. Each session claimed for credit must be attended in it's entirety.

MODERATORS: Arturo Solares & Paul Gardner

This is a comprehensive course designed to cover modern “minimally invasive” corridors for multi-specialty access to skull base lesions, including endoscopic endonasal, transorbital and endoscopic otological approaches. This is ideal for all skull base specialists, notably neurosurgeons, rhinologists, otologists and oculoplastic surgeons.

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

- Recognize minimally invasive approaches to the skull base.
- Identify different minimally invasive approach corridors based on the anatomic relationships of a lesion to the neuromuscular structures of the skull base.
- Integrate minimally invasive skull base surgery techniques in their practice.

## 2020 NASBS Skull Base Dissection Course (Cont.)

WEDNESDAY, FEBRUARY 5 & THURSDAY, FEBRUARY 6, 2020

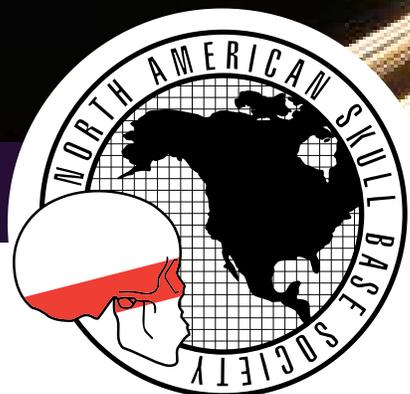
### Wednesday, February 5

7:30am-7:50am	<b>Anterior Cranial Base - Supraorbital Craniotomy: Step-by-Step and Indications</b> <i>Daniel F. Kelly</i>
7:50am-8:05am	<b>Anterior Cranial Base: Transpalpebral Modification vs Eyebrow Prosection</b> <i>Amir R. Dehdashti &amp; Randal Feingold</i>
8:15am-9:40am	<b>Anterior Cranial Base Dissection</b>
9:50am-10:10am	<b>Endonasal Anterior Skull Base Anatomy</b> <i>Maria Peris Celda &amp; Carlos Pinheiro-Neto</i>
10:10am-10:30am	<b>Endoscopic Endonasal Approach to the Ventral Skull Base (Anterior Craniofacial): Step-by-Step Indications</b> <i>Camilo Reyes</i>
10:30am-10:45am	<b>Endoscopic Endonasal Approach to the Ventral Skull Base Prosection</b> <i>Anand V. Germanwala &amp; Chirag R Patel</i>
10:55am-12:15pm	<b>Endoscopic Endonasal Approach to the Ventral Skull Base Dissection</b>
12:30pm-1:30pm	<b>Lunch with Lectures</b>
12:40pm-1:00pm	<b>Endoscopic Endonasal Anatomy: Transmaxillary/Transpterygoid</b> <i>Carlos Pinheiro-Neto &amp; Maria Peris Celda</i>
1:00pm-1:20pm	<b>Endonasal Transpterygoid +/- Denkers</b> <i>Gustavo Pradilla &amp; Clementino Arturo Solares</i>
1:20pm-1:40pm	<b>Ipsilateral Transmaxillary Approach</b> <i>Gustavo Nogueira</i>
1:40pm-2:00pm	<b>Contralateral Transmaxillary Approach</b> <i>Eric W. Wang</i>
2:00pm-2:15pm	<b>Endoscopic/Endonasal/Transmaxillary Prosection</b> <i>Zara M Patel &amp; Juan C. Fernandez-Miranda</i>
2:30pm-5:00pm	<b>Endoscopic/Endonasal/Transmaxillary Dissection</b>

### Thursday, February 6

7:30am-8:00am	<b>Transorbital Approach to MCF/Meckel's Cave: Step-by-Step and Indications</b> <i>James Chelnis &amp; Enrique Antonio Iturriaga</i>
8:00am-8:15am	<b>Lateral Orbitotomy Prosection - Approach and Orbital Tumors</b> <i>S Tonya Stefko</i>
8:15am-8:30am	<b>Lateral Orbitotomy Prosection - Middle Fossa/Meckel's Cave/Cavernous Sinus</b> <i>William Couldwell</i>
8:40am-10:00am	<b>Lateral Orbitotomy Dissection</b>
10:15am-10:45am	<b>Endoscopic Endonasal and Retrosigmoid Posterior Fossa Anatomy</b> <i>Maria Peris Celda</i>
10:45am-11:05am	<b>Endoscopic Endonasal Transclival Approach with All Extensions</b> <i>Leo Ditzel</i>
11:05am-11:20am	<b>Endoscopic Endonasal Transclival Approach with All Extensions Prosection</b> <i>Nathan T Zwagerman &amp; David Poetker</i>
11:30am-12:30pm	<b>Endoscopic Endonasal Transclival Approach with All Extensions Dissection</b>
12:30pm-1:30pm	<b>Lunch with Lectures</b>
12:45pm-1:15pm	<b>Keyhole Retrosigmoid Endoscopic Approach: Step-by-Step and Indications</b> <i>John Y.K. Lee</i>
1:15pm-1:30pm	<b>Keyhole Retrosigmoid Endoscopic Approach Prosection</b> <i>Gustavo Pradilla</i>
1:45pm-2:45pm	<b>Keyhole Retrosigmoid Endoscopic Approach Dissection</b>
3:00pm-3:20pm	<b>Temporal Bone and Middle Ear Anatomy</b> <i>Carlos Pinheiro-Neto &amp; Maria Peris Celda</i>
3:20pm-3:45pm	<b>Endoscopic Transotic Approaches for Skull Base Tumors: Step-by-Step and Indications</b> <i>Alejandro Rivas</i>
3:45pm-4:00pm	<b>Endoscopic Transotic Approaches Prosection</b> <i>Brandon Isaacson</i>
4:15pm-5:30pm	<b>Endoscopic Transotic Approaches Dissection</b>

2021 Save the Date



Abstract submissions will open **Summer 2020**

North American Skull Base Society

# 31<sup>st</sup> Annual Meeting

**February 12-14, 2021**, Atlanta Marriott Marquis, Atlanta, GA

Pre-Meeting Dissection Course: **February 10-11, 2021**

For general information regarding the meeting, please contact Paula Kupiec at [paula@nasbs.org](mailto:paula@nasbs.org).