North American Skull Base Society

21st Annual Meeting

Innovations and Excellence in Skull Base Surgery: The Future is Here

President: Peter Neligan, MD

Scientific Program Chairs:
Ian Witterick, MD & James Evans, MD

Practical Course Dissection Workshop Chairs:
Vijay K. Anand, MD, Ehab Hanna, MD, Jacques Morcos, MD & James Evans, MD

February 18-20, 2011
Pre-Meeting Practical Courses: February 16 & 17, 2011
Hilton Scottsdale Resort & Villas | Scottsdale, Arizona

www.nasbs.org
WELCOME!

On behalf of the Board of Directors, and the Annual Meeting Scientific Committee, it is my great pleasure to welcome all to Scottsdale for the 21st Annual Meeting of the North American Skull Base Society. The NASBS continues to attract the world’s greatest expertise in neurosurgery, otolaryngology-head & neck surgery, plastic and reconstructive surgery, ophthalmology, maxillofacial surgery, neuroradiology, radiation oncology, interventional radiology, medical oncology, and other related specialties. I am very proud of our program and we have worked hard to represent all areas of our society on the podium.

In line with our theme of “Innovations and Excellence in Skull Base Surgery: The Future is Here”, our Program Committee, under the leadership of Dr. Ian Witterick (Program Chair) and Dr. James Evans (Program Co-Chair) have put together a very exciting collection of breakfast seminars, keynote lectures, debates, concurrent sessions, and scientific paper sessions.

The keynote lectures feature Dr. Laurent Lantieri on facial transplantation, Dr. Bert O’Malley on robotic surgery and Mr. Terry Goddard (Attorney General of Arizona) on the Arizona immigration bill and its national ramifications. Dr. Albert Rhoton will give his incomparable 3-D skull base anatomy lectures and three teams of talented members will compete in Skull Base Jeopardy. We are honoring two pioneers in the field of skull base surgery, Drs. Patrick Gullane and Ian Jackson, whose contributions to skull base surgery and reconstruction are enormous.

The two-day pre-meeting Practical Dissection Course, at Barrow Neurological Institute in Phoenix, highlights open and endoscopic approaches to the skull base. This is always a wonderful educational experience with masterful displays of surgical technique directed by Drs. Vijay Anand, Ehab Hanna, Jacques Morcos, and James Evans.

I hope you have a wonderful time in Scottsdale refreshing traditional concepts, learning new ones, reconnecting with colleagues and meeting new ones. This is a unique meeting and a unique society; I am distinctly honored to serve as President. I look forward to personally welcoming you to Scottsdale.

Peter C. Neligan, President, North American Skull Base Society 2010

SAVE THE DATES!
Mark your calendars for these upcoming NASBS Meetings and Workshops:

SUMMER RESIDENT & FELLOWS PRACTICAL DISSECTION WORKSHOP
July 29 – August 1, 2011
New Orleans, LA

22ND ANNUAL MEETING
Las Vegas, Nevada

23RD ANNUAL MEETING
February 15-17, 2013, Pre-Meeting Courses: February 13 & 14, 2013
Miami, Florida
GENERAL INFORMATION

CME INFORMATION
This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council of Continuing Medical Education through joint sponsorship of Science Care and the North American Skull Base Society. Science Care is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Science Care designates this 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.

This activity has been approved for AMA PRA Category 1 Credit™.

Annual Meeting Objectives
At the conclusion of this activity, participants should be able to:
• Identify the clinical and radiologic manifestations of skull base neoplasms and propose appropriate treatment algorithms.
• Demonstrate a thorough understanding of the important anatomy and surgical approaches to the skull base.
• Contrast the therapeutic options for skull base tumors including endoscopic and open skull base surgical techniques, radiation, and the most recent novel adjuvant therapies.
• Recognize and plan reconstructive options for management of simple and complex cranial base defects.
• Update their knowledge of the latest clinical and basic science research in skull base surgery to immediately assist in patient care.

Target Audience/Scope of Practice
Head and neck surgeons, neurosurgeons, plastic and reconstructive surgeons, ophthalmologists, radiation oncologists, and medical oncologists.

Course Description/Purpose & Need
The skull base is a complicated area where nerves, blood vessels, bone, the eyes, muscles and other soft tissues converge in a small area which is difficult to access. Treatment of both benign and malignant disease processes in this location represents one of the most difficult areas in the body to treat given the complex mix of structures, anatomy, and proximity to other critical organs. The specialists looking after patients afflicted in this area include head and neck surgeons, neurosurgeons, plastic and reconstructive surgeons, ophthalmologists, radiation oncologists and medical oncologists. These specialists need to understand what is pertinent in their own specialty with regards to skull base disease as well as the therapeutic options other specialties have to offer. There is an important need for physicians managing skull base disease to stay current with best practices in managing this patient population. This conference will bring together leaders in the field of skull base disease from all of the specialties listed above to discuss best practices and the latest research in this area.

This activity has been designed to change attendee knowledge and competence.

MEETING LEADERSHIP

NASBS SCIENTIFIC PROGRAM COMMITTEE
Peter Neligan, MD (President)
Ian Witterick, MD (Chair)
James Evans, MD (Co-Chair)

NASBS EXECUTIVE COMMITTEE
Peter Neligan, MD
President – Seattle, WA
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President-Elect – New York, NY
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Vice President – Boston, MA
Saleem I. Abdulrauf, MD, FACS
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Daniel Nuss, MD, FACS
Immediate Past President – New Orleans, LA

DIRECTORS AT LARGE
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Vijay Anand, MD (2011)
Eric Chang, MD (2010)
Peter Cordiero, MD (2012)
Rick Friedman, MD (2011)
Michael Link, MD (2010)
Jacques Morcos, MD (2011)
Christopher H. Rassekh, MD (2010)
Mark Varvares, MD (2012)

BOARD OF ADVISORS
Franco DeMonte, MD (2013)
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Guy Petruzzelli, MD, PhD (2012)

PAST PRESIDENTS
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1995 Hugh Curtin, MD
1996 Derald E. Brackmann, MD
1997 Ossama Al-Mefty, MD
1998 Steven A. Newman, MD
1999 John P. Leonetti, MD
2000 Robert F. Spetzler, MD
2001 Ian T. Jackson, MD
2002 Vinod K. Anand, MD
2003 Jon H. Robertson, MD
2004 Jatin Shah, MD
2005 Patrick J. Gullane, MD
2006 Anil Nanda, MD
2007 Guy J. Petruzzelli, MD
2008 Franco DeMonte, MD
2009 Daniel Nuss, MD
**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.

**MEMBERSHIP BENEFITS**

- **Scientific Journal**
  Members will receive the official journal of the society, *Skull Base Surgery*, a quarterly publication that contains peer reviewed original articles, review articles, and position papers. It will also present news and information on an international scope to keep members aware of recent and upcoming events, activities, and evolving developments in skull base surgery.

- **Continuing Medical Education**
  Members will receive listings of continuing medical educational opportunities in skull base surgery, as well as scientific courses sponsored by NASBS and will receive reduced registration fees for national scientific meetings.

- **Petrus Pulse**
  Members will receive copies of *Petrus Pulse*, the official newsletter of the Society. The newsletter includes a report of the Society President, information updates on the Society, announcements and information on upcoming events and other news as appropriate.

- **Membership Directory**
  An annual directory of the membership will be provided.

- **NASBS Website Access**
  Members will have access to Member-Only discussion areas on the Society’s website.

For more information about membership, please visit [WWW.NASBS.ORG](http://WWW.NASBS.ORG) and click on “Membership”. Or send an email to membership@nasbs.org

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**RECOGNIZED GUESTS**

Every year, the North American Skull Base Society recognizes individuals who have played an instrumental role in skull base surgery. This year, the NASBS would like to recognize Doctors Patrick Gullane and Ian Jackson. Both have been innovators in skull base surgery and are teachers to colleagues, residents and students around the world.

**Patrick J. Gullane, CM, MB, FRCSC, FACS, FRACS (Hon), FRCS (Hon)**

Otolaryngologist-in-Chief, Department of Otolaryngology-Head & Neck Surgery, University Health Network, Wharton Chair Head and Neck Surgery, Princess Margaret Hospital, Professor and Chair Department of Otolaryngology-Head and Neck Surgery, University of Toronto

Professor Gullane was born in Ireland and received his medical degree from Galway University, Ireland in 1970. He is a Fellow of the Royal College of Surgeons of Canada and certified by the American Board of Otolaryngology-Head and Neck Surgery. In 1975 he was selected as the McLaughlin Fellow and then pursued advanced training in Head and Neck Oncology in Pittsburgh, and New York.

In 1978 Dr. Gullane was appointed to the Department of Otolaryngology-Head and Neck Surgery at the University of Western Ontario. He was subsequently recruited to the Department of Otolaryngology-Head and Neck Surgery at the University of Toronto in 1983. In 1989 he was appointed as Otolaryngologist-in-Chief within the University Health Network and in 2002 appointed as Professor and Chair of the Department of Otolaryngology-Head and Neck Surgery, University of Toronto.

Dr. Gullane is a member of numerous Surgical Societies, nationally/internationally and has been invited as a Visiting Professor to over 65 countries lecturing on all aspects of Head and Neck Oncology. He has delivered over 750 presentations nationally/internationally and serves on the Editorial Board of 10 Journals. Dr. Gullane has published 253 papers in peer-reviewed journals and 71 chapters in textbooks. In addition he has published 9 books on various aspects of Head and Neck Surgery. The most recent, 2nd Edition of Principles and Practice of Head and Neck Surgery and Oncology was published July 2009.

Dr. Gullane has been a PI or collaborator on numerous research grants (8 ongoing) receiving funding from various Agencies, including NCIC and NIH.

**Honours/Awards**

1998  
Facilitated the establishment of four University-Hospital Chairs: Head & Neck Surgery, Reconstruction, Radiation Oncology, and Basic Science, from private funding donations in excess of $14.5 M. - with continual funding up to the present time

2004-05  
Served as President of the North American Skull Base Society

2004-05  
Served as President of the American Head and Neck Society

2005-06  
Served as Vice-President, Triological Society (Eastern Section)

2006  
Recipient of the Royal Australasian College of Surgeons Honorary Fellowship (FRACS), Sydney Australia

2008  
Invited Faculty - 1st Educational World Tour (11 countries) - International Federation of Head and Neck Oncologic Societies - Current Concepts in Head and Neck Surgery and Oncology.

2010  
Recipient of Royal College of Surgeons of England Honorary Fellowship (FRCS), London England

2010  
Appointed as a Member to the Order of Canada by the Governor General of Canada. Cited for his inspiration of young surgeons and his contributions to the field of Head and Neck Surgery.
Ian T. Jackson, MD, DSc (Hon), FRCS, FACS, FRACS (Hon)

A native of Glasgow, Scotland, Dr. Ian T. Jackson obtained his MB, ChB degree from the University of Glasgow in 1959. He completed his internship in general surgery in 1960, followed by a residency in pathology (1962) and surgery (1965) at the Glasgow Royal Infirmary. He received his F.R.C.S. Glasgow and his F.R.C.S. Edinburgh in 1964. He spent the years 1965-1967 completing his plastic surgery residency at the Glasgow Royal Infirmary and then became senior resident in plastic surgery at Canniesburn Hospital in Scotland from 1967-1969. During this time he spent one year in Sweden, Germany and Switzerland on a Royal College of Surgeons Fellowship.

After completion of his training, he became Consultant Plastic Surgeon at Canniesburn Hospital in Glasgow and the Glasgow Royal Infirmary, Scotland. He also served as a Consultant Plastic Surgeon at the Centre for Rheumatic Diseases in Glasgow. While practicing in Scotland, Doctor Jackson received many awards for his outstanding contributions in the field of plastic and reconstructive surgery, both in research and clinical areas.

In 1979, Doctor Jackson joined the staff of the Mayo Clinic in Rochester, Minnesota where he served as Consultant Plastic Surgeon; Head, Section of Plastic Surgery; and Professor of Plastic Surgery at the Mayo Medical School.

Doctor Jackson’s current academic appointments are as follows:

- Director, Institute for Craniofacial and Reconstructive Surgery (1989 to present)
- Director, Craniofacial Cleft Palate Diagnostic Clinic, Providence Hospital (1989 to present)
- Medical Chairman, Department of Physiology, Providence Hospital (1992 to present)
- Clinical Professor, Department of Oral and Maxillofacial Surgery, University of Texas at Houston (1996 to present)
- Clinical Professor, Department of Orthodontics, University of Detroit Mercy (1997 to present)

Doctor Jackson is recognized as a leader in the field of craniofacial and reconstructive surgery and in 1991 received an Honorary Fellowship of the Royal Australasian College of Surgeons. In 1986, he was the Sir Benjamin Rank Visiting Professor in Australia. He was also given the Clinician of the Year Award by the American Association of Plastic Surgeons in 1992 at the Annual Meeting in Vancouver, British Columbia. In 1993, he was the only plastic surgeon in Michigan to be included in One Hundred Best Doctors in the United States. In June 1993 he received an honorary D.Sc. degree from St. Louis University. In April 1995, he received the Sir Norman Rowe medal from the British Association of Oral and Maxillofacial Surgeons, and in November 1995 the Sir Harold Gillies medal from the British Association of Plastic Surgeons. In 1996 and 1997, he was the Navroji Godrej Visiting Professor to the Association of Plastic Surgeons of India. In 1998, he was awarded the Royal College of Surgeons of Edinburgh Medal in recognition of his contribution to craniofacial and reconstructive surgery. In 1998 he also received Honorary Membership of the Indian Association of Surgeons. In 1999 he received an honorary award from the American Association of Plastic Surgeons, and was President of the Midwestern Association of Plastic Surgeons. He was President of the North American Skull Base Society for 2000-2001. In June 2001, he received an honorary D.Sc. degree of the University of Glasgow. In November 2002, he received an Honorary Fellowship from the Royal College of Physicians and Surgeons of Glasgow. In 2003, he was awarded the first Ralph Millard Visiting Professorship from the Indian Society of Cleft Lip, Palate and Craniofacial Anomalies.

He is a member of numerous medical societies, both national and international, and has had visiting professorships all over the world mainly lecturing on craniofacial surgery, head and neck tumor resection and reconstruction, and cleft lip and palate surgery. He was the 1984 Junior Visiting Professor of the Plastic Surgery Educational Foundation, and in 1994 was the Senior Visiting Professor of the American Society of Plastic and Reconstrcutive Surgeons. He was the 2000 Ethicon Cosmetic Surgery Professor.

Doctor Jackson has written over 350 papers for medical journals, 116 chapters in textbooks, and has had 17 books published on various aspects of plastic surgery. He is the editor of the European Journal of Plastic Surgery; and is on the Editorial Board of 18 journals.

This year, the NASBS would like to recognize

Doctors Patrick Gullane & Ian Jackson

for playing an instrumental role in skull base surgery
2011 MEETING FACULTY

Saleem I. Abdulrauf, MD, FACS
St. Louis University School of Medicine
St. Louis, MO

Siviero Agazzi, MD
University of South Florida
Department of Neurosurgery
Tampa, FL

Ryojo Akagami, MD
University of British Columbia/
Vancouver Hospital
Vancouver, BC

Hussein Alahmadi, FRCSC
Toronto Western Hospital
Toronto, Canada

Qasim Al Hinai, BSc, MD, MRCSI
McGill University
Montreal, Canada

Ossama Al-Mefty, MD
Brigham and Womens Hospital
Boston, MA

Mario Ammirati, MD
Ohio State University Medical Center
Columbus, OH

Vijay K. Anand, MD
Weill Medical College of Cornell
New York, NY

Norberto Andaluz, MD
University of Cincinnati
Cincinnati, Ohio

David Andrews, MD
Jefferson Medical College
Philadelphia, PA

Rocco Armonda, MD
Washington Brain and Spine Institute
Bethesda, MD

Ali Ayyad, MD
Johannes Gutenberg University
Mainz, Germany

Khaled Aziz, MD, PhD
Allegheny General Hospital
Pittsburgh, PA

Anirban D. Banerjee, MD, MCH
Louisiana State University
Health Sciences Center
Shreveport, LA

Frederick Barker, MD
Massachusetts General Hospital
Boston, MA

Mustafa Baskaya, MD
University of Wisconsin
Madison, WI

Samuel L. Barnett, MD
UT Southwestern Medical Center
Dallas, TX

Pete Batra, MD
UT Southwestern Medical Center
Dallas, TX

Brent J. Benscoter, MD
Loyola University Medical Center
Maywood, IL

Antonio Bernardo, MD
New York, NY

Benjamin S. Bleier, MD
Massachusetts Eye and Ear Infirmary
Boston, MA

Michel Bojanowski, MD
Montreal, QC

Matthew A. Bowen, MD
Louisiana Health Sciences Center
New Orleans, LA

Derald Brackmann, MD
House Ear Clinic
Los Angeles, CA

Joseph T. Breen, MD
Mayo Clinic
Rochester, MN

Ruth Bristol, MD
Barrow Neurosurgical Associates
Phoenix, AZ

Hillary Brodie, MD
UC Davis
Sacramento, CA

Melandez Brown, MD
Hospital of University of Pennsylvania
Philadelphia, PA

Ketan Bulsara, MD
Yale University
New Haven, CT

C. Bush, MD
Medical College of Georgia
Augusta, GA

Emiro Caicedo, MD
University of Minneapolis
Minneapolis, MN

Juan Carlos Fernandez-Miranda, MD
University of Pittsburgh
Pittsburgh, PA

Andrew P. Carlson, MD
University of New Mexico
Albuquerque, NM

Ricardo Carrau, MD
University of Pittsburgh Medical Center
Pittsburgh, PA

Roy Casiano, MD
University of Miami
Miami, FL

Disclaimer: The opinions and recommendations expressed by faculty, authors and other experts whose input is included in this program are their own & do not necessarily represent the viewpoint of Science Care or the North American Skull Base Society.

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<td>Tel Aviv Sourasky Medical Center, Tel Aviv, Israel</td>
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<td>Peter Hwang, MD</td>
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<td>John Jane, MD</td>
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<td>Diana J. Jho, MD, MS</td>
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<td>Beijing Tiantan Hospital, Beijing, China</td>
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<td>Wang Jia, MD</td>
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<td>New Jersey Medical School, Newark, NJ</td>
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<td>Yashar Kalani, MD, PhD</td>
<td>Barrow Neurological Institute, Phoenix, AZ</td>
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<td>Amin Kassam, MD</td>
<td>University of Pittsburgh Medical Center, Pittsburgh, PA</td>
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<td>Daniel Kelly, MD</td>
<td>John Wayne Cancer Institute, Santa Monica, CA</td>
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<td>David Kennedy, MD</td>
<td>University of Pennsylvania Health System, Philadelphia, PA</td>
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<td>Mohamad Khaled, MD</td>
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<td>Shaun Kilty, MD</td>
<td>The University of Ottawa, Ottawa, ON</td>
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<td>Ealma Kim, MD, PhD</td>
<td>Dongsan Medical Center, Keimyung University of Medicine, Daegu, Republic of Korea</td>
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<td>Wayne Koch, MD</td>
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<td>Dennis Kraus, MD</td>
<td>Memorial Sloan-Kettering Cancer Center, New York, NY</td>
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<td>Howard Krauss, MD</td>
<td>Pacific Eye and Ear Specialists, Los Angeles, CA</td>
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<td>Mohamed Labib, MD</td>
<td>The University of Western Ontario, London</td>
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<td>Devyani Lal, MD</td>
<td>Stanford University, Palo Alto, CA</td>
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<td>Tariq Lamki, MD</td>
<td>The Ohio State University, Columbus, OH</td>
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<td>Alexander Langerman, MD</td>
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<td>Laurent Lantieri, MD</td>
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<td>Norm Laperriere, MD</td>
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<td>Derrick Lin, MD</td>
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Mihir R. Patel, MD  
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TrueVision® Systems, Inc. is the leader in digital 3D visualization for microsurgery. Based in Santa Barbara, Calif., TrueVision® has developed and patented an intelligent, real-time, 3D surgical visualization platform. The company is focused on developing a suite of 3D guidance applications for microsurgery to assist surgeons and positively impact patient outcomes.

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Visionsense manufactures a miniature 3D endoscope/microscope used for transphenoidal and endoscopic neuro and ent surgery.
**SPEAKER HIGHLIGHTS**

**KEYNOTE SPEAKER: Laurent Lantieri, MD**
Laurent Lantieri is a Plastic Surgeon and Professor of Plastic Surgery at Assistance Publique Hopitaux de Paris and Head of the Department at Henri Mondor Hospital. Born in 1963, Lantieri went to medical school at Paris Descartes University in Paris, France. He became a Resident in Surgery in 1986 after succeeding at the National French Residency contest. In 1993, he became a Research Fellow at Washington University in Dr. Khouri’s laboratory in the Department of Plastic Surgery, which was directed by Dr. Paul Weeks. From 1994 to 2002, he was at the Henri Mondor Hospital and became Professor of Neurosurgery and Radiation Oncology.

Dr. Lantieri received his medical degree from the University of Texas Southwestern at Dallas. He completed two years of general surgery residency at the University of Texas Southwestern and Parkland Memorial Hospital and then a residency in Otolaryngology - Head and Neck Surgery at Baylor College of Medicine. Dr. Lantieri completed a fellowship in head and neck oncology and cranial base surgery at the University of Pittsburgh and subsequently began his academic faculty career at the Johns Hopkins University in 1995.

Dr. Lantieri previously served as Professor and Chairman of the Division of Otolaryngology - Head and Neck Surgery at the University of Maryland School of Medicine from February 1, 1999 through July of 2003 with joint appointments in the Departments of Surgery, Neurosurgery, and Radiation Oncology. He is currently the Director of the Head and Neck Cancer Research Program, Co-Director of the Center for Head and Neck Cancer and Co-Director of the Center for Cranial Base Surgery, with joint appointments in the Departments of Neurosurgery and Radiation Oncology.

Dr. Lantieri is Editor-in-Chief of the Journal for Oto-Rhino-Laryngology and Editor of the textbook Atlas of Skull Base Surgery. He is also co-editor of a new textbook on Transoral Robotic Surgery for release in 2010.

**GUEST SPEAKER: Bert O’Malley, MD**
Bert W. O’Malley, Jr., M.D. is the Gabriel Tucker Professor and Chairman of the of the Department of Otolaryngology – Head & Neck Surgery. He is the Director of the Head and Neck Cancer Research Program, Co-Director of the Center for Head and Neck Cancer and Co-Director of the Center for Cranial Base Surgery. He is also co-editor of a new textbook on Transoral Robotic Surgery for release in 2010.

Dr. O’Malley is conducting laboratory research in the area of gene and molecular therapy, investigating both viral and non-viral based gene therapies for the treatment of head and neck cancer. The newest direction of this research is the use of molecular therapies to enhance the anti-tumor effects of chemotherapy and radiation while reducing the known toxicities of these treatments.

Board certified in Otolaryngology – Head & Neck Surgery, Dr. O’Malley is a Fellow of the American College of Surgeons and the International College of Surgeons. Dr. O’Malley is a member of numerous professional societies, including the American Academy of Otolaryngology – Head & Neck Surgery, the American Society of Head & Neck Surgery, the Triological Society, the American Laryngologic Society, the American BrochoEsophagology Society, the American Rhinologic Society, the Society of University Otolaryngologists – Head & Neck Surgeons, The John Morgan Society, The Russian-American Cancer Alliance, The American College of Head and Neck Surgery, American Society for Gravitational and Space Biology and the Philadelphia County Medical Society. He is a founding member of the Cell Transplant Society and the Society of Robotic Surgery.

Dr. O’Malley is Editor-in-Chief of the Journal for Oto-Rhino-Laryngology and Editor of the textbook Atlas of Skull Base Surgery. He is also Co-Editor of a new textbook on Transoral Robotic Surgery for release in 2010.

**GUEST SPEAKER: Terry Goddard**
**Attorney General of Arizona**
Throughout his public service career, Terry Goddard has fought to protect Arizonans – a commitment he continues as Attorney General. Terry has focused on protecting Arizona families:

- Fighting cyber crime, especially identity theft and Internet crimes against children.
- Suing drug manufacturers and payday lenders for abusing consumers.
- Leading our State’s fight against Meth.

Terry has long fought to secure our southern border. For over six years, he has disrupted human smuggling operations and seized millions of illegally transferred dollars. He recently concluded a historic settlement with Western Union, which will give anti-money laundering efforts important new investigative leads, as well as establishing a fund dedicated to border-wide crime suppression.

In June of this year, he received the prestigious Kelley-Wyman Award, the highest honor of the National Association of Attorneys General. The award is presented annually to the Attorney General who has done the most to advance the objectives of the nation’s attorneys general. Goddard was selected to receive this honor in recognition of his $94 million recovery from Western Union and his national leadership on several law enforcement initiatives, including mortgage fraud.

Terry has a long history of serving the public. He was elected four times as Mayor of Phoenix and served for seven years as the Arizona State Director for the U.S. Department of Housing and Urban Development (HUD). Terry is an Arizona native, born and raised in Tucson. He received his law degree from Arizona State University. He served an active duty tour in the Navy and retired as a Commander after 27 years in the Naval Reserves. He and his wife Monica have a young son.
SCHEDULE-AT-A-GLANCE

THURSDAY, FEBRUARY 17, 2011

2:00pm-6:00pm  Registration/Speaker Prep  

FRIDAY, FEBRUARY 18, 2011

6:30am  Breakfast/Registration  

7:00am-8:00am  BREAKFAST SEMINARS  

Breakfast Seminar #1: Acoustic Neuroma-Hearing Preservation  
**Moderators:** Michael Gleeson, MD, David Andrews, MD, L. Dade Lunsford, MD, & Derald Brackmann, MD  
**Salon:** Salon III  

Breakfast Seminar #2: Cranial Base Trauma  
**Moderator:** Carl Hardwidge, Hillary Brodie, MD, Rocco Armonda, MD, & Paul Donald, MD  
**Salon:** Salon IV  

Breakfast Seminar #3: Unique Challenges in the Pediatric Skull Base  
**Moderator:** Amir Dehdashti, MD, Carl Snyderman, MD, Elizabeth Tyler-Kabara, MD, & Ruth Bristol, MD  
**Salon:** Sonora A  

Breakfast Seminar #4: Anatomic Radiologic Correlations  
**Moderator:** Brian Rotenberg, MD, Juan Carlos Fernandez-Miranda, MD, & Eugene Yu, MD  

8:05am-10:30am  PLENARY SESSION I  

8:05am  Presidential Address: Peter Neligan, MD  
**Guests of Honor:** Patrick Gullane, MD & Ian Jackson, MD  

8:35am  Keynote Lecture #1: Laurent Lantieri, MD  
**Face Transplant: Looking to the Past and Facing the Future**  

9:45am  Endoscopic vs. Open Surgery for Malignancies (Interactive Debate)  
**Moderator:** Patrick Gullane, MD, Ehab Hanna, MD, Anil Nanda, MD  

10:30am  Break in Exhibit Hall  

11:00am-12:00pm  CONCURRENT SESSIONS  

Concurrent Session #1: Craniopharyngioma  
**Moderator:** Fred Gentili, MD, Theodore Schwartz, MD, L. Dade Lunsford, MD, Norm Laperriere, MD  
**Salon:** Salon I, II  

Concurrent Session #2: Vascular Bypass: Giant Aneurysms  
**Moderator:** Laligam Sekhar, MD, Jacques Morcos, MD, Saleem Abdulrauf, MD  
**Salon:** Salon III  

Concurrent Session #3: Quality of Life  
**Moderator:** Ziv Gil MD, PhD, Michael Gleeson, MD, Carl Snyderman, MD, Snehal Patel, MD  
**Proffered Paper Session I: Approaches**  
**Moderators:** Shaun Kilty, MD & Guy Petruzzelli, MD  
Each paper session will allot for groups of three papers, each presenter will have 7 minutes, Q&A will follow after each group of three for 9 minutes  

12:00pm-1:00pm  NASBS Business Meeting  
**Sonora BCD**  
All NASBS members welcome: lunch will be provided  
Lunch for Non-Members will be available in the exhibit hall  

1:00pm-2:00pm  CONCURRENT SESSIONS  

Concurrent Session #4: Chordoma/Chondrosarcoma - Radiation (Photon, Proton, Fractionated Steriotactic)  
**Moderator:** G. Michael LeMole, Jr, MD, Carl Hardwidge, MD, Norbert J. Liebsch, MD, Norm Laperrier, MD  
**Salon:** Salon I, II  

Concurrent Session #5: Management of Cranial Base Defects  
**Moderator:** Ian Jackson, MD, Peter Neligan, Ricardo Carrau, MD & Alex Chiu, MD  
**Salon:** Salon III  

Concurrent Session #6: Reducing Complications in Endonasal Surgery - Preop/Intraop/Postop  
**Moderator:** Vijay K. Anand, MD, Marc Rosen, MD, Peter Hwang, MD, Ameet Singh, MD, Allan Vescan, MD  
**Salon:** Salon IV  

Proffered Paper Session II: Orbit  
**Moderators:** Steve Newman, MD & Howard Krauss, MD  
Each paper session will allot for groups of three papers, each presenter will have 7 minutes, Q&A will follow after each group of three for 9 minutes
2:00pm-5:30pm  PROFFERED PAPER (Break from 3:30pm-4:00pm)
Each paper session will allot for groups of three papers, each presenter will have 7 minutes, Q&A will follow after each group of three for 9 minutes

Proffered Paper Session III: Quality of Life/CSF Leaks/Endoscopic Reconstruction/3D Endoscopy/Skull Base Imaging  Salon I,II
Moderators I: Allan Vescan, MD & Iman Naseri, MD
Moderators II: John Lee, MD & Pete Batra, MD

Proffered Paper Session IV: Vascular/Approaches  Salon III
Moderators I: Raj Shrivastava, MD & Denis Sirhan, MD
Moderators II: Ivan El-Sayed, MD & Brian Rotenberg, MD

Proffered Paper Session V: Craniovertebral Junction/Pituitary  Salon IV
Moderators I: Paul Gardner, MD & Michael Link, MD
Moderators II: Amir Dehdashti, MD & Mario Ammirati, MD

Proffered Paper Session VI: Vestibular Schwannoma/Schwannoma-Other/Otoneurology  Sonora A
Moderators I: Derald Brackmann & Khaled Aziz, MD
Moderators II: Rick Friedman, MD

3:30pm-4:00pm  Break in the Exhibit Hall  Pavilion

5:30pm-7:00pm  Welcome Reception in Exhibit Hall  Pavilion

SATURDAY, FEBRUARY 19, 2011

6:30am  Breakfast/Registration  Sierra Patio/Salon I Foyer

7:00am-8:00am  BREAKFAST SEMINARS
Breakfast Seminar #5: Endoscopic Repair of CSF Leaks & Meningoencephaloceles  Salon I, II
Moderator: James Liu, MD, Daniel Nuss, MD, Vijay K. Anand, MD, & Frank Culicchia, MD

Moderator: Howard Krauss, MD & Steven Newman, MD

Breakfast Seminar #7: Endoscopic Approaches to the Posterior Fossa  Salon IV
Moderator: Peter Nakaji, MD, Daniel Pieper, MD, Melvin Field, MD, & Charlie Teo, MD

Breakfast Seminar #8: Endoscopic Skull Base CPT Coding Working Group  Sonora A
Moderator: Wayne Koch, MD, Gary Gallia, MD, Brent Senior, MD, Emiro Caicedo, MD, & Stephen Haines, MD

8:05am-10:30am  PLENARY SESSION II  Salon I, II

8:05am  Keynote Lecture #2: Bert O’Malley, Jr, MD
TransOral Robotic Surgery (TORS) for Head and Neck and Skull Base Tumors

8:50am  Keynote Lecture #3: Terry Goddard (Attorney General of Arizona)
Arizona: The Cross Years

9:30am  Skull Base Jeopardy
Judges: Albert Rhoton, MD and Jatin Shah, MD
Moderator: Dennis Kraus, MD

Team Eastern US: Carl Heilman, MD(Lead), John Golfinos,MD, Jacques Morcos,MD, Greg Thompson, MD
Team Western US: Robert Spetzler, MD (Lead), Franco DeMonte,MD, Paul Donald,MD, Devyani Lal, MD
Team Canada/Other: Fred Gentili, MD(Lead), Michael Gleeson,MD, Patrick Gullane,MD,& Carl Hardwidge,MD

10:25am  Skull Base Journal update  Dennis Kraus, MD

10:30am-11:00am  Break with Exhibitors & New Technology Talk  Pavilion
Michael LeMole, Jr., MD

11:00am-12:00pm  CONCURRENT SESSIONS
Concurrent Session #7: Therapeutic Options Atypical/Recurrent Meningiomas  Salon I,II
Moderator: Fred Gentili, MD, Fred Barker, MD, Patrick Wen, MD, & Norm Laperrier, MD

Concurrent Session #8: Training in Skull Base Surgery – How Can It Be Improved?  Salon, III
Moderator: David W. Kennedy, MD, Mark Varvares, MD, Harry Van Loveren, MD, & Carl Snyderman, MD

Concurrent Session #9: Pituitary Surgery  Salon IV
Paul Gardner, MD, Anand Germanwala, & Charlie Teo, MD

Proffered Papers VII: General  Sonora A
Moderators: Ketan Bulsara, MD & Stephanie Joe, MD
**SCHEDULE-AT-A-GLANCE**  
*Continued...*

### 12:00pm
Lunch in Exhibit Hall  
*Pavilion*

### 1:00pm-2:00pm  
**CONCURRENT SESSIONS**

- **Concurrent Session #10**: 3D Endoscopic Anatomy Talk  
  Albert Rhonon, MD, & Juan Carlos Fernandez-Miranda, MD  
  *Salon I, II*
- **Concurrent Session #11**: Esthesioneuroblastoma Management  
  Moderator: Jatin Shah, MD, Franco DeMonte, MD, Roy Casiano, MD, & Brian O’Sullivan, MD  
  *Salon III*
- **Concurrent Session #12**: American Rhinologic Society: Endoscopic Resection of Benign Sinonasal Tumors  
  Moderator: Brent Senior, MD, Alex Chiu, MD, Devyani Lal, MD, & Adam Zanation, MD  
  *Salon IV*
- **Proffered Papers VIII**: Visualization  
  Moderators: Christopher Rassekh, MD & Siviero Agazzi, MD  
  *Sonora A*

### 2:00pm-5:30pm  
**PROFFERED PAPER SESSIONS** (Break from 3:30pm-4:00pm)

- **Proffered Papers IX**: Meningioma/General  
  Moderators I: Peter Nakaji, MD & Michael Chicoine, MD  
  Moderators II: Ryojo Akagami, MD & Franco DeMonte, MD  
  *Salon I, II*
- **Proffered Papers X**: Reconstruction/Pituitary  
  Moderators I: Peter Cordiero, MD & Lawrence Marentette, MD  
  Moderators II: Francois Lavigne, MD & Michel Bojanowski, MD  
  *Salon III*
- **Proffered Papers XI**: Chordoma/Esthesioneuroblastoma/Craniopharyngioma/General  
  Moderators I: Saleem Abdulrauf, MD & Kadir Erkman, MD  
  Moderators II: Thomas Origitano, MD & Derrrik Lin, MD  
  *Salon IV*
- **Proffered Papers XII**: Anatomy/Head & Neck  
  Moderators I: Alex Chiu, MD & Arthur Dublin, MD  
  Moderators II: Samant Sandeep, MD & Marilene Wang, MG  
  *Sonora A*

### 3:30pm-4:00pm
Break in the Exhibit Hall  
*Pavilion*

### 7:00pm-10:30pm
Social Event  
Head down to the Pooslidg Patio to enjoy this Western Themed Event. Enjoy some BBQ and take a shot at one of the various games such as the Tomahawk Toss or Bucking Barrel. Attire: Cowboy Casual!  
(Bring a jacket as it might get chilly—it is the desert!)

### SUNDAY, FEBRUARY 20, 2011

#### 7:00am
Breakfast/Registration  
*Pavilion/Salon I Foyer*

#### 8:00am-9:00am  
**CONCURRENT SESSIONS**

- **Concurrent Session #13**: Paragangliomas - Treatment Options - Surgery vs. Radiation  
  Moderator: Daniel Prevedello, MD, John Leonetti, MD, Ossam Al-Mefty, MD, & Brian O’Sullivan, MD  
  *Salon I, II*
- **Concurrent Session #14**: Craniovertebral Junction - Transoral/Endoscopic/Fusions  
  Moderator: Ketan Bulsara, MD, Mio Ammirati, MD, Chandranath Sen, MD, & Paul Gardner, MD  
  *Salon III*
- **Proffered Papers XIII**: Outcomes  
  Moderators: Mark Varvares, MD & John Golfinos, MD  
  *Sonora A*
- **Proffered Papers XV**: General  
  Moderators: Ben Dixon, MD & Daniel Nuss, MD  
  *Sonora A*

#### 9:00am-12:00pm  
**PLENARY SESSION III**

- **Tumor Board**  
  Moderator: Dennis Kraus, MD, Michael Link, MD, Paul Donald, MD, Ricardo Carrau, MD, Brian O’Sullivan, MD, & Patrick Wen, MD

#### 10:00am
Break with Exhibitors  
*Pavilion*

#### 10:30am
3D Anatomy Talk  
Albert Rhonon, MD  
*Salon I, II*
### Practical Course Dissection Workshop, Open & Endoscopic Approaches to the Skull Base at Barrow Neurological Institute in Phoenix, Arizona

#### DAY ONE  » Wednesday, Feb. 16

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
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<tbody>
<tr>
<td>7:50am</td>
<td>Welcome: Vijay Anand, MD</td>
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<tr>
<td>8:00am</td>
<td>Surgical Anatomy and Skull Base Approaches: Abtin Tabaei, MD</td>
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<tr>
<td>8:15am</td>
<td>Sellar and Supra Sellar Approaches: Theodore Schwartz, MD</td>
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<tr>
<td>8:30am</td>
<td>Endoscopic Approaches to Craniopharyngioma: John Jane, MD</td>
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<tr>
<td>8:45am</td>
<td>Indications and Limitations for Endoscopic Skull Base Surgery: Brent Senior, MD</td>
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<tr>
<td>9:00am</td>
<td>Decision Making in Meningioma Management: James Evans MD</td>
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<tr>
<td>9:15am</td>
<td>Endoscopic Skull Base Reconstruction: Marc Rosen MD</td>
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<tr>
<td>9:30am</td>
<td>Coffee Break</td>
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<tr>
<td>10:00am</td>
<td>Endoscopic Skull Base Reconstruction for Large Skull Base Defects: Ian Witterick MD</td>
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<tr>
<td>10:15am</td>
<td>Endoscopic or Microscopic Skull Base Approaches: When and Why: Dan Kelly MD</td>
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<tr>
<td>10:30am</td>
<td>Endoscopic Approaches to Infratemporal Fossa and Beyond: Vijay K.Anand MD</td>
</tr>
<tr>
<td>10:45am</td>
<td>Successful Management of Complications of Skull Base Surgeries: Roy Casiano MD</td>
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<tr>
<td>11:00am</td>
<td>Endoscopic Resection of Sinonasal Malignancy: Ehab Hanna, MD</td>
</tr>
<tr>
<td>11:15am</td>
<td>My Most Challenging Case</td>
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<tr>
<td>12:30pm</td>
<td>Lunch</td>
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<tr>
<td>1:00pm</td>
<td>From the Lab to the OR: Endoscopic Endonasal Skull Base Surgery: Juan Carlos Fernandez-Miranda, MD</td>
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<tr>
<td>1:30pm</td>
<td>Prosection and Demonstration</td>
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<tr>
<td>2:00pm</td>
<td>Lab Dissection</td>
</tr>
<tr>
<td>6:00pm</td>
<td>Adjourn (Shuttle will leave promptly at 6:00pm to bring participants back to Hilton Scottsdale)</td>
</tr>
</tbody>
</table>

**At the conclusion of this activity, participants will be able to:**
- Apply various endoscopic techniques for pituitary and skull base surgery
- Demonstrate knowledge of the advanced endoscopic anatomy
- Explain various techniques of surgery and how to avoid complications

*Dr. Vijay Ananda would also like to thank the following doctors for their help with this course: Seth Brown MD MBA, Abtin Tabaei MD, Ameet Singh MD, Gurston Nyquist MD, Madeleine Schaberg MD MPH, & Edward McCoul MD MPH*

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### DAY TWO  » Thursday, Feb. 17

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:00am</td>
<td>Introduction by Ehab Hanna, MD &amp; Jacques Morcos</td>
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<tr>
<td>8:10am</td>
<td>LECTURE: Anterior Transfacial Approaches: Dennis Kraus, MD &amp; Sandeep Samant, MD</td>
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<tr>
<td>8:30am</td>
<td>LECTURE: Cranial Orbital Zygomatic Approach: Carlos David, MD</td>
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<tr>
<td>8:50am</td>
<td>Dissection Lab</td>
</tr>
<tr>
<td>10:30am</td>
<td>Break</td>
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<tr>
<td>10:45am</td>
<td>LECTURE: Lateral Preauricular Infratemporal Approaches: Daniel Nuss, MD</td>
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<tr>
<td>11:05am</td>
<td>LECTURE: Middle Fossa Approaches: Chandra Sen, MD</td>
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<tr>
<td>11:25am</td>
<td>Dissection Lab</td>
</tr>
<tr>
<td>1:00pm</td>
<td>Lunch</td>
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<tr>
<td>2:00pm</td>
<td>LECTURE: Postauricular Transtemporal Approaches: Neurootology Perspective: Rick Friedman, MD, PhD</td>
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<tr>
<td>2:20pm</td>
<td>LECTURE: Postauricular Transtemporal Approaches: Neurosurgery Perspective: Mustafa Baskaya, MD</td>
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<tr>
<td>2:40pm</td>
<td>Dissection Lab</td>
</tr>
<tr>
<td>4:20pm</td>
<td>Break &amp; Questions</td>
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<tr>
<td>4:45pm</td>
<td>Case Presentations by Hanna/Morcos to be discussed by panel of invited faculty</td>
</tr>
<tr>
<td>6:00pm</td>
<td>Adjourn (Shuttle will leave promptly to bring participants back to Hilton Scottsdale)</td>
</tr>
</tbody>
</table>

At the conclusion of the program, participants will be able to:
- List the various surgical approaches to the anterior, middle and posterior skull base
- Describe the indications, contraindications, advantages, and disadvantages of each approach
- Perform the soft tissue dissection and osteotomies required for tumor access in each approach

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**February 16th:** Science Care designates this educational activity for a maximum of 8.5 AMA PRA Category 1 Credit(s)™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

**February 17th:** Science Care designates this educational activity for a maximum of 8.25 AMA PRA Category 1 Credit(s)™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

This activity has been approved for AMA PRA Category 1 Credit™.
SCIENTIFIC PROGRAM

THURSDAY, FEBRUARY 17, 2011

2:00pm-6:00pm  Registration/Speaker Prep  Salon I Foyer

FRIDAY, FEBRUARY 18, 2011

6:30am  Breakfast/Registration  Sierra Patio/Salon I Foyer

7:00am-8:00am  BREAKFAST SEMINARS

**Breakfast Seminar #1: Acoustic Neuroma-Hearing Preservation**

- **Salon III**
  - Introduction & Overview – Michael Gleeson, MD (Moderator)
  - Hearing Preservation in Patients with Acoustic Neuromas Treated by Fractionated Radiotherapy – David Andrews, MD
  - Hearing Preservation in Patients with Acoustic Neuromas Treated by Gamma Knife Radiosurgery – L. Dade Lunsford, MD
  - Hearing Preservation in Patients with Acoustic Neuromas Treated by Surgery – Derald Brackmann, MD
  - Case Discussion and Consensus Statement – Michael Gleeson, MD

**Breakfast Seminar #2: Cranial Base Trauma**

- **Salon IV**
  - Management of the Complications of Temporal Bone Fractures – Hillary Brodie, MD
  - The Diagnosis, Treatment and Complication Avoidance in Vascular Injury of Cranial Base Trauma Management – Rocco Armonda, MD
  - Frontal Sinus Injury: When to and When Not – Paul Donald, MD
  - Case Discussion & Questions
  - *Moderator: Carl Hardwidge, MD*

**Breakfast Seminar #3: Unique Challenges in the Pediatric Skull Base**

- **Sonora A**
  - Endoscopic Endonasal Surgery in the Pediatric Population – Benefits & Limitations – Carl Snyderman, MD
  - Congenital Skull Base Defects – Elizabeth Tyler-Kabara, MD
  - Craniosynostosis – Ruth Bristol, MD
  - *Moderator: Amir Dehdashti, MD*

**Breakfast Seminar #4: Anatomic Radiologic Correlations**

- **Salon I, II**
  - Anatomy of the Anterior and Central Skull Base (2D & 3D) – Juan Carlos Fernandez-Miranda, MD
  - Imaging of the Anterior and Central Skull Base – Eugene Yu, MD
  - *Moderator: Brian Rotenberg, MD*

8:05am-10:30am  PLENARY SESSION I

8:05am  Presidential Address: Peter Neligan, MD

- *Guests of Honor: Patrick Gullane, MD & Ian Jackson, MD*

8:35am  Keynote Lecture #1: Laurent Lantieri, MD

- Face Transplant: Looking to the Past and Facing the Future

9:45am  Endoscopic vs. Open for Malignancies (Interactive Debate)

- Endoscopic Resection of Sinonasal Cancers: Outcomes and Limitations – Ehab Hanna, MD
  - Open Approaches – Anil Nanda, MD
  - *Moderator: Patrick Gullane, MD*

10:30am  Break in the Exhibit Hall  Pavilion

11:00am-12:00pm  CONCURRENT SESSIONS

**Concurrent Session #1: Craniohypophysectomy**

- **Salon I, II**
  - Open Surgery – Fred Gentili, MD
  - Endoscopic Surgery – Theodore Schwartz, MD
  - Adjuvant Therapies – L. Dade Lunsford, MD
  - Radiation Therapy – Norm Laperriere, MD
  - *Moderator: Fred Gentili, MD*

**Concurrent Session #2: Vascular Bypass: Giant Aneurysms**

- **Salon III**
  - Vascular Bypasses for Anterior Circulation Aneurysms – Jacques Morcos, MD
  - Evolving Minimally Invasive Techniques for EC to IC Bypass – Saleem Abdullauf, MD
  - Bypasses for Posterior Circulation Aneurysms – Laligam Sekhar, MD (Moderator)
Concurrent Session #3: Quality of Life
Introduction – Ziv Gil MD, PhD (Moderator)
Quality of Life Issues in the Management of Skull Base Paragangliomas and Schwannomas – Michael Gleeson, MD
Quality of Life Following Endonasal Skull Base Surgery – Carl Snyderman, MD
Quality of Life After Skull Base Surgery: Open vs. Endoscopic Approaches – Ziv Gil MD, PhD
Multi-Institutional Quality of Life Research – Can We Make it Happen? – Snehal Patel, MD

Proffered Paper SS01: Approaches
Moderators: Shaun Kilty, MD & Guy Petruzzelli, MD
Each paper session will allot for groups of three papers, each presenter will have 7 minutes, Q&A will follow after each group of three for 9 minutes

001 FRONTAL LATERAL APPROACH FOR ANTERIOR CRANIAL FOSSA, SELLAR AND PARASELLAR TUMORS; ADVANTAGES AND TECHNICAL ASPECTS Maher Elayyan (presenter), Amer Al Shurbaji, Asem Mansour, King Hussien Cancer Center and King Hussien Medical Center

002 ENDOSCOPIC GRADUATED MULTI-ANGLE APPROACH FOR ACCESS TO THE INFRATEMPORAL FOSSA: A CADAVERIC STUDY Kim P. Murray (presenter), Jean Anderson E. Loy, James K. Liu, University of Medicine and Dentistry of New Jersey – New Jersey Medical School

003 COMBINED APPROACHES FOR ADVANCED MALIGNANCES OF THE CRANIO-ORBITO-FACIAL COMPLEX: AN OUTCOME STUDY OF 46 PATIENTS Joseph M. Curry (presenter), Robert C. Gerring, Joshua M. Anderson, Elizabeth J. Franzmann, David J. Arnold, David Tse, Thomas E. Johnson, Francisco J. Civantos, Donald T. Weed, Jacques J. Morcos, Zoukaa B. Sargi, University of Miami Miller School of Medicine/Jackson Memorial Hospital

004 COMBINED TRANSORBITAL - ENDONASAL APPROACH TO THE ANTERIOR SKULL BASE Shaan M. Raza (presenter), Kofi Boahene, Alfredo Quinones-Hinojosa, The Johns Hopkins Hospital

005 TRANSCONJUNCTIVAL APPROACH TO THE ANTERIOR SKULL BASE Shaan M. Raza (presenter), Gustavo Pradilla, Alfredo Quinones-Hinojosa, Kofi Boahene, The Johns Hopkins Hospital

006 MINIMALLY INVASIVE TRANSAPPELLAR “EYELID” APPROACH TO THE ANTERIOR CRANIAL BASE: EXPERIENCE IN FORTY CASES Khaled Aziz (presenter), Mohammad Hammad, Raymond Sekula, Sanjay Bhatia, Erik Happ, Allegheny General Hospital, Drexel College of Medicine

12:00pm
NASBS Business Meeting
All NASBS members welcome, lunch will be provided
Lunch for nonmembers will be provided in Exhibit Hall

1:00pm-2:00pm
CONCURRENT SESSIONS
Concurrent Session #4: Chordoma/Chondrosarcoma – Radiation (Photon, Proton, Fractionated Steriotactic)
Introduction – G. Michael LeMole, Jr., MD (Moderator)
Gamma Knife: Does it Make Any Difference? – Carl Hardwidge, MD
Interdisciplinary Treatment of Pediatric Skull Base Chordoma – Norbert J. Liebsch, MD
IMRT – Norm Laperriere, MD

Concurrent Session #5: Management of Cranial Base Defects
Free Flap Reconstruction of the Cranial Base – Peter Neligan, MD
Endonasal Vascular Pedicled Flaps – Ricardo Carrau, MD
Tissue Glues/Laser – Alex Chiu, MD
Moderator: Ian Jackson, MD

Concurrent Session #6: Reducing Complications in Endonasal Surgery – Preop/Intraop/Postop
Management of Intraoperative Complications in Endonasal Skull Base Surgery – Marc Rosen, MD
Successful Management of Bleeding in Endoscopic Skull Base Surgery – Peter Hwang, MD
Management of Recalcitrant CSF Leaks as a Complication of Endoscopic Skull Base Surgery – Ameet Singh, MD
Outcome Evaluation in Endoscopic Skull Base Surgery – Allan Vescan, MD
Moderator: Vijay Anand, MD

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<td><strong>Moderators:</strong> Steve Newman, MD &amp; Howard Krauss, MD</td>
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| **007** ANATOMY OF THE OPTIC CANAL: A COMPUTED TOMOGRAPHY STUDY OF ENDOSCOPIC NERVE DECOMPRESSION  
Lee A. Zimmer (presenter), Catherine K. Hart, University of Cincinnati Medical Center |  
| **008** ENDOSCOPIC ANATOMY OF THE INFERIOR ORBITAL FISSURE  
Lee A. Zimmer (presenter), Juan Carlos De Battista, Philip V. Theodosopouloss, Jeffrey Keller, University of Cincinnati Medical Center |  
| **009** ANATOMICAL ANALYSIS OF THE ENDOSCOPIC ENDONASAL APPROACH TO THE MEDIAL ORBITAL WALL AND ORBITAL APEX  
C. Bush (presenter), T. Farrag, E. Khbazz, J. Van Rompey, C.A. Solares, Department of Otolaryngology - Head and Neck Surgery, Medical College of Georgia, Augusta, GA, USA |  
| **010** THE EXTENDED ENDOSCOPIC ENDONASAL APPROACH FOR ORBITAL APEX TUMOR RESECTION  
Naresh P. Patel (presenter), Christopher Oliver, Richard Hayden, Stacie E. DeMent, Devyani Lai, Mark K. Lyons, Mayo Clinic Arizona |  
| **011** PREDICTIVE FACTORS FOR VISION RECOVERY AFTER OPTIC NERVE DECOMPRESSION FOR CHRONIC COMPRESSIVE NEUROPATHY: SYSTEMATIC REVIEW AND META-ANALYSIS  
Andrew P. Carlson (presenter), Martina Stippler, Sarah K. Morley, Orrin B. Myers, University of New Mexico |  
| **012** ENDOSCOPIC ORBITAL ROOF FENESTRATION: A PROPOSAL TECHNIQUE FOR SURGICAL TREATMENT OF PSEUDOTUMOR CEREBRI: A CADAVERIC ANATOMICAL STUDY  
Asem Salma, Tariq Lamki (presenter), Martin Lubow, Ashley Scheffer, Mario Ammirati, Ohio State University |  
| **2:00pm-5:30pm** |  
| **PROFFERED PAPER** (A Break will be held in the Exhibit Hall from 3:30pm-4:00pm) |  
| Each paper session will allot for groups of three papers, each presenter will have 7 minutes, Q&A will follow after each group of three for 9 minutes |  
| **Proffered Paper SS03: Quality of Life/CSF Leaks/Endoscopic Reconstruction/3D Endoscopy/Skull Base Imaging** |  
| **Salon I, II** |  
| **Moderators I:** Allan Vescan, MD & Iman Naseri, MD) |  
| **Moderators II:** John Lee, MD & Pete Batra, MD |  
| **013** SITE-SPECIFIC QUALITY-OF-LIFE AFTER ENDOSCOPIC ANTERIOR SKULL BASE SURGERY  
Edward D. McCoul (presenter), Vijay K. Anand, Theodore H. Schwartz, Weill Cornell Medical Center |  
| **014** OLFACTORY OUTCOMES AFTER ENDOSCOPIC TRANSSPHENOIDAL PITUITARY SURGERY  
Brian W. Rotenberg, Samantha Saunders (presenter), Neil Duggal, Matthew Hebb, University of Western Ontario |  
| **015** AN ITEM-REDUCED SKULL BASE INVENTORY (SBI) QUALITY OF LIFE QUESTIONNAIRE  
John R. de Almeida (presenter), Allan Vescan, Patrick Gullane, Fred Gentili, Jolie Ringash, Lynne Lohfeld, Gordon Guyatt, Achilles Thoma, Ian Witterick, University of Toronto, McMaster University |  
| **016** PROSPECTIVE CLINICAL TRIAL OF NASAL HEALING, SINONASAL QUALITY OF LIFE AND OLFACTION IN EXPANDED ENDONASAL SKULL BASE SURGERY  
Kibwei A. McKinney (presenter), Stephen A. Whelless, Adam M. Zanation, University of North Carolina - Chapel Hill |  
| **017** PROSPECTIVE STUDY COMPARING NASAL SYMPTOMS AND GENERAL HEALTH RECOVERY BETWEEN ENDOSCOPIC AND MICROSCOPIC TRANSSPHENOIDAL APPROACHES  
Mohamad Khaled (presenter), Mohamed ElZoghy, Spencer Payne, Edward Oldfield, John Jane Jr., UVA |  
| **018** SPONTANEOUS CSF LEAK DUE TO CLINICALLY-OCCULT ELEVATED ICP  
Casey J. Madura (presenter), Hakan Seckin, Samuel P. Gubbel, G. Mark Pyle, Mustafa K. Baskaya, University of Wisconsin |  
| **019** ENDOSCOPIC LASER WELDING (ELW) FOR SPONTANEOUS CEREBROSPINAL FLUID LEAK (CSF) REPAIR: A PRELIMINARY REPORT  
Benjamin S. Bleier (presenter), Rodney J. Schlosser, Massachusetts Eye and Ear Infirmary, Harvard Medical School; Medical University of South Carolina |  
| **020** SUCCESSFUL MANAGEMENT OF RECALCITRANT ENDOSCOPIC CEREBROSPINAL FLUID LEAKS: TECHNICAL CONSIDERATIONS  
Ameet Singh (presenter), Edward McCoul, Fabio Roberti, Vijay K. Anand, Theodore H. Schwartz, Cornell University & George Washington University |  
| **021** SYSTEMATIC ANALYSIS OF CEREBROSPINAL FLUID LEAK AFTER ENDOSCOPIC SKULL BASE SURGERY: TUMOR LOCATION, CLOSURE METHOD, AND PATHOLOGY  
Ricardo J. Komotar, Daniel M. Raper, Robert M. Starke, Vijay K. Anand, Theodore H. Schwartz (presenter), Memorial Sloan-Kettering Cancer Center; Weill Cornell Medical College; University of Virginia; University of Sydney |
022 THE BIPEDICLED ANTERIOR SEPTAL(BAS) FLAP FOR ANTERIOR FRONTAL TABLE AND SKULL BASE RECONSTRUCTION: A RADIOANATOMIC AND CADAVERIC STUDY Benjamin S. Bleier (presenter), Rodney J. Schlosser, Massachusetts Eye and Ear Infirmary, Harvard Medical School; Medical University of South Carolina

023 COMPARISON OF ENDOSCOPIC TECHNIQUES FOR SECURING THE DURAL RECONSTRUCTION FOR SURGICAL DEFECTS OF THE ANTERIOR CRANIAL FOSSA Marc A. Tewfik (presenter), Rowan Valentine, Andrew Foreman, Peter-John Wormald, The Queen Elizabeth Hospital, Adelaide and Flinders Universities

024 LONG-TERM OUTCOMES OF ENDOSCOPIC SKULL BASE RECONSTRUCTION WITH THE NASOSEPTAL FLAP Edward D. McCoul (presenter), Vijay K. Anand, Ameet Singh, Gurston G. Nyquist, Madeleine R. Schaberg, Theodore H. Schwartz, Weill Cornell Medical Center

025 3-D ENDOSCOPIC APPROACH TO THE CRANIAL BASE- THE OTOLARYNGOLOGY PERSPECTIVE Jason G. Newman (presenter), John Y. Lee, M. Sean Grady, Bert W. O’Malley, University of Pennsylvania

026 COMPARISON STUDY BETWEEN CONVENTIONAL AND 3-DIMENSIONAL NASAL ENDOSCOPY FOR RESECTION OF SKULL BASE TUMORS Oshri Waserzug, Noam Weisman, Nevo Margailt, Dan M. Fliss, Ziv Gil (presenter), ¹Department of Otolaryngology - Head and Neck Surgery, ²Department of Neurosurgery, ³The Head and Neck Surgery Unit, Tel-Aviv Sourasky Medical Center, Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel

027 3D VISIONSENSE ENDONASAL RESECTION OF VENTRAL SKULL BASE TUMORS John Y Lee (presenter), Arun Jacob, Jason G. Newman, Bert W. O’Malley, Jr., M. Sean Grady, University of Pennsylvania

028 COMPARISON BETWEEN MANUAL AND SEMIAUTOMATED VOLUMETRIC MEASUREMENTS OF PITUITARY ADENOMAS Qasim Al Hinai (presenter), Anthony Zeitouni, Juan Rivera, Kelvin Mok, Mark Tewfik, Denis Sirhan, McGill University

029 IMPLEMENTING A DEPARTMENTAL OUTPATIENT IMAGE MANAGEMENT SYSTEM B. Lega (presenter), L. Macyszyn, M. Grady, University of Pennsylvania

030 CONE-BEAM CT-ASSISTED ENDOSCOPIC SINUS AND SKULL BASE SURGERY: QUANTITATIVE ANALYSIS OF SURGICAL PERFORMANCE USING A NEXT-GENERATION C-ARM PROTOTYPE Stella Lee (presenter), Gary Gallia, Douglas Reh, Sebastian Schafer, Ali Uneri, Daniel Mirotta, Sajendra Nithiananthan, Yoshiro Otake, J. Webster Stayman, Wojciech Zbijewski, Jeffrey Siewersden, Johns Hopkins University

Proffered Paper SS04: Vascular/Approaches

Moderators I: Raj Shrivastava, MD & Denis Sirhan, MD
Moderators II: Ivan El-Sayed, MD & Brian Rotenberg, MD


032 A NOVEL OSTEOMYOPLASTIC PTERIONAL CRANIOTOMY FOR ANEURYSM SURGERY: ITS TECHNICAL FEASIBILITY AND FUNCTIONAL OUTCOME Ealmaan Kim (presenter), Department of Neurosurgery, Donghsan Medical Center, Keimyung University School of Medicine, Daegu, Republic of Korea

033 USE OF AN ULTRASONIC BONE ASPIRATOR (SONOPET??) FOR ANTERIOR CINOIDECTOMY DURING PARACLINOID CEREBRAL ANEURYSM SURGERY Kimon Bekelis, Sylves Missios, Kadir Erken (presenter), Section of Neurosurgery, Dartmouth-Hitchcock Medical Center, Lebanon, NH

034 SKULL BASE APPROACH TO CAROTID ARTERY LESIONS – TECHNIQUE, INDICATIONS, AND OUTCOMES Alexander Langerman (presenter), Thomas C. Naslund, James L. Netterville, Vanderbilt University Medical Center

035 SHORT SEGMENT INTERNAL MAXILLARY ARTERY TO MIDDLE CEREBRAL ARTERY BYPASS: A NOVEL TECHNIQUE FOR EXTRACRANIAL-TO-INTRACRANIAL BYPASS Saleem I. Abdulrauf (presenter), Justin M. Sweeney, Y. S. Mohan, Sheri K. Palejwala, Saint Louis University School of Medicine

036 VASCULAR MANAGEMENT IN COMPLEX SKULL BASE TUMORS INCLUDING BYPASS SURGERY Jorge Mura (presenter), David Rojas-Zalazar, Francisco Riquelme, Institute of Neurosurgery Asenjo. Department of Neurological Sciences. University of Chile.

037 ICA INJURY Paul Gardner (presenter), TBD
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<td>COMBINED BALLOON TEST OCCLUSION AND SPECT ANALYSIS FOR HEAD AND NECK TUMORS AND GIANT CAROTID ANEURYSMS FOR POSSIBLE CAROTID SACRIFICE: ARE THERE ANGIOGRAPHIC PREDICTORS FOR SUCCESS OR FAILURE OF THIS TECHNIQUE?</td>
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<td>Armen Choulakian, Abhineet Chowdhary (presenter), Michael J. Alexander, Cedars-Sinai</td>
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<td>MODIFIED ONE-PIECE EXTENDED TRANSBasAL APPROACH FOR ANTERIOR SKULL BASE TUMORS: THE ANTERIOR WALL OF THE FRONTAL SINUS REVISITED</td>
<td>James K. Liu (presenter), Bradley S. Kushner, Jean A. Eloy, University of Medicine and Dentistry of New Jersey, New Jersey Medical School, Newark, New Jersey, USA</td>
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<td>REFINING THE INDICATIONS FOR THE ADDITION OF ORBITAL OSTEOTOMY FOR ANTERIOR CRANIAL BASE APPROACHES: MORPHOMETRIC AND RADIOLOGIC STUDY OF THE ANTERIOR CRANIAL BASE OSTEOTOMY</td>
<td>Juan C. DeBattista, Norberto Andaluz (presenter), Jeffrey T Keller, Department of Neurosurgery, University of Cincinnati</td>
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<td>CLASSIFICATION OF APPROACHES FOR ENDONASAL ENDOSCOPIC RESECTION OF INFRATEMPORAL FOSSA TUMORS</td>
<td>Michael E. Stadler (presenter), Mihir R. Patel, Anand V. Germanwala, Adam M. Zanation, University of North Carolina at Chapel Hill</td>
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<td>AVOIDING FACIAL INCISIONS: COMBINED TRANSCRANIAL - TRANSFACIAL APPROACHES TO THE SKULL BASE</td>
<td>Shaan M. Raza (presenter), Kofi Boahene, Alfredo Quiones-Hinojosa, The Johns Hopkins Hospital</td>
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<td>WHAT IS THE BEST ROUTE TO MECKEL'S CAVE? ANATOMICAL COMPARISON BETWEEN THE ENDOCOSPIF TRANSNASAL APPROACH AND A LATERAL APPROACH</td>
<td>Jason Van Rompaey (presenter), C. Bush, T. Farrag, E. Khabbaz, B. Panizza, C.A. Solares, (1) Dept. of Otolaryngology – Head and Neck Surgery, Med. College of Georgia, USA; (2) Queensland Skull Base Unit, Princess Alexandra Hosp., Australia; (3) School of Med., Univ. of Queensland, Australia</td>
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<td>ENDOscopic ANATOMY OF THE PALATOVAGINAL CANAL (PALATOSPHENOIDAL CANAL): A LANDMARK FOR DISSECTION OF THE VIDIAN NERVE DURING ENDONASAL TRANSPTERYGID APPROACHES</td>
<td>Carlos D Pinheiro-Neto (presenter), Juan C Fernandez-Miranda, Carlos M Rivera-Serrano, Alec E Vaezi, Carl H Snyderman, Paul A Gardner, University of Pittsburgh School of Medicine; (1) Department of Neurosurgery; (2) Department of Otolaryngology</td>
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<td>THE TRANSCRIBIFORM APPROACH TO THE ANTERIOR CRANIAL FOSSA</td>
<td>Mihir R. Patel (presenter), Michael E. Stadler, Anand V. Germanwala, Adam M. Zanation, University of North Carolina at Chapel Hill</td>
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<td>ANATOMO-SURGICAL CLASSIFICATION OF ENDOMIC ENDOSCOPIC TRANSCLIVAL APPROACHES</td>
<td>A. Paluzzi (presenter), J. C. Fernandez-Miranda, M. Tormenti, Carlos Pinheiro-Neto, C. Snyderman, P. Gardner, University of Pittsburgh Medical Center, Pittsburgh: Department of Neurosurgery; Department of Ear Nose and Throat</td>
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<td>THE ROADMAP FOR THE INTERNAL CAROTID ARTERY IN EXPANDED ENDOCOSOPIC ENDONASAL APPROACHES</td>
<td>Mohamed Labib (presenter), Daniel Prevedello, Juan Fernandez-Miranda, Ricardo Carrau, Amin Kassam, The University of Western Ontario, Ohio State University, The University of Pittsburgh, The University of Ottawa</td>
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**Proffered Paper SS05: Craniovertebral Junction/ Pituitary**

**Salon IV**

**Moderators I:** Paul Gardner, MD & Michael Link, MD

**Moderators II:** Amir Dehdashti, MD & Mario Ammirati, MD

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<td>Richard D. Murray (presenter), Travis M. Dumont, Michael A. Horgan, Division of Neurosurgery, University of Vermont - College of Medicine</td>
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<td>Ricardo J. Komotar, Daniel M. Raper, Robert M. Starke, Vijay K. Anand, Theodore H. Schwartz (presenter), Memorial Sloan-Kettering Cancer Center; Weill Cornell Medical College; University of Virginia; University of Sydney</td>
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<td>Yury Shulev (presenter), Vitaliy Stepanenko, Vladimir Klimov, Alexander Trashin, City Hospital # 2, Medical Academy of Postgraduate Studies, Saint-Petersburg, Russia</td>
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054 MICROSURGICAL TREATMENT AND OUTCOME OF SKULL BASE CHONDROMAS  
Sumin Geng (presenter), Junting Zhang, Liwei Zhang, Beijing TianTan Hospital

055 POSTOPERATIVE HEADACHES IN PATIENTS UNDERGOING CRANIOPLASTY WITH EXTRADURAL CLINOIDECTOMY  
Jerome M Volk (presenter), Frank Culicchia, Louisiana State University-New Orleans

056 THE TRANSVELUMIAN APPROACH TO THE IVTH VENTRICLE AND BRAIN STEM  
Haim Ezer (presenter), Anirban D. Banerjee, Boillam Papireddy, Bharat Guthikonda, Anil Nanda, Department of Neurosurgery, Louisiana State University Health Sciences Center, Shreveport, LA

057 USE OF A NOVEL SIDE-CUTTING ASPIRATION DEVICE FOR MICROSCOPIC AND ENDOSCOPIC SKULL BASE TUMOR RESECTION  
Nancy McLaughlin (presenter), Daniel F. Kelly, Kiarash Shahlaie, Leo F. S. Ditzel Filho, Daniel M. Prevedello, Ricardo L. Carrau, Amin B. Kassam, Brain Tumor Center, John Wayne Cancer Institute at Saint John’s Health Center

058 CAVERNOUS SINUS INVASION BY PITUITARY ADENOMAS: NOT AN ISSUE  
Charlie Teo (presenter), Scott Wait, Center for Minimally Invasive Neurosurgery

059 ENDOSCOPIC ENDO-ALAR SURGERY IN RECURRENCE AND RESIDUAL PITUITARY ADENOMAS AFTER MICROSCOPIC RESECTION  
Hussein Alahmadi (Presenter), Amir Dehdashiti, Fred Gentili, Toronto Western Hospital

060 ENDOSCOPIC ENDO-ALAR SURGERY FOR RECURRENCE PITUITARY TUMORS: TECHNICAL CHALLENGES TO THE SURGICAL APPROACH  
Jagmeet Mundi (presenter), Marilene Wang, Marvin Bergsneider, Martin Neil, UCLA

061 THE ENDOSCOPIC TRANSSPHENOIDAL BINOSTRIAL APPROACH FOR SURGICAL TREATMENT FOR HORMONE SECRETING PITUITARY ADENOMAS  
Ali Ayyad (presenter), Department of neurosurgery, Johannes Gutenberg university

062 ENDOSCOPIC TRANSSPHENOIDAL SURGERY FOR PITUITARY ADENOMA IN CUSHING’S DISEASE: RESULTS AND OUTCOMES  
Murali Guthikonda (presenter), Fadi Delly, Jay Jagannathan, Nathan Deckard, Sandeep Mittal, Adam Folbe, Mark Hornykak, Wayne State University/Detroit Medical Center

063 ENDOSCOPIC ENDO-ALAR SURGERY FOR GROWTH HORMONE SECRETING PITUITARY ADENOMAS  
Paul A. Gardner (presenter), Samuel S. Shin, Matthew J. Tormenti, Sue M. Challinor, Tian Wang, Juan C. Fernandez-Miranda, Carl H. Snyderman, University of Pittsburgh, Department of Neurosurgery

064 COMPARISON OF INTRAOPERATIVE AND POSTOPERATIVE MRI FOR ENDOSCOPIC TRANSSPHENOIDAL RESECTION OF PITUITARY MACROADENOMAS  

065 THE SENSE OF SMELL AND PITUITARY TUMOR RESECTION  
Lee A. Zimmer (presenter), Catherine K. Hart, Philip V. Theodosopoulos, University of Cincinnati Medical Center

066 THE INTERSPHENOID SINUS SEPTUM: AN IMPRACTICAL ANATOMIC LANDMARK IN TRANS-SPHENOIDAL ENDOSCOPIC PITUITARY SURGERY  
Justin Poirier (presenter), Donald Lee, Neil Duggal, Brian W Rotenberg, University of Western Ontario

Proffered Paper SS06: Vestibular Schwannoma/ Schwannoma-Other/ Otoneurology  
Sonora A
Modersators I: Derald Brackmann, MD & Khaled Aziz, MD
Modersators II: Rick Friedman, MD, PhD

067 EXPECTANT MANAGEMENT OF VESTIBULAR SCHWANNOMA: A RETROSPECTIVE MULTIVARIATE ANALYSIS OF TUMOUR GROWTH AND OUTCOME  
Mark Hughes (presenter), Christopher Skillbeck, Shakeel Saeed, Robert Bradford, Department of Neurosurgery, Royal Free Hospital, London and Department of Neuro-otology, University College London Ear Institute, Royal National Throat, Nose and Ear Hospital, London

068 T3 AND T4 SAMII CLASSIFICATION ACOUSTIC NEUROMAS: DETAILED OPERATIVE TECHNIQUE. PITFALLS TO PRESERVE THE FACIAL NERVE  

069 CURRENT TRENDS IN THE MANAGEMENT OF ACOUSTIC NEUROMA IN THE UNITED STATES: ARE WE OVER TREATING?  
Tsz Lau (presenter), Raul Olivera, Harry van Loveren, Silviero Agazzi, University of South Florida
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<td>Department of Neurosurgery, Hospital of University of Pennsylvania, Philadelphia, Pennsylvania</td>
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<td>Neil Roundy (presenter), Justin Cetas, Johnny Delashaw, Oregon Health Science University</td>
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<td>MINIMALLY INVASIVE SURGERY AT THE CEREBELLOPONTINE ANGLE: ENDOSCOPIC DIRECTED VESTIBULAR NEURECTOMY</td>
<td>Aaron R Cutler (presenter), Sean Kaloostian, John Frazee, Akira Ishiyama, UCLA Medical Center Department of Neurosurgery</td>
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<td>Hideki Ogwara (presenter), James P. Chandler, Northwestern Memorial Hospital</td>
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<td>VIRTUAL TRANSLABYRINTHINE PETROSECTOMY FOR SKULL BASE TUMORS USING A THREE-DIMENSIONAL SURGICAL SIMULATION MODULE</td>
<td>James Sun, James K Liu, Robert W Jyung (presenter), University of Medicine and Dentistry of New Jersey, New Jersey Medical School</td>
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<td>081</td>
<td>THE NON-PETROSAL ROUTE TO PETRO-CLIVAL LESIONS</td>
<td>Sunil k Gupta (presenter), Postgraduate Institute of Medical Education &amp; Research, Chandigarh</td>
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<td>082</td>
<td>MICROSURGICAL ANATOMY OF THE COCHLEA IN THE EXTENDED MIDDLE FOSSA APPROACH</td>
<td>Jonathan A Forbes M (presenter), Alejandro Rivas, Luke Tomycz MD, Owoicho Adogwa BS, Kyle Weaver, George Wanna MD, Vanderbilt University Medical Center</td>
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**SATURDAY, FEBRUARY 19, 2011**

**3:30pm-4:00pm**  
Break in the Exhibit Hall  
Pavilion

**5:30pm-7:00pm**  
Welcome Reception in the Exhibit Hall  
Pavilion

**6:30am**  
Breakfast/Registration  
Sierra Patio/Salon I Foyer

**7:00am-8:00am**  
BREAKFAST SEMINARS  
Salon I, II

| Breakfast Seminar #5: Endoscopic Repair of CSF leaks & Meningoencephaloceles | Diagnostic and Therapeutic Challenges in CSF Leak Management – Daniel Nuss, MD  
Technical Nuances in Endoscopic Repair of CSF Leaks/Meningoencephaloceles – Vijay Anand, MD  
The Role of CSF Diversion in Skull Base CSF Leak Repair – Frank Culicchia, MD  
Case Review/Discussion – James Liu, MD (Moderator) |
| Breakfast Seminar #6: Fundamentals of Neuro-Ophthalmology | Howard Krauss, MD  
Steven Newman, MD (Moderator) |  
Salon III  

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**SCIENTIFIC PROGRAM Continued...**
Breakfast Seminar #7: Endoscopic Approaches to the Posterior Fossa
Introduction: Endoscopic Approaches to the Posterior Fossa – Peter Nakaj, MD (Moderator)
Role of Endoscopy in Surgery for Acoustic Neuroma and Other Vestibulocochlear Pathology – Daniel Pieper, MD
Endoscopy for Neurovascular Compression Syndromes – A Surgical Advancement or Gimmick? – Melvin Field, MD
Endonasal Approach to Tumors Extending into or Arising from the Posterior Fossa – Charlie Teo, MD

Breakfast Seminar # 8: Endoscopic Skull Base CPT Coding Working Group
Introduction to the CPT Process – Wayne Koch, MD
Meta-Analysis of Literature Re Endoscopic Anterior Skull Base Procedures – Gary Gallia, MD
Endoscopic Middle Cranial Fossa – Brent Senior, MD
Experience Negotiating Payment for Unlisted Codes – Emiro Caicedo, MD
Neurosurgical Perspective – Stephen Haines, MD

8:05am-10:30am PLENARY SESSION
8:05am Keynote Lecture #2: Bert O’Malley, MD
TransOral Robotic Surgery (TORS) for Head and Neck and Skull Base Tumors
8:50am Keynote Lecture #3: Terry Goddard (Attorney General of Arizona)
Arizona: The Cross Years
9:30am Skull Base Jeopardy
Judges: Albert Rhoton, MD & Jatin Shah, MD
Moderator: Dennis Kraus
Team Eastern US: Carl Heilman, MD (Lead), John Golfinos, MD, Jacques Morcos, MD, & Greg Thompson, MD
Team Western US: Robert Spetzler, MD (Lead), Franco DeMonte, MD, Paul Donald, MD, & Devyani Lal, MD
Team Canada/Other: Fred Gentili, MD (Lead), Michael Gleson, MD, Patrick Gullane, MD, & Carl Hardwidge, MD
10:25am Skull Base Journal Update
Dennis Kraus, MD
10:30am-11:00am Break with Exhibitors & New Technology Talk
Michael LeMole, MD
11:00am-12:00pm CONCURRENT SESSIONS
Concurrent Session #7: Therapeutic Options Atypical/Recurrent Meningiomas
Surgical Options – Fred Barker, MD
Adjuvant Therapies – Patrick Wen, MD
Radiation Therapy – Norm Laperriere, MD
Moderator: Fred Gentili, MD
Concurrent Session #8: Training in Skull Base Surgery – How Can It Be Improved?
Developing Laboratory and Simulator Training – David W. Kennedy, MD (Moderator)
Training in Open Skull Base Surgery and Reconstruction – Mark Varvares, MD
How Should We Modify Neurosurgical Training as We Move Forwards? – Harry Van Loveren, MD
How Many Cases Does It Take to Achieve Proficiency in Endoscopic Endonasal Skull Base Surgery? – Carl Snyderman, MD
Concurrent Session #9: Pituitary Surgery
Paul Gardner, MD, Anand Germanwala, MD & Charlie Teo, MD
Proffered Papers SS07: General
Moderators: Stephanie Joe, MD & Ketan Bulsara, MD

083 PREOPERATIVE EMBOLIZATION OF JUVENILE NASOPHARYNGEAL ANGIOFIBROMAS: TRANSARTERIAL VERSUS DIRECT TUMORAL PUNCTURE
Mohamed Samy Elhammady (presenter), Jeremiah N. Johnson, Eric C. Peterson, Mohammad Ali Aziz-Sultan, University of Miami

084 SINOSAL HEMANGIOPERICYTOMA: ENDOSCOPIC MANAGEMENT MADE POSSIBLE BY PRE-OPERATIVE EMBOLIZATION
Blake J. LeBlanc (presenter), Monsour Mirfakhraee, Brandi Kelly, Cherie-Ann O. Nathan, Louisiana State University Health Sciences Center - Shreveport, Louisiana, United States

085 CRANIOFACIAL JNAS
Yashar Kalani (presenter), Barrow Neurological Institute - Division of Neurological Surgery

086 A COMBINED PERICAVERNOS AND TRANSCavernous SURGICAL AVENUE TO THE UPPER BASILAR ARTERY REGION
Bart Regaert, Luigi Berra, Collin Tebo, Joss Cohen, Philip E. Stieg, Antonio Bernardo (presenter), Department of Neurosurgery, Weill Cornell Medical College, New York
12:00pm
Lunch

1:00pm-2:00pm
CONCURRENT SESSIONS

Concurrent Session #10: 3D Endoscopic Anatomy
3D Anatomic Basis of Endoscopic Skull Base Surgery – Albert Rhoton, MD
From the Lab to the OR: Endoscopic Endonasal 3D Anatomy and Surgery of the Skull Base – Juan Carlos Fernandez-Miranda, MD

Concurrent Session #11: Esthesioneuroblastoma Management
Pathology and Craniofacial Open Procedures and Outcomes – Franco DeMonte, MD
Endonasal Endoscopic Resection: Indications, Selection Criteria, and Outcomes – Roy Casiano, MD
Role of Radiotherapy – Brian O’Sullivan, MD
Moderator: Jatin Shah, MD

Concurrent Session #12: American Rhinologic Society: Endoscopic Resection of Benign Sinonasal Tumors
Endoscopic Management of Bone Tumors – Alex Chiu, MD
Endoscopic Management of Inverted Papilloma – Devyani Lal, MD
New Technology in Endoscopic Management of Benign Tumors of the Sinonasal Cavity – Adam Zanation, MD
My 3 Key Tips for Success in Endoscopic Removal of Tumors – All
Moderator: Brent Senior, MD

Proffered Papers SS08: Visualization
Moderators: Christopher Rassekh, MD & Siviero Agazzi, MD

2:00pm-5:30pm
PROFFERED PAPER SESSIONS (A Break will take place from 3:30pm-4:00pm in the Exhibit Hall)
Each paper session will allot for groups of three papers, each presenter will have 7 minutes, Q&A will follow after each group of three for 9 minutes

Proffered Papers SS09: Meningioma/General
Moderators I: Peter Nakaji, MD & Franco DeMonte, MD
Moderators II: Michael Cusimano, MD & Ryojo Akagami, MD

095 DIFFUSION TENSOR IMAGING PREDICTION OF SKULL BASE MENINGIOMA PATHOLOGY
John Y. Lee (presenter), Peter Syre, Sumei Wang, University of Pennsylvania
096 TISSUE AND RNA MICROARRAY ANALYSIS OF INVASIVE AND NON-INVASIVE MENINGIOMAS Fateme Salehi, Ryan Alkins, Shahrazad Jalili, Ivan Radovanovic, Caroline Hayhurst, Kelly Burrell, Joon-Il Lee, Sameer Agnithori, Sidney Croul, Fred Gentili, Gelareh Zadeh (presenter), Toronto Western Hospital


098 MICROSURGICAL TREATMENT AND CLASSIFICATION OF PETROCLIVAL MENINGIOMA: EXPERIENCES IN 471 PATIENTS AT A SINGLE INSTITUTE FOR 18 YEARS Junting Zhang (presenter), Zhen Wu, Liwei Zhang, Guijun Jia, Jie Tang, Shuyu Hao, Xinru Xiao, Beijing Tiantan Hospital

099 MICROSURGICAL MANAGEMENT AND CLINICAL OUTCOME BY MENINGIOMAS OF CENTRAL REGION SKULL BASE V. Remenez (presenter), A.J.A terzis, F. Weber, Department of Neurosurgery, General Hospital of the City of Cologne, Cologne-Merheim, Germany

100 MINIMALLY INVASIVE APPROACH FOR ANTERIOR SKULL BASE MENINGIOMAS Ali Ayyad (presenter), Department of Neurosurgery, Johannes Gutenberg university

101 TUBERCULUM SELLAE MENINGIOMAS OPERATED BY SUPRAORBITAL MINIMAL CRANIOTOMY Ante Melada (presenter), Bojan Milanov, Marijan Rozankovic, Velimir Lupret, Department of neurosurgery CHC Zagreb

102 A COMBINED FAR LATERAL, SUBLABYRINTHINE, TRANSPETROSAL,TRANSCERVICAL APPROACH TO THE JUGULAR FORAMEN, ANTERIOR BRAINSTEM AND CLIVUS Luigi Berra, Bart Regaert, Joss Cohen, Collin Tebo, Philip E. Stieg, Antonio Bernardo (presenter), Department of Neurosurgery, Weill Cornell Medical College, New York

103 AGGRESSIVE RESECTION OF INVASIVE SKULL BASE MENINGIOMAS Kiyoshi Saito (presenter), Taku Sato, Eiji Ito, Tadashi Watanabe, Masahiro Ichikawa, Keiko Oda, Hitoshi Ando, Yuka Matsumoto, Jun Sakuma, Department of Neurosurgery, Fukushima Medical University, Fukushima, Japan

104 SPHENORBITAL MENINGIOMA: SURGICAL TECHNIQUE AND OUTCOME Soichi Oya (presenter), Burak Sade, Joung H. Lee, Brain Tumor and Neuro-oncology Center, Cleveland Clinic

105 ENDOSCOPIC ENDONASAL RESECTION FOR OLFACTORY GROOVE MENINGIOMAS Matthew J. Tormenti, Nestor D. Tomycz, Tian Wang, Juan C. Fernandez-Miranda, Carl H. Snyderman, Paul A. Gardner (presenter), University of Pittsburgh Medical Center

106 ENDOSCOPIC ENDONASAL VERSUS OPEN TRANSCRANIAL RESECTION OF SKULL BASE MENINGIOMAS: A SYSTEMATIC META-ANALYSIS OF OUTCOMES Ricardo J. Komotar, Daniel M. Raper, Robert M. Starke, Vijay K. Anand (presenter), Theodore H. Schwartz, Memorial Sloan-Kettering Cancer Center; Weill Cornell Medical College; University of Virginia; University of Sydney

107 RECONSTRUCTION OF THE ORBIT AFTER RESECTION OF SPHENO-ORBITAL MENINGIOMAS - A NOVEL TECHNIQUE Lola B. Chambless (presenter), Louise A. Mawn, Reid C. Thompson, Vanderbilt University

108 PEDICLED PERICRANIAL FLAP FOR DURAL RECONSTRUCTION FOLLOWING SUPRATENTORIAL CONVEXITY MENINGIOMA RESECTION: INITIAL 25 CASES Cintasha Frazier, Anand V. Germanwala (presenter), University of North Carolina School of Medicine

109 DIFFUSION TENSOR IMAGING (DTI) TO CHARACTERIZE GLIAL TUMOR PROGRESSION TO MALIGNANT GLIOMA: A 3-T STUDY OF A COHORT OF PRE-TREATMENT PATIENTS Augustus J. Perez (presenter), Hao Huang, University of Texas Southwestern Medical Center - Advanced Imaging Research Center

110 PATH TO THE INTERPEDUNCAL FOSSA: ANATOMICAL COMPARISON OF ENDOSCOPIC -ASSISTED VERSUS STANDARD SUBTEMPORAL APPROACH Asem Salma, Tariq Lamki (presenter), Nishant Baidya, Steffen Sammet, Mario Ammirati, Ohio State University

111 MANAGEMENT OF RECURRENT PETROUS APEX CHOLESTEROL GRANULOMAS USING THE ENDONASAL ENDOSCOPIC APPROACH Nancy McLaughlin (presenter), Daniel F. Kelly, Daniel M. Prevedello, Ricardo L. Carrau, Kiarash Shahlaie, Amin B. Kassam, Brain Tumor Center, John Wayne Cancer Institute at Saint John’s Health Center, Santa Monica, CA, USA

112 THE “AGNES FAST”** CRANIOTOMY OR THE MODIFIED PTERIONAL (OSTEOPLASTIC) CRANIOTOMY Haim Ezer (presenter), Anirban D. Banerjee, Cedric Shorter, Anil Nanda, Department of Neurosurgery, Louisiana State University Health Sciences Center, Shreveport, LA
113 MUCOPERICHONDRIAL FLAP AS A CLOSURE TECHNIQUE FOR EXPANDED ENDONASAL ENDOSCOPIC SURGERY
Stephan Munich, Andrew J. Fabiano (presenter), Nestor Riguai, Rohan Wijewickrama, Robert A. Fenstermaker, Roswell Park Cancer Institute

114 THE NASOSEPTAL FLAP FOR SKULL BASE DEFECTS: AN INSTITUTIONAL EXPERIENCE
S. Morong (presenter), P. Goetz, EH Ooi, G. Zadeh, F. Gentili, I.J. Witterick, A.D. Vescan, Department of Otolaryngology-Head and Neck Surgery, Mount Sinai Hospital, University of Toronto, Toronto, Ontario, Canada. Division of Neurosurgery, Toronto Western Hospital, UHN, University of Toronto, Ontario, Canada.

115 EXTENDED DISSECTION OF NASOSEPTAL FLAP PEDICLE FOR IPSILATERAL TRANSPTERYGOID APPROACH
Carlos D. Pinheiro-Neto (presenter), Carl H. Snyderman, Juan C. Fernandez-Miranda, Alec E. Vaezi, Paul A. Gardner, University of Pittsburgh School of Medicine: (1) Department of Neurosurgery; (2) Department of Otolaryngology

116 NASOSEPTAL FLAP HARVEST AFTER PREVIOUS TRANSNASAL TRANSSEPTAL SURGERY
Stephanie A. Joe (presenter), G. Michael Lemole, Mike Yao, Dept. of Otolaryngology-Head and Neck Surgery, University of Illinois at Chicago

117 ENDOSCOPIC HARVEST AND TRANSPOSITION OF VASCULARIZED PERICRANIAL FLAP FOR MINIMAL ACCESS OPEN AND ENDOSCOPIC SKULL BASE REPAIR: TECHNICAL NOTES AND CASE ILLUSTRATION
Thuy-Anh Melvin (presenter), Alfredo Quinones-Hinojosa, Michael Lim, Charles Stewart, Kofi Boahene, Johns Hopkins

118 RESTORATION OF THE ORBITAL AESTHETIC SUBUNIT WITH THE THORACODORSAL ARTERY SYSTEM OF FLAPS
Eric J. Chanowski (presenter), Keith A. Camper, Shamir P. Chandarana, Mark E. Prince, Jeffrey S. Moyer, Jason A. Heth, Lawrence J. Marentette, Douglas B. Chepeha, University of Michigan Health System

119 RECONSTRUCTION OF PTERIONAL AND TEMPORAL DEFECTS AFTER FRONTOTEMPORAL AND ORBITOZYGOMATIC CRANIOTOMY USING THE TITAN MEDPOR IMPLANT: COSMETIC RESULTS IN 50 PATIENTS
Lana D. Christiano (presenter), Omar Arnaout, Joseph Adel, James K. Liu, University of Medicine and Dentistry of New Jersey, New Jersey Medical School

120 THE FRONTO-TEMPORAL-ORBITO-ZYGOMATIC APPROACH: RECONSTRUCTIVE TECHNIQUE AND OUTCOME
Samy Youssef, Laura Willard, Angela Downes, Kathryn Hall, Raul Olivera (presenter), Harry Van Loveren, University of South Florida

121 OSTEointegrated ImplANT APPLICATIONs IN SKull BASE REHABILitation
Brent J. Benscoter (presenter), James J. Jaber, Matthew L. Kircher, Sam J. Marzo, Loyola University Medical Center

122 VOLUMETRIC CLASSIFICATION FOR GIANT PITUITARY MACROADENOMAS PREDICTS OUTCOME AND MORBIDITY OF ENDOSCOPIC ENDONASAL TRANSSPHENOIDAL SURGERY
Christoph Hofstetter (presenter), Michael Nanszko, Lynn Mubita, John Tsioiusris, Vijay Anand, Theodore Schwartz, Weill Cornell Medical College

123 MICROsURGICAL STRATEGY AND TECHNIQUE FOR PRESERVATION OF PITUITARY STALK IN GIANT PITUITARY ADENOMA
Guojun Jia (presenter), Wang Jia, Ming Ni, Weiming Liu, Junting Zhang, Beijing Tiantan Hospital, China

124 ENDOSCOPIC TREATMENT OF PITUITARY APOPLEXY: OUTCOMES IN A SERIES OF 10 PATIENTS
Madeleine R. Schaaberg (presenter), Vijay K. Anand, Dimitri Sigounas, Theodore H. Schwartz, Weill Medical College of Cornell University and Thomas Jefferson University

125 A COMPARATIVE OUTCOME ANALYSIS OF THREE-DIMENSIONAL (3D) AND TWO-DIMENSIONAL (2D) ENDOSCOPIC TRANS-SPHENOIDAL SURGERY IN THE TREATMENT OF PITUITARY ADENOMAS IN A SERIES OF 115 PATIENTS
Vladimir Dadashvili (presenter), Nelson Oyesiku, Emory University SOM, Department of Neurosurgery

126 MANAGEMENT OF PITUITARY ADENOMAS WITH CAVERNOUS SINUS INVASION AND PROGNOSTIC VALUE OF MIB-1 LABELING INDEX
 Junko Matsuyama (presenter), Tsukasa Kawase, Koichihiro Yoshida, Yuichi Hirose, Shinny Nagahisa, Mitsuhiro Hasegawa, Department of Neurosurgery, Fujita Health University

127 CONCOMITANT TRANSSPHENOIDAL APPROACH TO THE ANTERIOR SKULL BASE AND ENDOSCOPIC SINUS SURGERY IN PATIENTS WITH CHRONIC RHINOSINUSITIS
Madeleine R. Schaaberg, Gopi Shah (presenter), James J. Evans, Marc R. Rosen, Thomas Jefferson University
128 ENDOSCOPIC VERSUS MICROSCOPIC TRANSSPHENOIDAL PITUITARY SURGERY: THE ADELAIDE EXPERIENCE
Marc A. Tewfik (presenter), David J. Torpy, Georgina Irish, Eric Fong, Steve Santorenoes, John Field, Peter-John Wormald, The Royal Adelaide Hospital, Adelaide University

129 RECURRENT AND RESIDUAL TUMORS OF THE SUPRASELLAR SPACE: UTILITY OF THE SUPRAORBITAL APPROACH
Nancy McLaughlin (presenter), Leo F. S. Ditzel Filho, Amin B. Kassam, Daniel F. Kelly, Brain Tumor Center, John Wayne Cancer Institute at Saint John’s Health Center

130 MICROSURGERY FOR PITUITARY ADENOMAS IN ADOLESCENCE Wang Jia (presenter), Guijun Jia, Ming Ni, Department of Neurosurgery, Beijing Tiantan hospital, Capital Medical University Beijing 100050, China

Proffered Papers SS11: Chordoma/Esthesioneuroblastoma/Craniopharyngioma/General
Salon IV
Moderators I: Saleem Abdulrauf, MD & Kadir Erkman, MD
Moderators II: Thomas Origitano, MD & Derrik Lin, MD

131 IDENTIFYING DIFFERENTIAL GENE EXPRESSION BETWEEN RECURRENT VERSUS NON-RECURRENT CHORDOMAS
Takafumi Wataya (presenter), Fateme Salehi, Joon-Il Lee, Ivan Radovanovic, Shahrazad Jalili, Kelly Burrell, Sidney Croul, Fred Gentili, Gelareh Zadeh, Toronto Western Hospital, University Health Network

132 MULTIMODALITY TREATMENT FOR CLIVAL CHORDOMAS
Hideki Ogiwara (presenter), James P. Chandler, Northwestern Memorial Hospital

133 FROM CHORDOMAS TO GLIOMAS: PUTTING THE BRAKES ON BRACHYURY
Ahmed R. Mohyeldin (presenter), Sagar R. Shah, Wesley Hsu, Jean-Paul Wolinsky, Ziya L. Gokaslan, Alfredo Quinones-Hinojosa, Johns Hopkins University School of Medicine, Dept. of Neurosurgery

134 A SINGLE INSTITUTION EXPERIENCE WITH MANAGEMENT OF LESIONS INVOLVING THE CLIVUS
Matthew A. Bowen (presenter), Rohan R. Walvekar, Daniel W. Nuss, Louisiana Health Sciences Center, Department of Otolaryngology Head & Neck Surgery, New Orleans, LA 70112

135 ENDOSCOPIC VERSUS OPEN CLIVAL CHORDOMA RESECTION – A SYSTEMATIC REVIEW
Ricardo J. Komotar, Daniel M. Raper, Robert M. Starke, Vijay K. Anand (presenter), Theodore H. Schwartz, Memorial Sloan-Kettering Cancer Center; Weill Cornell Medical College; University of Virginia; University of Sydney

136 CURRENT COMPREHENSIVE MANAGEMENT OF CRANIAL BASE CHORDOMAS: 10-YEAR META-ANALYSIS OF OBSERVATIONAL STUDIES
Salvatore Di Maio (presenter), Dinesh Ramanathan, Manuel Ferreira, Robert C Rostomily, Laligam N Sekhar, Department of Neurological Surgery, Harborview Medical Center, University of Washington Medical Center, Seattle, Washington

137 ENDONASAL ENDOSCOPIC RESECTION OF ESTHESIONEUROBLASTOMA: THE JOHNS HOPKINS HOSPITAL EXPERIENCE AND
Gary L. Gallia (presenter), Douglas Reh, Vafi Salmasi, Wayne M. Koch, Ari M. Blitz, Masaru Ishii, Johns Hopkins Hospital

138 THE INCIDENCE OF SYNDROME OF INAPPROPRIATE ANTIDIURETIC HORMONE SECRETION IN PATIENTS WITH ESTHESIONEUROBLASTOMA
Derrick T. Lin, Stacey T. Gray (presenter), William T. Curry, Massachusetts Eye and Ear Infirmary

139 PROTON THERAPY OF ESTHESIONEUROBLASTOMA – THE UFPTI EXPERIENCE
Robert S. Malyapa (presenter), William M. Mendenhall, Craig McKenzie, Daniel Yeung, Zuofeng Li, Nancy P Mendenhall, Paul Okunieff, University of Florida Proton Therapy Institute, Jacksonville, Florida, USA

140 ENDOSCOPIC RESECTION OF CRANIOPHARYNGIOMAS: A MINIMALLY INVASIVE MANAGEMENT STRATEGY
Lewis Z. Leng (presenter), Jeffrey P. Greenfield, Mark M. Souweidane, Vijay K. Anand, Theodore H. Schwartz, Departments of Neurosurgery, Otolaryngology, and Neurology and Neuroscience, Weill Cornell Medical College, New York Presbyterian Hospital, New York, NY

141 ENDOSCOPIC ENDONASAL VERSUS TRANSSPHENOIDAL MICROSCOPIC AND OPEN TRANSCRANIAL RESECTION OF CRANIOPHARYNGIOMAS: A SYSTEMATIC META-ANALYSIS OF OUTCOMES
Ricardo J. Komotar, Daniel M. Raper, Robert M. Starke, Vijay K. Anand (presenter), Theodore H. Schwartz, Memorial Sloan-Kettering Cancer Center; Weill Cornell Medical College; University of Virginia; University of Sydney
142 COMBINED MICROSURGICAL AND ENDOSCOPIC RESECTION OF EXTENSIVE SUPRASELLAR AND PREPONTINE EPIDERMOID TUMORS Taku Sato (presenter), Tadashi Watanabe, Eiji Ito, Masahiro Ichikawa, Keiko Oda, Hitoshi Ando, Yuka Matsumoto, Jun Sakuma, Kiyoshi Saito, Department of Neurosurgery, Fukushima Medical University, Fukushima, Japan

143 DIFFERENCES IN PHYSICAL SYMPTOMS BY TUMOR LOCATION AND SURGICAL APPROACH IN SKULL BASE SURGERY John R. de Almeida (presenter), Allan Vescan, Patrick Gullane, Fred Gentilli, Jolie Ringash, Lynne Lohfeld, Achilles Thoma, Ian Witterick, University of Toronto, McMaster University

144 SINONASAL INVERTED PAPILLOMA WITH INTRACRANIAL EXTENSION Shafik Wassef, Pete S. Batra, Samuel L. Barnett (presenter), University of Texas Southwestern Medical Center

145 A NEW CLASSIFICATION CONCEPT FOR THE ANTERIOR SKULL BASE DEFECT Tomoyuki Yano (presenter), Okazaki Mutsumi, Kentaro Tanaka, Seiji Kishimoto, Tokyo Medical and Dental University


147 THE MEDIAL OPTICOCAROTID RECESS: AN ENDOSCOPIC KEYHOLE TO THE VENTRAL CRANIAL BASE Mohamed Labib (presenter), Daniel Prevedello, Juan Fernandez-Miranda, Ricardo Carrau, Amin Kassam, University of Western Ontario, Ohio State University, University of Pittsburgh, University of Ottawa

148 THERAPY STRATEGY FOR INTRASELLAR CYSTIC LESIONS Guijun Jia (presenter), Weiming Liu, Wang Jia, Ming Ni, Beijing Tiantan Hospital

Proffered Papers SS12: Anatomy/Head & Neck

Moderators I: Arthur Dublin, MD & Alex Chiu, MD

Moderators II: Sandeep Samant, MD & Marilene Wang, MD

149 RADILOGIC ASPECTS OF A HIGH-RISK ETHMOID AND THE RHINOBASE IN CONE BEAM TOMOGRAPHY Christian Gueldner, Isabell Diogo, Siegfried Bien, Afshin Teymoortash, Jochen A Werner (presenter), Department of ENT and Department of Neuroradiology - University Marburg

150 DORELLO'S CANAL FOR LAYMEN A LEGO® LIKE PRESENTATION Haim Ezer (presenter), Anirban D. Banerjee, Anil Nanda, Department of Neurosurgery, Louisiana State University Health Sciences Center, Shreveport, LA

151 MULLER'S MUSCLE, NO LONGER VESTIGIAL IN ENDOSCOPIC SURGERY Juan Carlos De Battista (presenter), Lee A. Zimmer, Jose Francisco Rodriguez-Vasquez, Sebastien C. Froelich, Philip V. Theodosopoulos, John J. DePowell, Jeffrey T. Keller, University of Cincinnati (UC) Neuroscience Institute, UC College of Medicine, Mayfield Clinic, Cincinnati, Oh; University of Strasbourg, France

152 A MORPHOMETRIC ELUCIDATION OF THE TENTORIAL ARTERY Anirban D. Banerjee (presenter), Haim Ezer, Anil Nanda, Department of Neurosurgery, Louisiana State University Health Sciences Center - Shreveport

153 C-SHAPED INCISION FOR LATERAL SUBOCcipital APPROACH: ANATOMICAL STUDY AND CLINICAL CORRELATION Siviero Agazzi, Tsz Lau, Raul Olivera (presenter), Harry Van Loveren, University of South Florida

154 ENDOGIC ANATOMY OF THE MEDIAL WALL OF THE LATERAL SELlar ORBITAL JUNCTION Juan Carlos De Battista, Lee A. Zimmer, Philip V. Theodosopoulos, Jeffrey T. Keller, Sebastien C. Froelich, Shah Ojas (presenter), University of Cincinnati (UC) Neuroscience Institute, UC College of Medicine, Mayfield Clinic, Cincinnati, Oh; University of Strasbourg, France

155 ENDOGIC ANATOMY OF THE MAXILLARY STRUT-A CADAVERIC STUDY Ojas N. Shah, Lee A. Zimmer (presenter), Philip V. Theodosopoulos, Jeffrey T. Keller, Juan Carlos De Battista, University of Cincinnati Medical Center

156 LOCALIZATION OF THE INTERNAL MAXILLARY ARTERY FOR EC-IC BYPASS THROUGH THE MIDDLE CRANIAL FOSSA: A CADAVERIC STUDY Jorge L. Eller (presenter), Justin Sweeney, Deanna Sasaki-Adams, Saleem I Abdulrauf, Saint Louis University Center for Cerebrovascular and Skull Base Surgery

157 RADIOGRAPHIC ANALYSIS OF INTERNAL MAXILLARY ARTERY ANATOMY Deanna M. Sasaki-Adams (presenter), Jorge Eller, Justin Sweeney, Saleem I. Abdulrauf, Saint Louis University Hospital
**158 SURGICAL RESECTION FOR CLINICAL PERINEURAL INVASION FROM CUTANEOUS SQUAMOUS CELL CARCINOMA OF THE HEAD AND NECK**
C. A. Solares (presenter), B. Panizza, M. Redmond, P. Parmar, P. O'Rourke, (1) Dept of Otolaryngology, Med College of Georgia; (2) Queensland Skull Base Unit, Princess Alexandra Hosp; (3) School of Med, Univ of Queensland; (4) Cancer and Population Studies Group, Queensland Institute of Med Research Brisbane

**159 RESECTION DEEP INVASION OF SCALP CARCINOMA USING SKULL BASE TECHNIQUES**
Paul J. Donald (presenter), Donald G. Farwell, Danny Enepekides, James E. Boggan, Arthur B. Dublin, University of California, Davis

**160 SKULL BASE CARCINOMA**
Yashar Kalani (presenter), Barrow Neurological Institute - Division of Neurological Surgery

**161 OUTCOMES OF TEMPORAL BONE RESECTION FOR LOCALLY ADVANCED PAROTID CANCER**
Saral Mehra (presenter), Luc G. Morris, Jatin P. Shah, Mark H. Bilsky, Samuel H. Selesnick, Dennis H. Kraus, Departments of Surgery (Head and Neck Service) and Neurosurgery, Memorial Sloan-Kettering Cancer Center, New York, NY

**162 PREDICTORS OF SURVIVAL AND RECURRENCE AFTER TEMPORAL BONE RESECTION FOR CANCER**
Luc G. Morris (presenter), Saral Mehra, Jatin P. Shah, Mark H. Bilsky, Samuel H. Selesnick, Dennis H. Kraus, Departments of Surgery (Head and Neck Service) and Neurosurgery, Memorial Sloan-Kettering Cancer Center, New York, NY

**163 RECONSTRUCTION OF LATERAL SKULL BASE DEFECTS AFTER COMBINED PAROTIDECTOMY AND TEMPORAL BONE RESECTION FOR ADVANCED MALIGNANCY**
Zoukaa B. Sargi (presenter), Robert C. Gerring, Adrien Eshraghi, David J. Arnold, Francisco J. Civantos, Simon I. Angeli, Fred F. Telischi, Jacques J. Morcos, Donald T. Weed, University of Miami Miller School of Medicine/Jackson Memorial Hospital

**164 HEAD AND NECK PARAGANGLIOMAS: MSKCC EXPERIENCE 1986-2008**
Rahmatullah Rahmati (presenter), Junaid A. Channa, Jeffrey C. Liu, Dennis H. Kraus, Snehal G. Patel, Jatin P. Shah, Ian Ganly, Memorial Sloan-Kettering Cancer Center

**165 SKULL BASE INVOLVEMENT BY ACINIC CELL CARCINOMA OF THE PAROTID GLAND**
Joseph T. Breen (presenter), Matthew L. Carlson, Michael J. Link, Eric J. Moore, Brian A. Neff, Colin L. Driscoll, Mayo Clinic

**166 ENDOSCOPIC AND OPEN SKULL BASE SURGERY OUTCOMES BY A SINGLE TEAM: ANALYSIS OF INITIAL 100 CASES**
Anand V. Germanwala (presenter), Oluwaseun Omofoye, Adam M. Zanation, University of North Carolina School of Medicine

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3:30pm-4:00pm  Break in the Exhibit Hall  
7:00pm-10:30pm  Social Event  
Head down to the Pooslide Patio to enjoy this Western Themed Event. Enjoy some BBQ and take a shot at one of the various games such as the Tomahawk Toss or Bucking Barrel. Attire: Cowboy Casual! (Bring a jacket as it might get chilly—it is the desert!)

**SUNDAY, FEBRUARY 20, 2011**

7:30am  Breakfast/Registration  
8:00am-9:00am  CONCURRENT SESSIONS  
**Concurrent Session #13: Paragangliomas - Treatment Options - Surgery vs. Radiation**  
The Surgical Management of Glomus Tympanicum and Mastoid Tumors – John Leonetti, MD  
Surgery for Complex Paragangliomas – Ossama Al-Mefty, MD  
Radiation Therapy – Brian O’Sullivan, MD  
**Moderator:** Daniel Prevedello, MD

**Concurrent Session #14: Craniovertebral Junction - Transoral/Endoscopic/Fusions**  
Ventral/Traditional Transoral Approach(es) – Mario Ammirati, MD  
Posterolateral Approach(es) – Chandranath Sen, MD  
Endoscopic Approaches – Paul Gardner, MD  
**Moderator:** Ketan Bulsara, MD

**Proffered Papers SS13: Outcomes**  
**Moderators:** Mark Varvares, MD & John Goflinos, MD
167 OVERLOOKED CONTRIBUTIONS TO SKULL BASE SURGERY: HARVEY CUSHING’S EXPERIENCE AT THE JOHNS HOPKINS HOSPITAL, 1896 TO 1912 Courtney Pendleton, Shaan M Raza, Alfredo Quinones-Hinojosa (presenter), The Johns Hopkins University School of Medicine, Department of Neurosurgery. Baltimore, MD

168 ENDOSCOPIC ENDONASAL SKULL BASE SURGERY IN EMERGING ECONOMIES: A THREE YEAR ANALYSIS OF 71 CASES PERFORMED AT A SINGLE INSTITUTION Oscar H. Feo Lee, Alfredo J. Herrera Vivás, Rafael Uribe Cárdenas (presenter), Hospital Universitario San Ignacio - Pontificia Universidad Javeriana

169 ADOPTION OF ENDOSCOPIC ENDONASAL RESECTION OF SKULL BASE TUMORS: EARLY RESULTS IN 85 PATIENTS Justin C. Spooler (presenter), David Constable, Patrick Poquiz, Richard McHugh, Dennis Cheng, Frank P. Hsu, Loma Linda University Medical Center

170 BUILDING A ENDOSCOPIC SKULL BASE PROGRAM FROM THE GROUND UP: THE GEORGE WASHINGTON UNIVERSITY HOSPITAL EXPERIENCE Alan Siu (presenter), Fabio Roberti, Ameet Singh, George Washington University

171 OUTCOMES AFTER ENDOSCOPIC ENDONASAL SURGERY FOR NONVESTIBULAR SCHWANNOMAS Paul Gardner (presenter), TBD

172 SECONDARY TRIGEMINAL NEURALGIA IN CEREBELLOPONTINE ANGLE TUMORS Yury Shulev (presenter), Konstantin Gordienko, Alexander Trashin, City Hospital #2, Medical Academy of Postgraduate Studies, Saint-Petersburg, Russia

Proffered Papers SS14: General Sonora A

Moderators: Ben Dixon, MD & Daniel Nuss, MD

173 AN ANALYSIS OF 114 CASES OF SKULL BASE ASPERGILLOSIS OVER A DECADE Sandeep Mohindra (presenter), Postgraduate Institute of Medical Education and Research, Chandigarh, India

174 VORICONAZOLE FOR SKULL BASE ASPERGILLOSIS: A PROSPECTIVE STUDY OF 56 PATIENTS Dr. Satyawati Mohindra (presenter), Dr. Sandeep Mohindra, Dr. Amanjit Bal, Post Graduate Institute Of Medical Education & Research, Chandigarh, India

175 ASSOCIATION BETWEEN MENINGITIS AND CSF LEAK AFTER SKULL BASE SURGERY Gilad Horowitz (presenter), Dan M Fliss, Nevo Margalit, Oshri Wasserzug, Gil Ziv, Tel Aviv Sourasky Medical Center, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel


177 RELIABLE CRANIOTOMIZATION OF THE FRONTAL SINUS FOR DELAYED SINUS COMPLICATIONS AFTER CRANIOTOMY Nobutaka Yoshioka (presenter), Atsuhiro Arakawa, Shin-ichi Sesaki, Saiseikai Nakatsu Hospital

178 TRANSCRANIAL ORBITOTOMY FOR EXCISION OF ORBITAL TUMORS: A CASE SERIES David A Stidd (presenter), Lynn Polonski, Rein Anton, G. M. Lemole, The University of Arizona

9:00am-12:00pm Plenary Session Salon I, II

9:00am Tumor Board

The moderator will present a series of cases to our expert tumor board for management of complex skull base neoplasms. The tumor board will consist of head and neck surgeons, neurosurgeons, radiation oncologist, and other related specialists. Emphasis will be placed on the evaluation and multidisciplinary management of patients with complex neoplasms of the skull base. Upon completion of the panel, participants should be facile in the evaluation and management of patients with an array of tumors involving the anterior and middle cranial fossa and skull base. Ample time will be afforded for audience participation.

Panelists: Michael Link, MD, Paul Donald, MD, Ricardo Carrau, MD, Brian O’Sullivan, MD, Patrick Wen, MD

Moderator: Dennis Kraus, MD

9:45am Questions & Answers

10:00am Break with Exhibitors Pavilion

10:30am-12:00pm 3D Anatomy Talk: Albert Rhoton, MD Sonora I, II

3D Anatomic Basis of Skull Base Surgery
179 SPONTANEOUS CEREBROSPINAL FLUID RHINORRHEA OF THE FORAMEN CAECUM Megan M. Gaffey (presenter), Kim P. Murray, James K. Liu, Jean Anderson Eloy, University of Medicine and Dentistry of New Jersey - New Jersey Medical School

180 INVERTED PAPILLOMA WITH INTRACRANIAL EXTENSION Ernie Wright (presenter), Natalya Chernichenko, Jennifer Moliterno, Eylem Ocal, Benjamin L. Judson, Ketan R. Bulsara, Yale University School of Medicine; Department of Neurosurgery and Division of Otolaryngology

181 ANATOMICAL AND RADIOLOGICAL LANDMARKS OF ENDOSCOPIC APPROACH TO LATERAL RECESS SINUS Cavernous V. Remenez (presenter), F. Weber, Department of Neurosurgery, General Hospital of the City of Cologne, Cologne-Merheim, Germany

182 ANTERIOR SKULL BASE DIFFICULT Meningiomas – SURGICAL MANAGEMENT: SHORT SERIES OF 20 CASES Alok A. Umredkar (presenter), Sunil K. Gupta, Postgraduate Institute of Medical Education & Research, Chandigarh


184 USE OF ABDOMINAL FREE FAT FOR COSMETIC AUGMENTATION AND PRIMARY CSF CLOSURE IN SUPRATENTORIAL SKULL BASE SURGERY: MANAGING THE STIGMATA OF THE TEMPORAL DEFECT TC Origitano (presenter), Loyola University Medical Center

185 ENDOSCOPIC ASSISTED ANTERIOR SKULL BASE RESECTION OF FIBROSARCOMA USING AN ULTRASONIC BONE CURETTE John Wood (presenter), Amy Anstead, Roy Casiano, University of Miami, FL and Virginia Mason Medical Center Seattle, WA

186 ANTERIOR AND CENTRAL SKULL BASE TUMORS: RADIOLOGIC-PATHOLOGIC OVERVIEW Eugene Yu (presenter), Hugh Curtin, Bayardo Perez-Ordonez, Ian Witterick, Patrick Gullane, Eric Bartlett, Princess Margaret Hospital, Mount Sinai Hospital, Massachusetts Eye and Ear Infirmary

187 ENDOSCOPIC EXTENDED ENDONASAL APPROACH FOR TREATMENT OF A RECURRENT SKULL BASE PETROUS APEX CHOLESTEROL GRANULOMA Alia Hdeib (presenter), Chad Zender, Warren Selman, Nicholas Bambakidis, Department of Neurological Surgery and Department of Otolaryngology Head and Neck Surgery, University Hospitals Case Medical Center, Cleveland, Ohio

188 DOUBLE FLAP TECHNIQUE FOR RECONSTRUCTION OF ANTERIOR SKULL BASE DEFECTS AFTER CRANIOFACIAL TUMOR RESECTION D Christiano (presenter), Dare V. Ajbade, Jean Anderson Eloy, James K Liu, University of Medicine and Dentistry of New Jersey - New Jersey Medical School

189 SINGLE PIECE BIFRONTAL UNILATERAL ORBITO ZYGOMATIC TEMPORAL CRANIOTOMY- UNIQUE CASE OF ETHMOIDAL OSSIFICA TIO- Banu Prakash A. S. (presenter), Thimappa Hegde, Nirav Trivedi, Moni A. Kuriakose, Komal Prasad, Kiran M., Ganesh Prasad, Narayana Hrudayalaya Institute Of Neurosciences

190 MALIGNANT TRANSFORMATION OF CLIVAL CHORDOMA TO OSTEOMA AFTER PHOTON RADIOTHERAPY AND GAMMA KNIFE RADIOSURGERY Abhishek Chaturbedi (presenter), Ronald Kim, Mark Linskey, University of California Irvine, Department of Neurosurgery

191 TRANSNASAL ENDOSCOPIC OPTIC NERVE DECOMPRESSION John D. DePowell (presenter), Lee A. Zimmer, Jeffrey T. Keller, Robert G. Kerr, Philip V. Theodosopoulos, John M. Tew, Jr., University of Cincinnati Department of Neurosurgery

192 UTILITY OF A ROTATION-SUCTION MICRODEBRIDER FOR REMOVAL OF SOLID TUMORS IN ENDOSCOPIC ENDONASAL SKULL BASE SURGERY James K. Liu (presenter), Jean A. Eloy, University of Medicine and Dentistry of New Jersey, New Jersey Medical School

193 ENDOSCOPIC NASOSEPTAL FLAP REPAIR FOR PERSISTENT CSF LEAK AFTER OPEN SKULL BASE SURGERY Evelyne Kalyoussef (presenter), Soly Baredes, Chirag D. Gandhi, James K. Liu, Jean Anderson Eloy, University of Medicine and Dentistry of New Jersey - New Jersey Medical School

194 EXTENDED ENDOSCOPIC TRANSSPHENOIDAL APPROACH FOR RESECTION OF RETROCHIASMATIC CRANIOPHARYNGIOMA James K. Liu (presenter), Lanya D. Christiano, Jean A. Eloy, University of Medicine and Dentistry of New Jersey, New Jersey Medical School

195 ENDOSCOPIC RESECTION OF A RECURRENT JUVENILE NASOPHARYNGEAL ANGIOFIBROMA Michael V. Medina (presenter), Department of Otolaryngology-Head and Neck Surgery, University of Florida

196 EXPANDED ENDONASAL APPROACH FOR RESECTION OF A CARCINOID TUMOR OCCURRING IN THE SPHENOID SINUS Sarah J. Burgin (presenter), Stephen E Sullivan, Lawrence J. Marentette, Lawrence M. Lin, University of Michigan

197 MODIFIED HEMI-LOTHROP PROCEDURE FOR SUPRAORBITAL FRONTAL SINUS ACCESS: A CAVERNEG STUDY Mark E. Friedel (presenter), Kim P. Murray, James K. Liu, Jean Anderson Eloy, University of Medicine and Dentistry of New Jersey - New Jersey Medical School

198 RISK OF NECROSIS FOLLOWING PREOPERATIVE EMBOLIZATION AND ENDOSCOPIC RESECTION OF SINONASAL METASTATIC RENAL CELL CARCINOMA Peter S. Amenta (presenter), James Evans, Madeleine Schaberg, Marc R. Rosen, Thomas Jefferson University Hospital

199 PSEUDOTUMOR CEREBRI – A NEW CONCEPT OF PATHOPHYSIOLOGY Jan Hemza (presenter), Dept. of Neurosurgery

200 DIFFUSE CEREBRAL VASOSPASM AFTER RESECTION OF A POSTERIOR FOSSA EPENDYMOMA Jeffrey T. Jacob (presenter), Michael J. Link, Mayo Clinic

201 EXPANSILE LESION OF THE ANTERO-LATERAL SKULL BASE: ATYPICAL PRESENTATION OF A SPINDLE-CELL LIPOMA Paul C Frake, Alex Cheng, Ameet Singh (presenter), The George Washington University Medical Center

202 TRANPOSITION OF THE PTERYGOPALATINE FOSSA DURING ENDONASAL ENDOSCOPIC TRANSPTERYGIOID APPROACHES Juan C. Fernandez-Miranda, Carlos D. Pinheiro-Neto (presenter), Alec E. Vaezi, Alessandro Paluzzi, Carl H. Snyderman, Paul A. Gardner, University of Pittsburgh School of Medicine: (1) Department of Neurosurgery; (2) Department of Otolaryngology
203 POSTERIOR PEDICLE NASOSEPTAL FLAP FOR VELOPHARYNGEAL INSUFFICIENCY: A NOVEL FLAP FOR PHARYNGOPLASTY AND PHARYNGEAL RECONSTRUCTION Carlos M. Rivera-Serrano, Carlos D. Pinheiro-Neto (presenter), Carl H Snyderman, Juan J. Fernandez-Miranda, Alec E. Vaezi, Paul A. Gardner, University of Pittsburgh School of Medicine: (1) Department of Neurosurgery; (2) Department of Otolaryngology

204 “ASSOCIATION OF TRACHEOSTOMAL SIZE WITH CLINICAL AND DEMOGRAPHIC CHARACTERISTICS AFTER TOTAL LARYNGECTOMY WITH PRIMARY VOICE RECONSTRUCTION IN A PHILIPPINE TERTIARY HOSPITAL” Jacqueline C Angeles (presenter), Celso V Ureta, Veterans Memorial Medical Center, Philippines

205 TRANSDURAL RESECTION OF A RETROPHARYNGEAL MYXOMA: A CASE REPORT James R. White (presenter), Sean Weiss, Rohan R. Walvekar, Stephen E Mason, Dwayne Anderson, LSU Health Sciences Center

206 SKULL BASE OSTEOEYTIS FROM CAPNOCTYPHAGIA SPECIES IN A 47-YEAR-OLD IMMUNE COMPETENT FEMALE D. David Beahm (presenter), Rohan R. Walvekar, Daniel Nuss, Louisiana State University Health Sciences Center Department of Otolaryngology Head and Neck Surgery

207 EXTREMADULLARY PLASMACYTOMA OF THE SPHENOID SINUS Kedara Kakodkar (presenter), Stephanie Joe, The University of Illinois at Chicago

208 FACIAL BUCCAL BRANCH MALIGNANT PERIPHERAL NERVE SHEATH TUMOR (MPNST) WITH EXTENSION TO THE MID TEMPORAL FOSSA A TWO TIMES SURGERY MANAGEMENT EXPERIENCE Rodrigo Navarro-Ramirez (presenter), Noe Vargas-Tentori, Hospital General de Mexico O.D.

209 THE TRANSPTERYGID APPROACH FOR REMOVAL OF A VIDIAN NERVE NEUROFIBROMA Nancy McLaughlin (presenter), Damien Bresson, Leo F. S. Ditzel Filho, Ricardo L. Carrau, Daniel F. Kelly, Daniel M. Prevedello, Amin B. Kassam, Brain Tumor Center, John Wayne Cancer Institute at Saint John’s Health Center, Santa Monica, CA, USA

210 EXPANDED ENDONASAL ENDOSCOPIC APPROACH FOR RESECTION OF A CAVERNOUS SINUS TERTATOMA Vafi Salmasi (presenter), Gustavo Pradilla, Douglas Reh, Gary L. Gallia, Johns Hopkins Hospital

211 REVIEW OF THE CLINICAL APPLICATIONS OF INTRAOPERATIVE COMPUTED TOMOGRAPHY IN SKULL BASE AND SINONASAL SURGERY: LIMITED VALUE OR UNDERUTILIZED TECHNOLOGY? Ben J. Dixon (presenter), Ian Witterick, Jonathan C. Irish, Michael J. Daly, Harley Chan, Departments Of Surgical Oncology And Otolaryngology, Head And Neck Surgery, Princess Margaret Hospital, University Health Network, Toronto

212 ANTERIOR PETROSECTOMY USING SONOPET FOR BRAINSTEM CAVERNOUS MALFORMATION IN 13 MONTH-OLD CHILD: YOUNGEST REPORTED IN LITERATURE USING NOVEL TECHNIQUE Ravi N. Samy (presenter), Nael M. Shoman, Ondrej Choutka, Mario Zuccarello, University of Cincinnati/Cincinnati Children’s Hospital


214 EXTRACRANIAL EXTENSION OF MENINGIOMA WITHIN THE INTERNAL JUGULAR VEIN – A CASE REPORT Nitin Bhatia (presenter), Yi-Hsuan Wu, Richard Wein, Carl Heilman, Tufts Medical Center


216 RADIATION INDUCED SARCOMA OF THE TEMPORAL BONE: CASE REPORT AND REVIEW OF THE LITERATURE Ravi N Samy (presenter), Nael M Shoman, Ondrej Choutka, Mario Zuccarello, University of Cincinnati / Cincinnati Children’s Hospital

217 CASE REPORT: CALCIUM PYROPHOSPHATE DEPOSITION DISEASE OF THE TMJ Vasisht Srinivasan (presenter), Andrew Wensel, Paul Dutcher, Shawn Newlands, Mahlon Johnson, Edward Bates, University of Rochester Medical Center

218 ANGIOSARCOMA OF THE TEMPORAL BONE Ravi N. Samy (presenter), Nael M. Shoman, Myles L. Pensak, University of Cincinnati / Cincinnati Children’s Hospital


220 MYCOSIS FUNGOIDES – SURGICAL MANAGEMENT - CASE REPORT Mihaela Cristina M. Tatu (presenter), E.N.T. and HNS Clinic, “Carol Davila” Emergency Central Military Hospital, Bucharest, Romania

221 SURGICAL MANAGEMENT OF GIANT GLOMUS JUGULARE TUMORS AND ASSOCIATED CHALLENGES OF CARE Matthew L. Carlson (presenter), Colin L. Driscoll, Joaquin J. Garcia, Jeffrey R. Janus, Michael J. Link, Mayo Clinic School of Medicine, Rochester, MN 55905

222 A MULTIDISCIPLINARY APPROACH IN CASE OF THE VERY AGGRESSIVE EAR AND TEMPORAL BONE CARCINOMA – CASE REPORT Mihaela Cristina M. Tatu (presenter), Central Military Hospital Bucharest, Romania ENT Clinic
22nd ANNUAL NORTH AMERICAN SKULL BASE SOCIETY MEETING

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