

# NORTH AMERICAN SKULL BASE SOCIETY

# 16th Annual Meeting

Scientific Meeting & Exhibition



FINAL PROGRAM

**April 7 – 10, 2005 Westin Harbour Castle Hotel** Toronto, Ontario, Canada





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### OFFICERS AND COMMITTEES

### **NORTH AMERICAN SKULL BASE SOCIETY**

### 2004 BOARD OF DIRECTORS

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Anil Nanda, MD President-Elect



Jatin P. Shah, MD Immdiate Past President

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### OFFICERS AND COMMITTEES

### **NORTH AMERICAN SKULL BASE SOCIETY**

#### 2004 COMMITTEES

### **Program Committee**

Chairman: Peter Neligan, MD
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Julian Nedzelski, MD
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#### **History & Archives Committee**

Chairman: Jatin Shah, MD Derald Brackman, MD Paul Donald, MD Steven Newman, MD Laligam Sekhar, MD

#### **Journal Committee**

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#### **Past Presidents**

1990

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Paul J. Donald, MD



### HONORED GUESTS

Each year, the North American Skull Base Society honors one or several individuals who has made major contributions to one of the disciplines dealing with the management of patients with diseases of the skull base. This year, President Patrick Gullane has chosen to honor Mr. Anthony Cheeseman, Dr. Alan Hudson, and Dr. Joram Raveh.

#### **HONORED GUEST**

### ANTHONY D. CHEESEMAN, MD

Mr. Anthony Tony Cheeseman was born in Shoreham-by-Sea, Sussex, UK in 1939. He received his MD Degree from the University of London in 1965 and became Fellow of the Royal College of Surgeons, England in 1969. He served as Consultant Surgeon, Royal National Throat, Nose and Ear Hospital, London from 1974- 2001. Mr. Cheeseman held many leadership positions in Professional Organizations, including: President Section of Laryngology-Rhinology 1994-1995; Senior Member of European Skull Base Study Group; Founding Member International Skull Base Society; Founding Member British Society for Skull Base Surgery and Secretary of World Federation of Skull Base Societies.

Mr. Cheeseman has received numerous honors and awards during his career including: McBride Lectureship, University of Edinburgh for his pioneering work on "Craniofacial Resections for Tumors of the Nose and Sinus, 1982; The W.J. Harrison Prize, Royal Society of Medicine, 1985; Yearsley Lecturer



for "Surgical Speech Rehabilitation", 1991; Hunterian Professor, Royal College of Surgeons, 1994-95; Honorary Fellowship, Royal College of Speech and Language Therapists, 1995; Walter Jobson Horne Prize, British medical Association, 1996 and Semon Lectureship, University of London, 1999.

He has published 102 peer-reviewed publications and contributed 27 chapters in textbooks.

His early pioneering work on "Anterior Craniofacial Resections for Tumors of the Nose and Sinuses" using a mini craniotomy was extremely visionary and helped to set the stage for the "Subcranial Approach" and more recently, minimal access surgical innovations.



### HONORED GUESTS

### **ALAN HUDSON, OC**

Dr. Alan Hudson was born in Cape Town in 1938 and received his MB degree from the University of Cape Town in 1960. He then embarked on a surgical career obtaining his Fellowship in General Surgery from Royal College of Surgeons, Edinburgh in 1964 and in Neurosurgery from the Royal College of Surgeons, Canada in 1968. In 1969 he was selected as the McLaughlin Fellow – Department of Human Anatomy, Oxford England. In 1979 Dr. Hudson was Appointed as Chair, Department of Neurosurgery, University of Toronto and in 1989 he was selected as the McCutcheon Chair and Surgeon-in-Chief at the Toronto Hospital. He served in this position until 1991 when he became President and CEO of the University Health Network, Toronto. In 2002 he was Appointed as President and CEO – Cancer Care Ontario and in 2003, Professor Emeritus, Department of Surgery, University of Toronto.

He has received numerous honors and awards during his career including: The Bruce Tovee Teaching Award, Department of Surgery, University of Toronto, 1980; Honorary President, World Federation of Neurosurgical Societies, 1986; Honorary Doctors Degree, Tokushima – 1988 and Honorary Fellow College of Physicians and Surgeons – South Africa, 1992. He was



Named to the Order of Canada, Officer in, 2000; establishment of Alan and Susan Hudson Chair in Neurosurgery, University of Toronto, 2000 for his contributions to neurosurgery; Salute to the City Award, 2002 and Queen's Jubilee Medal, 2003

His pioneering work on tumors of the "Brachial Plexus" including their surgical management helped to revolutionize the surgical outcome of these complex neoplasms.

He has published 125 peer-reviewed publications, 2 textbooks and numerous chapters to books.

We are privileged to have this "Pioneer Neurosurgeon, Educator and Leader" as our Guest of Honor.



### HONORED GUESTS

### JORAM RAVEH, MD, DMD

Dr. Joram Raveh was born in Tel-Aviv, Israel, in 1940. He received his DMD from the University of Berne, Switzerland in 1967 and his MD from the University of Tel-Aviv in 1972. Dr. Raveh is Board Certified in the disciplines of Maxillofacial Surgery (University of Tel-Aviv) and Otolaryngology-Head and Neck Surgery (University of Berne). This training enabled him to develop and establish a unique Department in Berne which includes all aspects of both disciplines, including major skull base surgery and facial plastic and reconstructive surgery. In 1985 he was Appointed as Head, Full Professor and Active Member of the Faculty of Medicine, University of Berne. Since 1978 he has developed multiple new surgical methods which have helped to enhance the disciplines of Otolaryngology-Head and Neck Surgery, Skull Base and Maxillofacial Surgery.

Dr. Raveh has held numerous leadership positions in professional Organizations including the European Skull Base Society. His participation in the North American Societies has included invitation to Annual Meetings and Courses of the North American Skull Base Society and the American Academy of Otolaryngology-Head and Neck Society where he was awarded the AAO-HNS Foundation Certificate of Honour in 1997.



His pioneering work on Anterior and Central Skull Base Surgery included the development of the "Subcranial Approach" which has been adopted by all Specialties and has helped to enhance patient outcome and minimize morbidity. The "Subcranial Approach" has resulted in major advances to the management of Skull Base injuries avoiding frontal lobe retraction and enabling Skull Base reconstruction including optic nerve decompression within the first "Golden Hours".

Dr. Raveh has delivered numerous keynote presentations at International Society Meetings. He has published 112 peer-reviewed papers in Scientific Journals and 17 book chapters.

His innovative surgical techniques and approaches in Skull Base Surgery have gained Global Impact. We are privileged to have this "Pioneer Anterior Skull Base Surgeon" amongst us today as our Guest of Honor.

#### **PAST HONORED GUESTS**



### **GENERAL INFORMATION**

### **MEETING LOCATION**

All scientific sessions for the Annual Meeting of the North American Skull Base Society (NASBS) will be held at the Westin Harbour Castle Hotel in Toronto, Ontario, Canada.

#### REGISTRATION

On-site registration for the meeting will be held at the Westin Harbour Castle Hotel at the following times:

Thursday, April 7 2:00 p.m. – 6:00 p.m. Friday, April 8 7:00 a.m. – 5:30 p.m. Saturday, April 9 7:00 a.m. – 5:30 p.m. Sunday, April 10 7:00 a.m. – 1:00 p.m.

#### **GUEST REGISTRATION**

Spouses or guests of registrants, who do not attend the scientific sessions, may register as a guest. The guest registration fee includes the President's Reception, Wine & Cheese Reception, and the Annual Banquet.

#### **EXHIBIT HOURS**

Friday, April 8	6:00 p.m. – 8:00 p.m.
Saturday, April 9	7:00 a.m. – 3:30 p.m.
Sunday, April 10	7:00  a.m. - 1:00  p.m.

#### SPEAKER READY ROOM

A Speaker Ready Room will be available for all presenters to use. You are urged to visit the Speaker Ready Room to reconfirm you audio/visual needs and review your presentation. An audio/visual technician will be available to assist you. Hours of operation:

Friday, April 8 7:30 a.m. – 5:30 p.m. Saturday, April 9 7:00 a.m. – 5:30 p.m. Sunday, April 10 7:00 a.m. – 1:00 p.m.

#### **DISCLOSURE OF COMMERCIAL RELATIONSHIPS**

As a sponsor accredited by the Accreditation Council for Continuing Medical Education, the Society and the Continuing Medical Education Committee of the North American Skull Base Society must insure balance, independence, objectivity, and scientific rigor in all its individually sponsored or jointly sponsored educational activities. All speakers and faculty participating in a sponsored activity are expected to disclose to the activity audience any significant financial interest or other relationship (1) with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services discussed in an educational presentation and (2) with any commercial supporters of the activity (significant financial interest or other relationship can include such things as grants or research support, employee, consultant, major stock holder, member of speakers bureau, etc.) The intent of this disclosure is not to prevent a speaker with a significant financial or other relationship from making a presentation, but rather to provide listeners with information on which they can make their own judgments. It remains for the audience to determine whether the speaker's interests or relationships may influence the presentation with regard to exposition or conclusion. Presenters are also expected to disclose if their presentation includes discussion of any pharmaceutical products or medical devices that are considered investigational (not FDA approved use; "off label").

#### MEMBERSHIP IN THE NORTH AMERICAN SKULL BASE SOCIETY

The fee for membership in the North American Skull Base Society is \$275.00 per year. Membership in the society includes a discounted fee to the annual meeting, practical courses, the society newsletter, and the journal *Skull Base: An Interdisciplinary Approach*. For information on joining NASBS, please call the society's headquarters at 703-437-4377 or visit the website at www.nasbs.org.



### **GENERAL INFORMATION**

### SUPPORT TO THE SOCIETY

We gratefully acknowledge the following companies for providing financial support for the Annual Meeting:

**Advanced Bionics** 

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#### **ANNUAL MEETING EDUCATIONAL OBJECTIVES**

Through participation in this Annual Meeting, members of the North American Skull Base Society and other attendees will have the opportunity to:

- Discuss the evolving role of minimally invasive and endoscopic skull base surgery; identify the potential of new technologies in neuro-navigation and stereotaxis;
- Discuss the developing alternative treatment modalities, such as stereotactic radio surgery that can be utilized for management of tumors of the skull base;
- Review the status of medical alternatives to traditional surgery, such as medical and hormonal therapy and gene manipulation.
- Recognize the potential complications of skull base surgery with particular emphasis on identifying pre-operative risk factors and intra-operative warning signs;
- Describe the importance of short-term care and recognize the potential and limitations in long-term rehabilitation for patients with skull base lesions;
- Discuss the recent advances in skull base pathology and surgery.

### **CME ACCREDITATION**

The North American Skull Base Society is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. The NASBS designates Category 1 credit towards the AMA Physician's Recognition Award for the Annual Meeting for up to 18.75 hours. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.



### **GENERAL INFORMATION**

### **BADGES**

Badges should be worn at all times during scheduled meeting activities. Your badge is your admission pass for all meeting sessions, social events, and exhibit hall.

### **MEETING LANGUAGE**

The language used at the meeting will be English.

#### **SMOKING**

Smoking is not permitted in any room or area in which a meeting is sponsored or an organized activity is held. This prohibition includes the registration area, the exhibit hall, and rooms in which meetings and social events are held.

### TRANSPORTATION TO PEARSON AIRPORT AT THE CONCLUSION OF THE MEETING

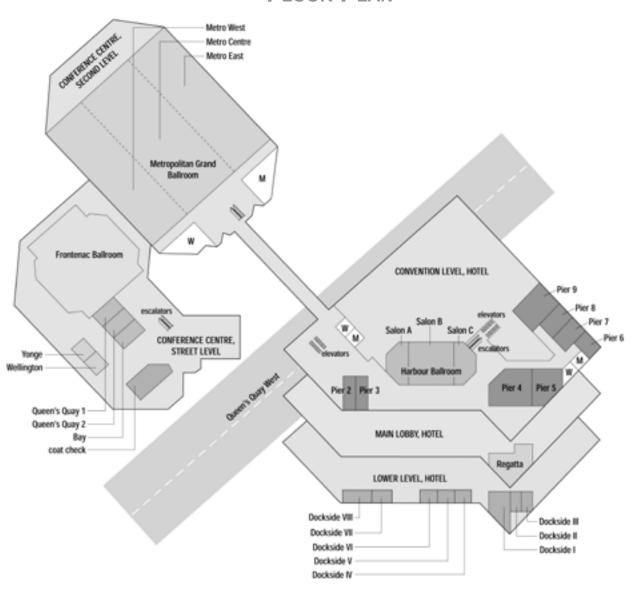
NASBS has arranged for buses to take meeting attendees and their guests from the Westin Harbour Castle Hotel to Pearson Airport on Sunday, April 10. Please notify the NASBS staff at the meeting registration desk by no later than 4:00 p.m. on Friday, April 8, if you plan to use this service. All buses will depart promptly at 1:30 from the hotel. Please plan to find alternate transportation if your travel plans do not fit with the 1:30 departure time.

# Society ties Society ties Society ties



The NASBS Society necktie is available for purchase at the meeting registration desk. The cost per tie is \$35.00.

# THE WESTIN HARBOUR CASTLE TORONTO FLOOR PLAN







### PROGRAM INFORMATION

#### THURSDAY, APRIL 7, 2005

2:00 PM - 6:00 PM Metro East Foyer

**Registration Open** 

6:00 PM - 8:00 PM Regatta Room

**President's Welcome Reception** 

### **FRIDAY, APRIL 8, 2005**

7:00 AM - 5:30 PM Metro East Fover

**Registration Open** 

7:00 AM - 7:50 AM Metro Foyer

**Continental Breakfast** 

### **Plenary Session #1**

8:00 AM - 8:10 AM

Metro West

Opening Remarks by the President: Patrick J. Gullane

Program Overview: Peter Neligan and Carl Heilman

8:10 AM - 9:30 AM Metro West

Panel #1: Progress and Controversies in Skull Base Tumor Management.

Endoscopic Approaches, Open Approaches, Radiation Oncology

Paul Donald (Moderator), Carl Snyderman, Ossama Al-Mefty, Brian O'Sullivan

9:30 AM - 9:50 AM

Update of New Available Technology from Industry of Use to the Skull Base Surgeon Carl B. Heilman

Metro West

**Introduction of Honored Guests** 

Mr. Anthony Cheesman, Dr. Alan Hudson, and Dr. Joram Raveh

10:00 AM - 10:30 AM

9:50 AM - 10:00 AM

Metro Foyer

Refreshment Break

10:30 AM - 11:30 AM

Metro West

Panel #2: Management of Paragangliomas

John Waldron (Moderator), John Leonetti, Bernard Cummings

11:30 AM - 12:00 Noon

Metro West

Presidential Address: Patrick J. Gullane "If you come to a fork in the road...take it"

12:00 Noon - 12:15 PM

Metro West

NASBS Lifetime Achievement Award: Dr. Albert Rhoton

Introduction by Jon Robertson

12:15 PM - 1:30 PM

Metro East

Lunch



### PROGRAM INFORMATION

#### **Plenary Session #2**

1:30 PM - 2:00 PM

**Keynote Address: The Future of Imaging and Navigation** 

Metro West

David Jaffrey, PhD

Introduced by: Johnathan Irish

2:00 PM - 3:00 PM

Metro West

**Tumor Board** 

Dennis Kraus (Moderator),

Peter Batra, Mark Bilsky, Jonathan Irish, Amin Kassam, Norbert Liebsch

3:00 PM - 3:30 PM

Metro Foyer

Refreshment Break

3:30 PM - 5:30 PM

Metro West

**Proferred Papers - Oral Presentations** 

Scientific Session A-1

Abstracts # 1-6

**Moderators:** 

Michael Cusimano Daniel Nuss

3:30 PM - 3:36 PM

Abstract #1

**Endoscopic Endonasal Surgery of Clivus Lesions** 

Carl Heilman, MD (presenter), Donald Annino DDS, MD, James Kryzanski, MD (Boston, USA)

3:36 PM - 3:42 PM

Abstract #2

Complete Endoscopic Resection of Esthesioneuroblastoma

Umamaheswar Duvvuri Uma Duvvuri MD PhD (presenter), Ricardo Carrau, MD,

Carl Snyderman, MD, Amin Kassam, MD (Pittsburgh, USA)

3:42 PM - 3:48 PM

Abstract #3

**Endoscopic Endonasal Trans sphenoidal Approach in 83 Patients** 

José Alberto Landeiro, MD (presenter), (Rio de Janeiro, Brazil)

3:48 PM - 3:54 PM

DISCUSSION

3:54 PM - 4:00 PM

Abstract #4

New Horizons in Endoscopic Endonasal Skull Base Surgery

Theodore H. Schwartz, MD (presenter), Vijay K. Anand, MD (New York, USA)

4:00 PM - 4:06 PM

Abstract #5

Resection of Anterior Skull Base Tumors: Comparison of Combined Traditional and

**Endoscopic Approaches** 

Pete S. Batra, MD (presenter), C. Arturo Solares, MD; Martin J. Citardi, MD; Joung Lee, MD;

Donald C. Lanza, MD (Cleveland, USA)



### PROGRAM INFORMATION

4:06 PM - 4:12 PM **Abstract #6** 

Endoscopic Repair of Cerebrospinal Fluid Leaks of the Sinonasal Tract

Ricardo L. Carrau, MD (presenter), Amin B. Kassam, MD, Carl H. Snyderman, MD,

Michael Horowitz, MD (Pittsburgh, USA)

4:12 PM - 4:18 PM **DISCUSSION** 

**Abstracts #7 - 15** 

**Moderators:** 

Stephen Haines Sandeep Samant

4:18 PM - 4:24 PM **Abstract #7** 

Craniofacial Resection of Skull Base Tumors: Decreasing Perioperative Complications and Morbidity

Khalid Chowdhury, MD, MBA (presenter), John P. Campana, MD (Denver, USA)

4:24 PM - 4:30 PM **Abstract #8** 

Causes Of Perioperative Death In Skull Base Surgery

Paul J. Donald, MD (presenter), (Sacramento, USA)

4:30 PM - 4:36 PM **Abstract #9** 

Severe Epistaxis from Metastatic Renal Cell Carcinoma: Management of a Difficult Case

Carl Snyderman (presenter), Michael Horowitz, MD Amin Kassam, MD (Pittsburgh, USA)

4:36 PM - 4:42 PM **DISCUSSION** 

4:42 PM - 4:48 PM **Abstract #10** 

Exposure of the Distal Cervical Internal Carotid Artery: Surgical Anatomy and Morphometric Study

Jeffrey T. Keller, PhD (presenter), Federica Beretta, MD; Mario Zuccarello, MD (Cincinnati, USA)

4:48 PM - 4:54 PM **Abstract #11** 

Anatomical Motivation, Preoperative Planning and Use of Transglabellar-Transethmoidal (TGL-TE)

Approach for Removal of Large and Giant Tumors of Sellar Region

Yuri Shulev, MD, PhD (presenter), Jamil Rzaev, MD; Hovanes Hakobyan, MD (St. Petersburg, Russia)

4:54 PM - 5:00 PM **Abstract #12** 

The Subfrontal Versus The Subcranial Approach – Variations and Indications

Nevo Margalit, MD (presenter), Ziv Gil, MD; Dan Fliss, MD (Tel Aviv, Israel)

5:00PM - 5-06 PM **DISCUSSION** 

5:06 PM - 5:12 PM **Abstract #13** 

Posterior Midline Approach for Large Anterior/Anterolateral Foramen Magnum Tumours

S.K. Gupta, M.Ch (presenter), R.Chhabra, M.Ch.; K.K.Mukherjee, M.Ch.; S.Mohindra, M.Ch.;

V.K.Khosla, M.Ch. (Chandigarh, India)



### PROGRAM INFORMATION

5:12 PM - 5:18 PM **Abstract #14** 

Combined Presigmoid Surgical Approches: Indications, Anatomy, Techniques, Results and Complications

Jacques J. Morcos, MD, FRCS(Eng), FRCS(Ed) (presenter), Mustafa Baskaya, MD;

Ernesto Coscarella MD (Miami, USA)

5:18 PM - 5:24 PM **Abstract #15** 

Quantification of Exposure of the Petrous Internal Carotid Artery Using the Transzygomatic

Extended Middle Fossa Approach: A Cadaveric Morphometric Study

James K. Liu, MD (presenter), William T. Couldwell, MD, PhD (Salt Lake City, USA)

5:24 – 5:30 PM **DISCUSSION** 

3:30 PM - 5:30 PM

**Proferred Papers – Oral Presentations** 

Pier 2

Scientific Session B-1 Abstracts # 16-24

**Moderators:** 

Julian Nedzelski Marc Schwartz

3:30 PM - 3:36 PM

Abstract #16

Use of the Faden Procedure to Increase Area on Binocularity in Patients with Persistent

**Cranial Nerve Palsies** 

Steven A. Newman, MD (presenter), (Charlottesville, USA)

3:36 PM - 3:42 PM **Abstract #17** 

Prediction of Hearing Preservation in Vestibular Schwannoma Removal by the Retrosigmoid Approach

David W. Rowed, MD, FRCSC (presenter), Julian M. Nedzelski, MD, FRCSC; Joseph M. Chen, MD FRCSC; David A. Houlden PhD (Toronto, Canada)

3:42 PM - 3:48 PM **Abstract #18** 

Costs Related to Conservative and Active Management of Vestibular Schwannomas within

the Canadian Health Care System

Richard Anthony, MA, FRCS (presenter), Tsai V MD; Taplin FRACS; Rutka JA MD, FRCS©

(Toronto, Canada)

3:48PM - 3:54 PM **DISCUSSION** 

3:54 PM - 4:00 PM **Abstract #19** 

Management of Hearing in Patients with Neurofibromatosis Type 2

John G. Golfinos, MD (presenter), J. Thomas Roland, Jr., MD (New York, USA)

4:00 PM - 4:06 PM **Abstract #20** 

The Bone-Anchored Cochlear Stimulator for Rehabilitation of Unilateral Sensorineural

Hearing Loss after Lateral Skull Base Surgery

Sam J. Marzo, MD (presenter), John P. Leonetti, MD (Maywood, USA)



### PROGRAM INFORMATION

4:06 PM - 4:12 PM **Abstract #21** 

The Evaluation and Management of Cerebrospinal Fluid Otorrhea

Sam Lavine, MD (presenter), Lorenzo Munoz MD; Mathew Kircher (Chicago, USA)

4:12 PM - 4:18 PM **DISCUSSION** 

4:18 PM - 4:24 PM **Abstract #22** 

**Selective 12-7 Nerve Grafting for Facial Paralysis** 

Michael J. O'Leary, MD, FACS (presenter), Perry Mansfield, MD, FRCSC; Sanjay Ghosh, MD;

Peter J. Martin, MD, FACS (San Diego, USA)

4:24 PM - 4:30 PM **Abstract #23** 

**Neurotrophic Keratopathy and Facial Nerve Palsy** 

Amjad Z. Ahmad, MD (presenter), Matthew H. Kim, MD (Maywood, USA)

4:30 PM - 4:36 PM **Abstract #24** 

The Identification and Management of Cerebrospinal Fluid Fistula of the Temporal Bone

John P. Leonetti, MD (presenter), Sam Marzo, MD; Douglas Anderson, MD; Thomas Origitano,

MD, PhD; Daniel D. Vukas, MD; Chad A. Zender MD (Maywood, USA)

4:36PM - 4:42 PM **DISCUSSION** 

Abstracts # 25-31

**Moderators:** 

Mark Bilsky Jeremy Freeman

4:42 PM - 4:48 PM **Abstract #25** 

Clinical Experience with the Endoscopic Transsphenoidal Approach for Petrous Apex Lesions

Umamaheswar Duvvuri (ma Duvvuri (presenter), Carl Snyderman, MD, Ricardo Carrau, MD,

Amin Kassam, MD (Pittsburgh, USA)

4:48 PM - 4:54 PM **Abstract #26** 

Facial Nerve Monitoring vs Versus BIS to Predict Movement During Skull Base Surgery

W. Scott Jellish, MD, PhD (presenter), John Leonetti, MD; Elaine Fluder, RN, MSN;

Michael Macken, MD (Maywood, USA)

Direct to-Hpoglossal Neurorrhaphy for Facial Paralysis Rehabilitation

J. Thomas Roland, Jr., MD (presenter), Andrew J. Fishman, MD; Philip Miller, MD;

Karen Lin, MD (New York, USA)

5:00PM - 5:06 PM **DISCUSSION** 

5:06 PM - 5:12 PM **Abstract #28** 

**Endoscopic Management of Petrous Apex Cholesterol Granulomas** 

Jennifer L. Smullen, MD (presenter), Adrien A. Eshraghi, MD, MSc; Joshua K. Mondschein, BS;

Fred F. Telischi, MD, MEE (Miami, USA)



### PROGRAM INFORMATION

5:12 PM - 5:18 PM **Abstract #29** 

Intraoperative Imaging of the Temporal Bone Using a Mobile C Arm for High-Resolution Cone-Beam CT: Pre-Clinical Investigation and Demonstration of 3D Image Quality Mark Rafferty, MD, FRCSI(ORL) (presenter), J. H. Siewerdsen, MD, Y Chan, MD,

D. J. Moseley, MD, D. A. Jaffray, MD, J Irish, MD (Toronto, Canada)

5:18 PM - 5:24 PM **Abstract #30** 

Prevention and Treatment of Cerebrospinal Fluid Leak in Translabyrinthine Surgery for

**Acoustic Neuroma** 

Marc S. Schwartz, MD (presenter), Derald E. Brackmann, MD; Jose N. Fayad, MD; Rick A. Friedman, MD, PhD; William H. Slattery, MD; William E. Hitselberger, MD

(Los Angelos, USA)

5:24 PM - 5:30 PM **Abstract #31** 

The Pericranial Wrapping of the Frontal Bone After Anterior Skull Base Tumor Resection

Ziv Gil, MD, PhD (presenter), Dan M. Fliss, MD (Tel-Aviv, Israel)

5.30 - 6.00 PM Invited Lecture: Anatomy of the Midline Skull Base

Albert Rhoton, MD

Introduced by: Carl Heilman

6:00 PM - 8:00 PM Metro Centre Wine & Cheese Reception - Exhibit Hall Opens

### **SATURDAY, APRIL 9, 2005**

7:00 AM - 5:30 PM

Metro Foyer

**Registration Open** 

7:00 AM - 7:45 AM Instructional Courses and Continental Breakfast

Dockside 1 Course #1 Management of Complex Meningiomas

Fred Gentili and Laligram Sekhar

Dockside 2 Course #2 Subcranial Approach to the Cranial Base

Daniel Fliss and Joram Raveh

Dockside 3 Course #3 Neurovascular Surgery

Chandra Sen and Christopher Wallace

Dockside 6 Course #4 Reconstruction Options

Peter Neligan and Ralph Gilbert

#### **Plenary Session #3**

8:00 AM - 9:30 AM **Par** 

Panel #3: Endoscopic Versus Open Surgery for Skull Base

Keynote Address: Proton Beams and the Skull Base

Metro West Ian Witterrick (Moderator), Richard Carrau, Franco DeMonte, Ehab Hanna, Amin Kassam

9:30 AM - 10:00 AM

John Munzenrider, MD

Metro West

Introduced by: Brian O' Sullivan



### PROGRAM INFORMATION

10:00 AM - 10:30 AM Metro Centre Refreshment Break in the Exhibit Hall

10:30 AM - 12:00 Noon Metro West

Operative Techniques With the Masters: Video Presentation of Intra-Operative

**Pearls and Nuances** 

Saleem Abulrauf (Moderator), Ossama Al-Mefty, John Leonetti, Nelson M. Oyesiku,

Laligram N. Sekhar, Jatin P. Shah

12:00 Noon - 12:30 PM Metro West Keynote Address: The History of the North American Skull Base Society

Jatin Shah, MD

Introduced by: Patrick Gullane

12:30 PM - 1:30 PM Metro East **Lunch and Annual Business Meeting (NASBS Members Only)** 

1:30 PM - 2:00 PM

**Keynote Address: Management of the Paralyzed Face** 

Metro West

Ralph Manktelow, MD Introduced by: Peter Neligan

2:00 PM - 3:00 PM

**Concurrent Sessions** 

Pier 2

Panel #4: Complications in the Skull Base and Their Avoidance

Fred Gentili (Moderator), Peter Costantino, Jacques Morcos, Thomas Origatano

Metro West

**Panel #5: Petrous Apex Lesions** 

Joe Chen (Moderator), Michael Cusimano, Amin Kassam, Julian Nedzelski

3:00 PM - 3:30 PM

Metro Centre

**Refreshment Break in the Exhibit Hall** 

3:30 PM - 5:30 PM

Metro West

**Proferred Papers - Oral Presentations** 

Scientific Session A-2 Abstracts # 32-40

**Moderators:** 

Vinod Anand Gady Hae-El

3:30 PM - 3:36 PM

Abstract #32

The Emerging Trends in the Epidemiology of Traumatic Optic Neuropathy at the Largest

**Adult Trauma Center in Canada** 

Farhad Pirouzmand, MD, FRCSC (presenter), (Toronto, Canada)

3:36 PM - 3:42 PM

Abstract #33

Visual Outcome Following Surgical Management of Clinoidal Meningiomas

Burak Sade, MD (presenter), Joung H. Lee, MD (Cleveland, USA)

3:42 PM - 3:48 PM

**Abstract #34** 

Surgical Resection of Locally Advanced Granular Cell Tumor of the Orbit

Dominick I. Golio, MD (presenter); Sujit Prabhu, MD; Bita Esmaeli, MD (Houston, USA)



### PROGRAM INFORMATION

3:48 PM - 3:54 PM **DISCUSSION** 3:54 PM - 4:00 PM **Abstract #35** Tubercullum Sella Meningioma - Nine Cases Done in 18 months by One Surgeon and One Neuro-Ophthalmologist. Surgical Indications, Technique and Visual Outcome Nevo Margalit, MD (presenter), Anat Kesler, MD (Tel Aviv, Israel) 4:00 PM - 4:06 PM Abstract #36 Mucopyocele Involving the Frontal Sinus and Lateral Orbit Presenting with a Ten Year **History of Progressive Proptosis** Dennis Cramer, DO (presenter), Javed Siddiqi, MD; Dan Miulli, DO; John Cantando, DO (Colton, USA) 4:06 PM - 4:12 PM Abstract #37 SPECT Thallium Imaging in Meningiomas: Early Functional Indications in Neovascularity and Tumor Recurrence Raj K. Shrivastava, MD (presenter), Chandranath Sen, MD; Munir Ghesani, MD (New York, USA) 4:12 PM - 4:18 PM DISCUSSION 4:18 PM - 4:24 PM Abstract #38 The Vidian Nerve: Computer-based CT Scan Measurements and Clinical Utility as an **Anatomic Guide in Skull Base Surgery** C. Arturo Solares, MD (presenter), James L. Netterville; MD, Martin J. Citardi, MD; Pete S. Batra, MD; Robert R. Lorenz, MD (Cleveland, USA) 4:24 PM - 4:30 PM Abstract #39 Skull Base Surgery with and Expanded, Compact Intraoperative MRI Michael Schulder, MD (presenter), Erik Cohen, MD; Roger Turbin, MD; Paul Langer, MD; Soly Baredes, MD (Newark, USA) 4:30 PM - 4:36 PM Abstract #40 Image-Guided Cranial Base Surgery: An Atlas of Fiducial Based Registration Protocols Devin Vikram Amin, MD, PhD (presenter), Amin Kassam, MD, MPH; Carl Snyderman, MD, FACS (Pittsburgh, USA) 4:36 PM - 4:42 PM **DISCUSSION Abstracts #41 - 47 Moderators:** Dan M. Fliss Anne Keller 4:42 PM - 4:48 PM Abstract #41

Mobile C-Arm Cone-Beam CT: A Novel Image-Guidance Technology for Head and Neck Surgery

Douglas J. Moseley, PhD; David A. Jaffray, PhD; Jonathan C. Irish, MD (Toronto, Canada)

Yvonne Chan, MD (presenter), Jeffrey H. Siewerdsen, PhD; Mark Rafferty, MD;



### PROGRAM INFORMATION

4:48 PM - 4:54 PM **Abstract #42** 

High Resolution Flat-Panel Detector Volume-CT Could Improve Skull Base Imaging and Therefore Surgical Planning and Intraoperative Navigation

Soenke H. Bartling, MD (presenter), Christian Dullin, PhD; Omid Majdani, MD; Prof.

Thomas Lenarz, MD; Timo Stoever, MD; Prof. Eckhardt Grabbe, MD; Prof. Hartmut Becker, MD

(Hannover, Germany)

4:54 PM - 5:00 PM **Abstract #43** 

Secondary Osteosarcoma of the Cranial Base Following Treatment of Retinoblastoma

Mark A. Varvares, MD (presenter), Joseph Chiura, BS; Christina Coughlin, MD; Fred Barker, MD;

Peter Adamson, MD (St. Louis, USA)

5:00 PM - 5:06 PM **DISCUSSION** 

5:06 PM - 5:12 PM **Abstract #44** 

The Role of Proton Radiotherapy in the Management of Paranasal Sinus and Anterior Skull

**Base Malignancies** 

Annie W. Chan, MD (presenter), James F. McIntyre, MD; Mark A. Varvares, MD;

Derrick T. Lin, MD; Richard L. Fabian, MD; Daniel G. Deschler (Boston, USA)

5:12 PM - 5:18 PM **Abstract #45** 

Treatment of Uncommon Cerebrospinal Fluid Fistula and Encephalocele

Kurt Laedrach, MD, DMD (presenter), Joram Raveh, MD, DMD; Anton Lukes (Bern, Switzerland)

5:18 PM - 5:24 PM **Abstract #46** 

Infralabyrinthine Transmastoid Approach for Jugular Foramen Schwannomas

Kyu-Sung Lee, MD (presenter), (Seoul, Korea)

5:24 PM - 5:30 PM **Abstract #47** 

Craniofacial Resection for Malignant Melanoma of the Skull Base. Report of an International Collaborative Study

**International Collaborative Study** 

Ian Ganly, MD, PhD (presenter), Snehal G. Patel, MD, Patrick G Bridger, MD, Giulo Cantu, MD,

Anthony Cheesman, MD, Geraldo De Sa, MD, Paul Donald, MD, Dan Fliss, MD,

Patrick Gullane, MD, Ivo Janecka, MD, Shin-etsu Kamata, MD, Luiz P Kowalski, MD,

Dennis H. Kraus MD, Paul Levine, MD, Luiz R Medina, MD, Sultan Pradhan, MD,

Victor Schramm, MD, Bhuvanesh Singh, MD, Carl Snyderman, MD, William I Wei, MD,

Jatin P Shah, MD (New York, USA)

3:30 PM – 5:30 PM Pier 2 **Proferred Papers - Oral Presentations** 

Scientific Session B-2

**Abstracts # 48-53** 

**Moderators:** 

Marc Delacure

Ralph Gilbert

3:30 PM - 3:36 PM **Abstract #48** 

**Skull Base Reconstruction in Pediatric Patients** 

Brian A. Moore, MD (presenter), David W. Chang, MD (Houston, USA)



### PROGRAM INFORMATION

3:36 PM - 3:42 PM Abstract #49 Frontal Sinus Fractures: Advances in Reconstruction Khalid Chowdhury, MD, MBA (presenter), Bradley Alan Andrews, MD (Denver, USA) 3:42 PM - 3:48 PM **Abstract #50** Factors Associated with Postoperative Infection in Autogenous and Alloplastic Cranioplasty Reconstruction Alain Gagnon, MD (presenter), Liza Boucher, MD; Carlos Cordoba, MD; Patrick G. Harris, MD; Michel Bojanowski, MD; Robert Moumdjian, MD; Andreas Nikolis, MD (Montreal, Canada) 3:48 PM - 3:54 PM DISCUSSION 3:54 PM - 4:00 PM Abstract #51 Temporoparietal Rotation Flap Reconstruction of the Middle Cranial Fossa Floor Sanjay Ghosh, MD, FACS (presenter), Michael J. O'Leary, MD, Perry T. Mansfield, MD (San Diego, USA) 4:00 PM - 4:06 PM Abstract #52 Reconstruction of Skull Base and Fronto-Orbital Defects Following Tumor Resection - Long **Term Results** Kurt Laedrach, MD, DMD (presenter), Joram Raveh, MD, DMD (Bern, Switzerland) 4:06 PM - 4:12 PM Abstract #53 The Vascularized Flap Reconstruction of the Subcranial Approach Jan Hemza, MD (presenter), R.Salzman, MD; Z.Mackerle, MD; V.Feitova, MD; R.Kostrica, MD; Z.Novak, MD (Brno, Czech Republic) 4:12 PM - 4:18 PM **DISCUSSION** Abstracts # 54-61 **Moderators:** Peter Costantino Jacques Morcos 4:18 PM - 4:24 PM Abstract #54 The Epitech Reconstruction System for Craniofacial Prosthetics; : A Novel Techniqueand **Reconstructive Option** Perry Mansfield, MD, FRCSC (presenter), Michael J. O'Leary, MD, FACS, Richard Torchia, DDS (San Diego, USA) 4:24 PM - 4:30 PM **Abstract #55** A Novel Technique for Laser Recontruction of the Dura: An In Vitro and In Vino Study Ziv Gil, MD, PhD, (presenter), Dan M. Fliss, MD, Darryl B. Smith, Boaz Forer, MD, Aharon Kazir, PhD (Tel-Aviv, Israel) 4:30 PM - 4:36 PM Abstract #56

Outcome of Craniofacial Resection in Patients Over 70 Years of Age

Dennis Kraus, MD (New York, USA)

Ian Ganly, MD, PhD (presenter), Neil Gross, MD; Mark Bilsky, MD; Jatin Shah, MD;



### PROGRAM INFORMATION

4:36 PM - 4:42 PM **DISCUSSION** 

4:42 PM - 4:48 PM **Abstract #57** 

Penetrating Skull Base Injury and Facial Nerve Injury: The Experience of the U.S. Military

in Operation Iraqi Freedom and Operation Enduring Freedom.

Andrew Battiata, MD (presenter), George Conley, MD (Washington, USA)

4:48 PM - 4:54 PM **Abstract #58** 

**Mine-Blast Skull Base Injuries** 

Yuri Shulev, MD, PhD (presenter), (St. Petersburg, Russia)

Trigeminal Neurinomas: Experience of 56 Cases From One Neurosurgical Center

Bhawani S. Sharma, MD (presenter), (New Delhi, India)

5:00 PM - 5:06 PM **DISCUSSION** 

5:06 PM - 5:12 PM **Abstract #60** 

**Surgical Treatment of Trigeminal Schwannomas** 

Kyu-Sung Lee, MD (presenter), (Seoul, Korea)

5:12 PM - 5:18 PM **Abstract #61** 

**Results of Anterior Skull Base Surgery in Pediatric and Young Adult Patients** 

Neil D. Gross, MD (presenter), Ian Ganly, MD; Mark H. Bilsky, MD; Jatin P. Shah, MD;

Dennis H. Kraus, MD (New York, USA)

5:24 PM - 5:30 PM **DISCUSSION** 

6:00 PM - 10:00 PM

Regatta

PM

**Annual Reception and Banquet** 

#### **SUNDAY, APRIL 10, 2005**

7:00 AM - 7:45 AM Metro Centre **Breakfast in the Exhibit Hall** 

8:00 AM - 9:30 AM *Metro West* 

**Proferred Papers - Oral Presentations** 

Scientific Session A-3

**Abstracts # 62-72** 

**Moderators:** 

Anil Nanda Guy Petruzzelli

8:00 AM - 8:06 AM

Abstract #62

How Evolutionary Anthropology Informs the Growth, Development, and Maturation of the

Cranial Base. Part 1: Cranial Base, Inferior Aspect.

Alexandra R. Kunz (presenter), Dennis A. Velez, MD; Seema Borthakur (Boston, USA)



### **PROGRAM INFORMATION**

8:06 AM - 8:12 AM	Abstract #63 How Evolutionary Anthropology Informs the Growth, Development, and Maturation of the Cranial Base. Part 2: Cranial Base, Superior Aspect Alexandra R. Kunz (presenter), Dennis A. Velez, MD; Seema Borthakur (Boston, USA)
8:18 AM - 8:24 AM	Abstract #64 Esthesioneuroblastoma: Long Term Follow-up and Recurrence Patterns Ashish Tandon, MD, DNB, MCh (presenter), Fred Gentili. MD, FRCPSC, FACS; Patrick Gullane MD, FRCPSC, FACS; Jonathan Irish MD, FRCPSC (Toronto, Canada)
8:24 AM - 8:30 AM	Abstract #65 Endoscopic Resection of Benign and Malignant Clival Lesions: Initial Experience C. Arturo Solares, MD (presenter), Samer Fakhri, MD, FRCSC; Pete S. Batra, MD; Joung Lee, MD, FACS; Donald C. Lanza, MD, FACS (Cleveland, USA)
8:30 AM - 8:36 AM	Abstract #66 Voice Controlled Robotic Assist for Endoscopic Approach to the Pituitary Cherie-Ann O. Nathan, MD, FACS (presenter), Vinaya Chakradeo, MD; Kavita Malhotra, MD (Shreveport, USA)
8:42 AM - 8:48 AM	Abstract #67 Endoscopic Transnasal Posterior Septectomy for Lesions of the Middle Skull Base Sandeep Samant, MS, FRCS (presenter), (Memphis, USA)
8:48 AM - 8:54 AM	Abstract #68 Endoscopic Transpterygopalatine Fossa Approach to the Infratemporal Skull Base Stephen Y. Lai, MD, PhD (presenter), Ricardo L. Carrau, MD; Amin Kassam, MD, Carl H. Snyderman, MD, Michael Horowitz, MD (Pittsburgh, USA)
8:54 AM - 9:00 AM	Abstract #69 Intraoperative 3D Imaging for Endoscopic Surgery of the Frontal Recess Using a Mobile CArm for Cone-Beam CT Mark Rafferty, MD, FRCSI(ORL) (presenter), J. H. Siewerdsen; Y Chan; D. J. Moseley; D. A. Jaffray; J Irish (Toronto, Canada)
9:06 AM - 9:12 AM	Abstract #70 Pituitary Apoplexy in the MR Imaging Era: Clinical Grading Scale and Surgical Results James K. Liu, MD (presenter), William T. Couldwell, MD, PhD (Salt Lake City, USA)
9:12 AM - 9:18 AM	Abstract #71 Endoscopic Transphenoidal Pituitary Surgery with Intraoperative MRI Theodore H. Schwartz, MD (presenter), Vijay K. Anand, MD (New York, USA)
9:18 AM - 9:24 AM	Abstract #72 CyberKnife Treatment of Complex, Benign Skull-Base Tumors: Treatment Parameters and Early Clinical Results Walter C. Jean, MD (presenter), Donald A. McRa, PhD; Gregory J. Gagnon, MD (Washington, USA)



### PROGRAM INFORMATION

8:00 AM- 9:30 AM Pier 2 **Proferred Papers – Oral Presentations** 

Scientific Session B-3 Abstracts # 73-83

**Moderators:** 

Laligram Sekhar

Chris Wallace

8:00 AM - 8:06 AM

Abstract #73

Giant / Large Fusiform and Dolichoectatic Aneurysms of the Basilar Trunk and Vertebrobasilar Junction: Clinicopathological and Hemodynamic Considerations in

Therenoutic Decision Making

**Therapeutic Decision Making** 

Hirofumi Nakatomi, MD, PhD (presenter), Yoshiaki Shiokawa, MD; Akio Morita, MD; Hiroyasu

Kamiyama, MD; Kelly Flemming, MD; David G. Piepgras, MD (Cincinnati, USA)

8:06 AM - 8:12 AM

Abstract #74

Management of Skull Base Carotid Pseudoaneurysm Related to Radiation Treatment for

Nasopharyngeal Cancer

Vitus Y. W. Fan, MD (presenter), W. Wei, MD

8:18 AM - 8:24 AM

Abstract #75

Anterior Communicating Artery Aneurysm Surgery through a Skull Base Approach: Short-

and Long-term Follow-up

Mario Zuccarello, MD (presenter), Norberto Andaluz, MD (Cincinnati, USA)

8:24 AM - 8:30 AM

Abstract #76

A Skull Base Approach and Microsurgical Clipping of Cerebral Aneurysm: A Historical

Method of Treatment or a "Gold Standard"

Kenan Arnautovic, MD (presenter), (Memphis, USA)

8:30 AM - 8:36 AM

Abstract #77

The Hemodynamic Questions and Problems of Vascular Stenting in Skull Base Procedures

Jan Hemza, MD (presenter), (Brno, Czech Republic)

8:42 AM - 8:48 AM

8:48 AM - 8:54 AM

**Abstract #78** 

Transmastoid Partial Labyrinthectomy Approach for Medial Skull Base Vascular Lesions

Michael A. Taplin MB,BS(Hons I), FRACS (presenter), Richard Anthony MA, FRCS (Eng); Michael Tymianski MD, PhD, FRCSC and John A. Rutka MD, FRCSC (Toronto, Canada)

A1 4 4 115

Abstract #79

Long-Term Results of Radiotherapy for Paragangliomas of the Head and Neck: The Princess

**Margaret Experience** 

Jason H. Franklin, HBSc. MD FRCS(C) (presenter), Bernard J. Cummings, MB ChB FRCP(C);

Patrick J. Gullane, MD FRCS(C) FAC(S) (Toronto, Canada)

8:54 AM - 9:00 AM

Abstract #80

Autologous Platelet Poor Gel in Skull Base Surgery: Outcome Analysis

Jason Hauptman, BA, BS (presenter), Vamsi Alli, BA; Frank Stark, BS, CCP; Steven Keller, PhD;

Michael Schulder, MD (Newark, USA)



### **PROGRAM INFORMATION**

9:06 AM - 9:12 AM **Abstract #81** 

Skull Base Meningiomas: Do They Differ from Other Intracranial Meningiomas? Prasad Vannemreddy, MD, MCh (presenter), Anil Nanada, MD, FACS (Shreveport, USA)

Teratomas of the Skull Base: Treatment and Long-Term Outcome

Donald J. Annino, Jr, MD, DMD (presenter), Carl B. Heilman, MD (Boston, USA)

9:18 AM - 9:24 AM **Abstract #83** 

Cranio-Vertebral Junction Chordomas: Lessons Learned in their Surgical Management Raj K. Shrivastava, MD (presenter), Chandranath Sen, MD; Peter Costantino, MD (New York, USA)

9:30 AM - 10:00 AM

Keynote Address: Molecular Biology Meets the Skull Base

Metro West James Rutka, MD

Introduced by: Fred Gentili

10:00 AM - 10:30 AM Metro Centre

10:30 AM Refreshment Break in the Exhibit Hall

10:30 AM - 12:00 PM

Panel# 6: Treatment of Acoustic Neuromas: Operate, Radiate or Observe

Jon Robertson (Moderator), William Hitzelberger, Michael Link, Julian Nedzelski, John Rutka

12:00 Noon - 12:15 PM

Metro West

1:30 PM

Metro West

**Closing Remarks** 

12:15 PM - 1:00 PM *Metro Centre* 

**Lunch in Exhibit Hall** 

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**Buses Depart to Pearson Airport** 

Buses will depart from the hotel promptly at 1:30 p.m.



### SCIENTIFIC POSTERS

Scientific	Postors _	Dienlayed	in the	<b>Exhibit Hall</b>
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Metro Centre Abstracts # 84-107

Abstract #84 The Transcrusal Approach for Intracranial Lesions: Our Experience and Outcomes

Brian Hughes, MD, Lorne S Parnes MD; Stephen P Lownie MD (London, Canada)

Abstract #85 Microvascular Tissue Transfer in the Repair of Cranial Base Defects:

Indications, Complications, and Results.

Jason G. Newman, MD, Bert O'Malley, MD; Ara Chalian, MD; Mark Brown,

MD (Philadelphia, USA)

Abstract #86 Preserved Hearing after Intraoperative Loss of the Brainstem Auditory

**Evoked Potential During Vestibular Schwannoma Surgery** 

Raymund L. Yong, MD, Ryojo Akagami, MD, FRCSC (Vancouver, Canada)

Abstract #87 Cavernous Sinus Tumor Foramen Ovale Needle Biopsy: An Under-Utilized

Technique for Guiding Therapeutic Decision-Making in Skull Base Surgery

Mark E. Linskey, MD, (Orange, USA)

Abstract #88 Giant Isolated Intracranial Sarcoidosis Mimicking a Petroclival-Cavernous

Sinus Meningioma - Treatment and Outcome

Michael J. Link, MD, Colin L.W. Driscoll, MD; Fausto J. Rodriguez, MD;

Caterina Giannini, MD (Rochester, USA)

Abstract #89 Retained Bullet in the Jugular Foramen Causing Recurrent

**Syncope – Treatment and Outcome** 

Michael J. Link, MD, Colin L.W. Driscoll, MD (Rochester, USA)

Abstract #90 Heavily Calcified Pituitary Macroadenomas: A Case Report & Review of Literature

Benjamin Lo, MD, Kesh Reddy, MB,BS, FRCSS (Mississauga, Canada)

Abstract #91 Endoscopic-Assisted Transsphenoidal Endonasal Approach to Sellar Lesions

Benjamin Lo, MD, Kesh Reddy, MB, BS, FRCSS (Mississauga, Canada)

Abstract #92 Early Identification of Cerebrospinal Fluid Leak Following Endonasal,

**Endoscopic Surgery of the Cranial Base** 

Lee A. Zimmer, MD, PhD, Carl H. Snyderman, MD; Ricardo L. Carrau, MD;

Amin Kassam, MD (Pittsburgh, USA)

Abstract #93 Anterior Communicating Artery Aneurysm Surgery Through the

Orbitopterional Approach: Short-and Long Term Follow-up Norberto Andaluz, MD, Mario Zuccarello, MD (Cincinnati, USA)

Abstract #94 Infratemporal Fossa Approaches (IFTA); Surgical Anatomy, Techniques

and Therapeutic Strategy

Hirofumi Nakatomi, MD, PhD, Philip Theososopoulos, MD; Jeffrey Keller, PhD; Miles Pensak, MD; Tetsro Sameshima, MD, PhD; Takanori Fukushima,

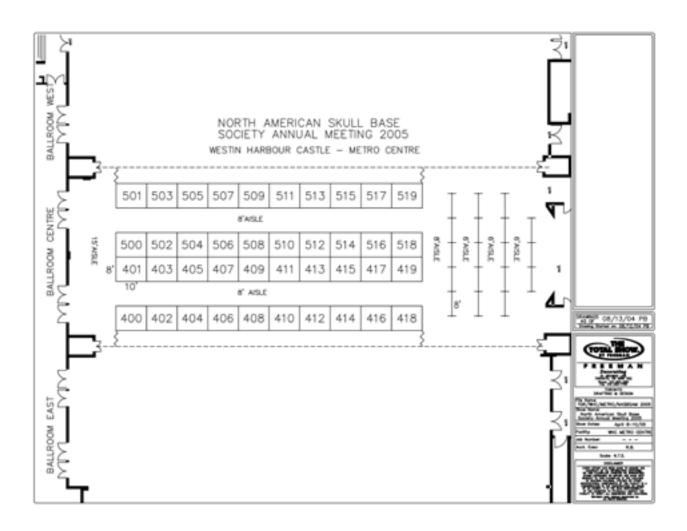
MD, DMSc (Cincinnati, USA)



## SCIENTIFIC POSTERS

Abstract #95	Aspergillomata of Skull Base: Clinical Profile and Outcome Results Prasad Vannemreddy, Sundaram C, Anil Nanda, MD (Panjagutta, India)		
Abstract #96	Interdisciplinary Approach for Fungal Skull Base Osteomyelitis Kazim Oner, MD, Bulent Karci, MD; Izzet Ovul, MD; Tuncer Turhan, MD (Bornova, Turkey)		
Abstract #97	Emerging Patterns of Skull Base Injury in Modern Combat: U.S. Military Experience in Operation Iraqi Freedom and Operation Enduring Freedom.  Michael A. Hoffmann, MD, George Coppit, MD (Washington, USA)		
Abstract #98	CNS Central Nervous System Sarcoid Dural-Based Mass Lesions Masquerading as Meningioma Mark E. Linskey, MD, Charles A. Middelhof, MD (Orange, USA)		
Abstract #99	Free Flap Monitoring in Head, Neck, and Skullbase Surgical Oncology – Is it Really Worth the Effort? Edgar A. Lueg, MD, (Los Angelos, USA)		
Abstract #100	Swing Door Mandibulotomy: Approach to Vascular Lesion Resection with Minimal Neurological Deficits Yvonne Layton, PA-C, Daniel R. Pieper, MD (Southfield, USA)		
Abstract #101	The Extended Transsphenoidal Approach to Suprasellar and Anterior Skull Base Tumors John A. Jane, Jr., MD, Adam S. Kanter, MD; Aaron S. Dumont, MD; Steven A. Newman, MD; Edward R. Laws, Jr. (Charlottesville, USA)		
Abstract #102	Case Report-: A Rare Case of a Trigeminal Nerve Rhabdomyoma/Neuromuscular Hamartoma in a Child John W. Alldredge, MD, Peter Rigby, MD, FACS; Daniel W. Nuss, MD, FACS (New Orleans, USA)		
Abstract #103	Histopathological Distinction of Intestinal-Type Sinonasal Adenocarcinoma from Metastatic Adenocarcinoma of Intestinal Origin Vicente Resto, MD, PhD, Jeffrey F. Krane, MD, PhD; Ben Z. Pilch, MD; William C. Faquin, MD, PhD; Derrick T. Lin, MD (Boston, USA)		
Abstract #104	Combined Craniofacial Approaches for Resection of Esthesioneuroblastoma Kevin Petrecca MD, PhD, A Zeitouni, M Samaha, M Desrosiers, R Leblanc, D Sirhan (Montreal, Canada)		
Abstract #105	An Aneurysm Made Angiographically Occult by Meningioma Compression Kevin Petrecca MD, PhD, Denis Sirhan (Montreal, Canada)		
Abstract #106	Giant Paranasal Schwannoma – Three Cases and Review of the Literature Ashish Tandon, MD, DNB, MCh, Fred Gentili. MD., FRCPSC, FACS; Patrick Gullane MD, FRCPSC; Ralph Gilbert MD, FRCSC (Toronto, Canada)		
Abstract #107	Resection of Olfactory Neuroblastoma by a Transnasal Endoscopic Approach Ricardo L. Carrau, MD, Amin B. Kassam, Carl H. Snyderman, Michael Horowitz (Pittsburgh, USA)		

### EXHIBITORS FLOOR PLAN







### **EXHIBITORS**

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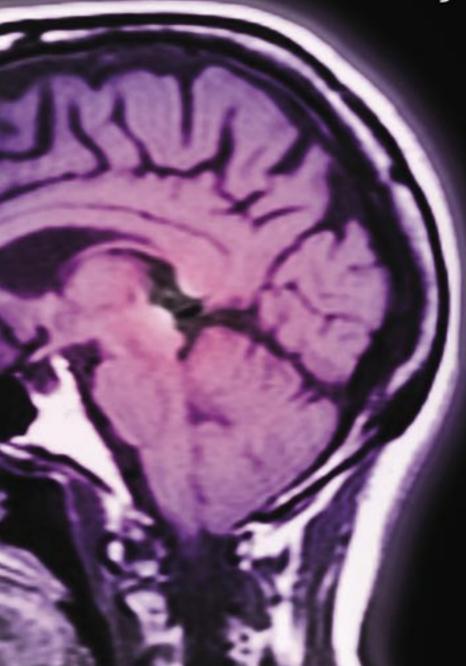


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