

PRELIMINARY PROGRAM



CONGRESS OF NEUROLOGICAL SURGEONS 43rd Annual Meeting

Vancouver Trade and Convention Centre
Vancouver, B.C.
October 2-7, 1993



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President's Greeting



Arthur L. Day, MD

The 43rd Annual Meeting of the Congress of Neurological Surgeons will be held in Vancouver, British Columbia, from October 2-7, 1993. Gently nestled between the mighty Pacific Ocean and breathtaking coastal mountains, Vancouver's natural beauty, cultural diversity, and mild climate are spectacular, especially during the time of our meeting. The actual meeting will be held at The Vancouver Trade and Convention Centre, which is situated directly on the waterfront of the Vancouver Harbor.

The theme of the meeting is "The Anatomical Basis of Neurosurgery." Who else could approach this topic better than our Honored Guest, Albert Rhoton? A Past President of the Congress of Neurological Surgeons, Dr. Rhoton will provide us with three inspiring and educational lectures that reflect his extensive clinical experience and his comprehensive knowledge of neuroanatomy as it affects the practice of neurosurgery.

The Scientific Program, with an expanded number of Practical Courses and Seminars, promises to be quite exciting, innovative, and diverse. Hundreds of neurosurgeons from around the United States, Canada and the rest of the world will be involved in various aspects of the program, making this a truly "international" meeting. Topics for the General Scientific Sessions include anatomical principles of skull base and posterior fossa surgery, spinal surgery, cerebrovascular surgery, and CNS tumors, followed by a panel discussion of controversial areas. The General Sessions will be equipped with voting stations in the audience, allowing instantaneous audience polling and interaction with the speakers and panelists. Each Session will also have video presentations focusing on the teaching of specific intra-operative techniques.

The social program will have something for everyone. You can appreciate historic Northwest Indian art one moment, and tour an authentic Chinese garden the next. You might perhaps meet a genuine Royal Canadian Mountie, or purchase strawberries and fresh-caught salmon in a public market. The Auxiliary Program will feature an internationally acclaimed actor, who will discuss the essentials of effective communication, using rich entertaining stories of his experiences as both teacher and actor.

Immediately after the Annual Meeting, a post-convention meeting has been arranged at Whistler, a world-class mountain resort two hours north of Vancouver. Centered around two half-day scientific sessions, package travel and hotel accommodations have been organized that provide an exciting and educational conclusion amidst spectacular mountain surroundings.

The meeting promises to be stimulating and enlightening for neurosurgeons from all countries and levels of experience. Dana and I hope that each of you will join us for this most memorable stay in the gateway to the northwest, Vancouver: Spectacular . . . by Nature.

WELCOME TO VANCOUVER

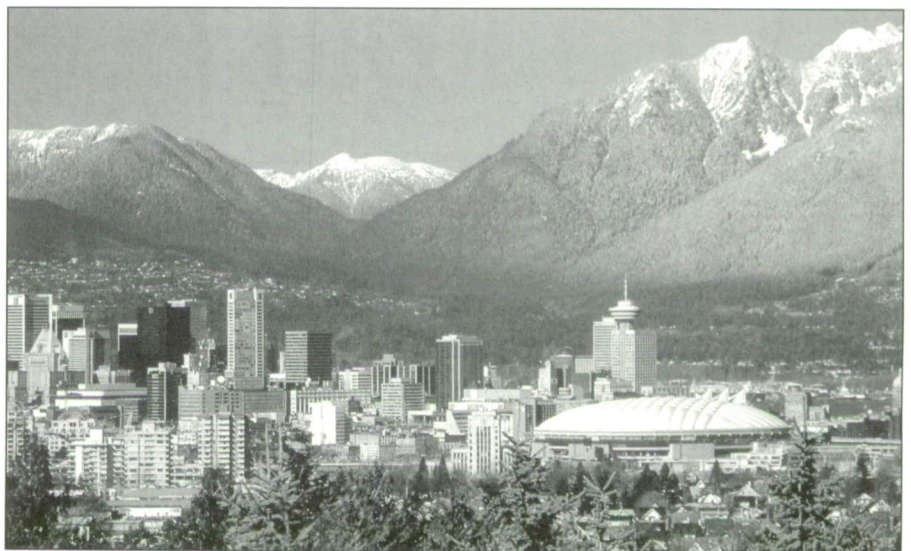


Welcome to a city like no other in all the world - a scenic cosmopolitan centre bordered on one side by mountain wilderness and on another by ocean beaches. "Gassy Jack" Deighton, who opened a saloon for loggers in 1867, is considered to be the founder of Vancouver. The community known as Gastown (officially it was Granville) was incorporated in April, 1886, amid much optimism. Two months later, it burned to the ground. Undaunted, the 3,000 town-folk began rebuilding and laid the foundation for one of the world's most beautiful and exciting cities.

Within 15 minutes of the city core, there is an unending variety of captivating sights and activities - Stanley Park, North America's second largest urban park; the continent's second largest Chinatown; Granville Island Market with farm-fresh produce, just-caught seafood, and crafts to be found nowhere else; Grouse Mountain's aerial tramway that will whisk you high above the city for new adventures.



Vancouver has grown into a major Pacific Rim city with an international profile and diverse cultural heritage. Offering an endless variety of activities, the city is distinguished by its glorious setting and natural surroundings. Discover this unique and vibrant city. Vancouver: Spectacular...by Nature.



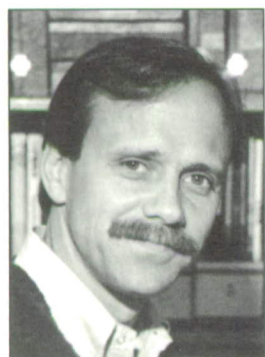
GENERAL INFORMATION

1993 HONORED GUEST

Serving as Honored Guest for the 43rd Annual Meeting will be Albert L. Rhoton, Jr., MD, R.D. Keene Family Professor and Chairman of the Department of Neurological Surgery at the University of Florida College of Medicine. This greatly esteemed senior neurosurgeon will present three key lectures in Vancouver, and will moderate a symposium at the Post-Convention Meeting in Whistler. A former President of the Congress, Dr. Rhoton is particularly known for his microanatomical studies of human material. The Honored Guest, designated by the current President of the Congress, is traditionally one who has played a major role in the President's professional development.



1993 DECADE OF THE BRAIN MEDALIST



The Congress of Neurological Surgeons is honored to present the 1993 Decade of the Brain Medal to Fred H. Gage, PhD, of LaJolla, California, for his outstanding contributions to the Neurosciences. Dr. Gage is being honored for his major work in the field of neural grafting and transplantation and its application to degenerative diseases of the central nervous system. Dr. Gage will present "Gene Therapy in the Central Nervous System" at the Decade of the Brain Breakfast on Tuesday.

Dr. Gage will present "Gene Therapy in the Central Nervous System" at the Decade of the Brain Breakfast on Tuesday.

MISSION STATEMENT

The Congress of Neurological Surgeons exists for the purpose of promoting the public welfare through the advancement of neurosurgery, by a commitment to excellence in education and by dedication to research and scientific knowledge. The Congress of Neurological Surgeons maintains the vitality of our learned profession through the altruistic volunteer efforts of its members and the development of leadership in service to the public, to our col-

leagues in other disciplines, and to the special needs of our fellow neurosurgeons throughout the world and at every stage of their professional lives.

MEETING PURPOSE

The purpose of the 1993 Annual Meeting of the Congress of Neurological Surgeons is to provide continuing medical education for practicing neurosurgeons, neurosurgical residents in training, post-graduate neurosurgical fellows, as well as allied health professionals such as nurses, physician's assistants, and clinical specialists in the form of didactic lectures, practical (hands-on) courses demonstrating neurosurgical techniques, small group sessions to provide in-depth coverage of selected topics, and posters to provide the latest information regarding clinical and laboratory advances in neurological surgery.

CONTINUING MEDICAL EDUCATION

This Joint Committee on Education of the American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS) designates this continuing medical education activity for 34.75 credit hours in Category I toward the Continuing Education Award in Neurosurgery and the Physician's Recognition Award of the American Medical Association. Participation in ticketed courses provides additional Category I credit as follows:

- Practical Courses 001-006: 8 hours
- All other Practical Courses: 4 hours
- Consultant's Corner: 3 hours
- Luncheon Seminars: 1.5 hours

The Joint Committee on Education of the AANS/CNS is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

REGISTRATION INFORMATION

Enclosed with this preliminary program are the following materials:

- Registration Form and Instruction sheet
- Housing Form
- Photography Exhibit Entry Form

Please complete the registration form, returning it and the necessary fees in the small envelope provided. Please note that all fees are payable in U.S. dollars.

All registrants will receive a registration confirmation letter, confirming meeting attendance and assignment to courses. Please allow three weeks for processing.

IMPORTANT DATES

September 3, 1993: Last day for receipt of Advance Registration applications at the CNS Annual Meeting Office.

Advance registration forms postmarked after this date pay full price registration fees.

Registration cancellations postmarked on or before this date will receive a full refund.

September 3 - 27, 1993: Registration cancellations postmarked after this date will receive a refund less a \$75 service fee.

September 28, 1993: Refunds of registration fees will not be allowed after this date.

October 2, 1993: Opening day of the 43rd CNS Annual Meeting.

October 7, 1993: Last day of the Vancouver program.

October 7 - 10, 1993: Post-convention meeting in Whistler.

PLEASE NOTE: The deadline for advance registration is September 3. Because course capacities are limited, early registration is recommended. All attendees wishing to register after this date should register at the on-site registration desk at the meeting.

Registration will open at 2:00 p.m. on Saturday, October 2, at the Vancouver Convention Centre, and will remain open until 7:00 p.m. On Sunday, registration will be open from 8:00 a.m. - 7:00 p.m. Registration will be open from 6:30 a.m. - 5:30 p.m. Monday, Tuesday and Wednesday, and from 7:30 a.m. - 11:00 a.m. on Thursday.

All meeting registrants will receive one complimentary ticket to the Opening Cocktail Party and admittance to the exhibitor-sponsored poster breakfast.

With the Spouse/Guest registration, attendees will also receive complimentary use of the Hospitality Suite, including daily continental breakfasts (admittance to the Hospitality Suite is by Spouse/Guest badge only). Upon request, the registration fee also includes admittance to the Auxiliary Educational Seminars.

Children, over the age of 12, may register as a guest at the Spouse/Guest Registration Fee. This will allow full participation in the Auxiliary Program activities.

REFUND POLICY

Registration Fees: A letter requesting cancellation of pre-registration must be received by the CNS Annual Meeting Office, 22 South Washington, Park Ridge, Illinois 60068, by September 3 in order to receive a full refund. Cancellation requests received after September 3 and before September 28 will be refunded less a \$75.00 processing fee. No refunds will be made if received in the CNS Annual Meeting Office after September 28, 1993. Cancellations may be telefaxed to 708/692-2589.

Course and Event Tickets: Course and Event tickets will be refunded in full until September 28, 1993. Because of facility guarantees, there can be no refund for tickets cancelled after September 28. There will be no on-site return or exchange of tickets for courses.

SCIENTIFIC MEETING

All scientific meetings and exhibits will take place at the Vancouver Convention Centre, the Pan Pacific and Waterfront Centre Hotels. Over 250 exhibits featuring the latest neurosurgical products, will be on view beginning Monday morning at 9:30 a.m.

SOCIAL AND AUXILIARY ACTIVITIES

The pink pages of this brochure contain complete details of all planned social and Auxiliary activities. It is recommended that this information be shared with your spouse in order to register for all of the week's extensive programming. Tours and activities have been selected to provide an opportunity to explore the Vancouver area. Babysitting service references are available through the Concierge desk of the hotels.

HOTEL RESERVATIONS

To ensure room reservations at the discounted convention rate, rooms must be reserved on an official CNS Housing Form. Please see page 34 of this brochure for complete hotel information. NOTE: The deadline for room reservations is September 1, 1993.

AIRLINE INFORMATION

Delta Airlines and United Airlines both offer discounted airfares for persons attending the CNS Annual Meeting. The airlines may be called directly, or by travel agents. See page 33 for discount information.

SPEAKER READY ROOM

The Speaker Ready Room will be available daily from 7:00 a.m. - 5:00 p.m., for speakers wishing to preview their slides. The Speaker Ready Room is located in room 1A on the second level of the Vancouver Convention Centre.

SMOKING

Smoking will be prohibited in all meeting rooms and exhibit areas.

MESSAGE CENTER

The Message Center will be located in the registration area during registration hours. Messages will be posted.

CNS ANNUAL MEETING COMMITTEE

ANNUAL MEETING

General Chairman
William A. Friedman, MD

Exhibits
Mark H. Camel, MD

Host
Roy P. Baker, MD
William T. Couldwell, MD

Local Arrangements
Mitchel S. Berger, MD
Paul Steinbok, MD

Public Relations
Linda L. Sternau, MD

Registration
Greg Zorman, MD

Residents' Registration
Vincent Traynelis, MD

Sergeant-At-Arms
Jack Wilberger, MD

Clinical Neurosurgery
Warren R. Selman, MD

SCIENTIFIC PROGRAM

Chairman
H. Hunt Batjer, MD

General Scientific Session I
Robert A. Solomon, MD

General Scientific Session II
Keith L. Black, MD

General Scientific Session III
Charles L. Branch, Jr., MD

General Scientific Session IV
Marc R. Mayberg, MD

International Scientific Program
Neil Martin, MD

Luncheon Seminars
Griffith R. Harsh IV, MD
Robert J. Dempsey, MD

Open Scientific Session
Warren R. Selman, MD

Poster Session
Paul C. McCormick, MD

Practical Courses
Stephen M. Papadopoulos, MD

Special Courses
Dennis G. Vollmer, MD

Joint Sections Workshop
Joseph Zabramski, MD

Videotape Library
Julian E. Bailes, MD

Residents' Program
Thomas A. Kopitnik, MD
Douglas Chyatte, MD

Program Evaluation
Philip E. Stieg, MD

CROSSING THE BORDER

Citizens or permanent residents of the United States can usually cross the border without difficulty or delay. However, certain types of identification are required by both Canada and U.S. Immigration. For native-born U.S. citizens, Canadian Immigration requires one of the following: passport, birth certificate or a voters registration card. For return entry, U.S. Immigration also suggests that you have one the the aforementioned, in addition to your normal identification. A permanent resident who is not a citizen is required to possess a 1551 or 1151 (the Green Card) by both U.S. and Canadian Immigration.

Citizens or permanent residents of other countries must have a valid passport and/or a valid visitors visa.

If you plan on bringing your own personal computer with you, please ensure that the computer is registered with U.S. Customs prior to leaving the U.S.A. This will ensure that you encounter no difficulties with U.S. Customs upon your return home. Other items that could cause a delay in your re-entry into the United States or other countries are newly purchased cameras or tape recorders. If your equipment looks or is new, please register such items with U.S./your country's Customs before entering Canada.

MONEY EXCHANGE

Please note that money can be exchanged at the airport, if necessary. Cabs will accept U.S. dollars or, in many cases, credit cards.

Program Summary

	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
Morning	Arrival	Practical Courses	International Breakfast and Program General Scientific Session I: Anatomical Principles of Skull Base and Posterior Fossa Surgery Honored Guest Presentation	Decade of the Brain Breakfast Fun Run and Walk General Scientific Session II: Anatomical Principles of Spinal Surgery Resident Award Presentation Presidential Address	Posters/Exhibits Breakfast General Scientific Session III: Anatomical Principles of Cerebrovascular Surgery Honored Guest Presentation	General Scientific Session IV: Anatomical Principles of CNS Tumor Surgery Honored Guest Presentation Adjournment
Afternoon	Registration Open at 2:00 p.m.	Practical Courses	Luncheon Seminars Special Course I: Surgery of the Temporal Lobe Joint Section on Spine & Peripheral Nerve Workshop Joint Section on Neurotrauma and Critical Care Workshop	Luncheon Seminars Special Course II: Principles of Bone Grafting and Arthrodesis Joint Section on Stereotactic and Functional Neurosurgery Workshop Joint Section on Cerebrovascular Surgery Workshop	Luncheon Seminars Special Course III: Critical Care and Intensive Monitoring Pediatric Section Workshop Joint Section on Tumors Workshop	Transportation to Post-Convention Meeting in Whistler
Evening	Dine Around • Anderson's • Dynasty • Raintree • Salmon House on the Hill	Opening Reception	Joe Fortes & the Back Alley Theatre	Granville Island & Arts Club Theatre	Annual Reception and Banquet	

POST CONVENTION MEETING

A Post-Convention Meeting has been planned from October 7-10, at Chateau Whistler Resort, located 90 miles from Vancouver. Continue your exploration of the Pacific Northwest at this beautiful mountain location, where two mornings of international scientific meetings will be featured.

Complete details about this meeting may be found on pages 21-22 of this book. An economical, all-inclusive travel package is available.

RESIDENT INFORMATION

REGISTRATION

All residents are invited to attend the 1993 Congress of Neurological Surgeons meeting in Vancouver. Meeting registration for Resident Members is complimentary. Non-member Residents have a reduced fee of \$50. All scientific course numbers followed by an "R" (i.e., 102R) are complimentary or discounted for residents. Please indicate the appropriate resident course number on the registration form to register for these courses. Special resident activities scheduled include the Resident Luncheon on Tuesday with the Honored Guest and representatives of the Congress leadership. Reduced room rates for residents have been obtained at the Hyatt Regency. Because of limited availability of resident tickets for some courses, early registration is suggested. On-site availability of complimentary course tickets can be determined at the registration desk.

RESIDENT GREETING

On behalf of the Residents' Committee of the Congress, I would like to extend a warm welcome to all Neurosurgery Residents to the Annual Meeting in Vancouver, British Columbia. The primary focus of the Scientific Program of the Annual Meeting is on the education of young neurosurgeons. Each morning of the meeting is devoted to an in-depth discussion of one particular field of neurosurgery by leading experts from throughout the world. Small luncheon seminars and special courses are available in the afternoons to provide an opportunity to explore a specific topic in more detail and to meet and question many of the leaders in neurosurgery. A special free "Residents' Luncheon" has been planned for all residents during which they may meet our Honored Guest, Albert L. Rhoton, Jr., MD. Dr. Rhoton is an exceptional figure in neurosurgery and resident education. He is looking forward to meeting with the residents.

An exciting social program has been planned in scenic Vancouver to complement the outstanding scientific program and educational theme of the Annual Meeting. There is also a valuable opportunity to talk with the many commercial exhibitors and view the latest in modern neurosurgical instrumentation and imaging techniques. We look forward to seeing you at what we hope to be an exciting and educational Annual Meeting.

Thomas A. Kopitnik, Jr., MD
Resident Program Chairman

PHOTOGRAPHY EXHIBITION

Dear Colleague:

You are invited to participate in the CNS Annual Meeting Photography Exhibition and Contest. In recognition of the widespread interest and skill in photography among neurosurgeons and in an effort to enhance the non-scientific aspects of our annual meeting, we are continuing this exhibition. Photographs submitted will be displayed in conjunction with the Poster Session. We hope that the number of entries and the quality of work will continue to make this event a highlight of our annual meetings.

To heighten interest and stimulate participation, the exhibition will be judged and ribbons awarded. There will be two categories: Medical and Non-Medical. Photographs may be in black and white or color and should be in the 8 x 10 format or larger.

We solicit your early response in order to finalize space requirements for the exhibition. Please return the entry card by August 15 indicating the number of photographs you wish to exhibit. The entry form provides further details.

Help us make the CNS Photography Exhibition a special part of our Annual Meeting. Show off your hidden talents!

PHOTOGRAPHY CONTEST RULES AND INFORMATION

- 1) Photographs should be taken by the entrant.
- 2) Any photograph is eligible. We hope to have an even mix of medical (intraoperative, microscopic, interesting pathology) and non-medical (landscape, action, close-up) photographs.
- 3) Submit title, category, and size of each entry by August 15, 1993.
- 4) Photographs may be mounted on standard mounting board with or without a mat. Entries with glass or wooden frames should not be submitted or the photograph will be removed from this frame for display at the exhibition.
- 5) Entries may be submitted by mail with the entry form or may be submitted at the Poster/Photography Registration Desk, before 12:00 p.m. on Sunday, October 3, 1993.
- 6) Photographs may be collected by the entrant on Wednesday, October 6, 1993, prior to 2:30 p.m. The CNS will not be responsible for theft, damage or return of the photograph.

Entries should be submitted to:
Charles L. Branch Jr., MD
Department of Neurosurgery
Wake Forest University Medical Center
Winston-Salem, NC 27157-1029
919/716-4083
FAX - 919/716-3065



SUNDAY, OCTOBER 3, 1993

SCIENTIFIC PROGRAM

8:00 a.m. - 5:00 p.m. Practical Courses

All Day Courses
(Limited Enrollment)

001 INTRODUCTION TO THORACOLUMBAR INSTRUMENTATION

Course Director: Richard G. Fessler, MD, PhD

Faculty: Edward C. Benzel, MD, David W. Cahill, MD, Randall M. Chesnut, MD, Kevin T. Foley, MD, Iain H. Kalfas, MD, Bruce McCormick, MD, Paul C. McCormick, MD, Gary L. Rea, MD, Charles B. Stillerman, MD

002 FRAMELESS STEREOTAXIS AND INTRAOPERATIVE NAVIGATION

Course Director: Richard D. Bucholz, MD

Faculty: John R. Adler, Jr., MD, Gene H. Barnett, MD, Barton L. Guthrie, MD, M. Peter Heilbrun, MD, Robert J. Maciunas, MD, David W. Roberts, MD, Lucia Zamorano, MD, PhD

003 SURGICAL TECHNIQUES FOR PAIN CONTROL

Course Director: Richard B. North, MD

Faculty: Nicholas M. Barbaro, MD, Jeffrey A. Brown, MD, Kim J. Burchiel, MD, Robert J. Coffey, MD, Robert M. Levy, MD, Joel L. Seres, MD, Andrew G. Shetter, MD, Ronald F. Young, MD

004 NEUROSURGICAL CRITICAL CARE

Course Director: Raj K. Narayan, MD

Faculty: Brian T. Andrews, MD, Michael J. Caron, MD, L. Philip Carter, MD, Randall M. Chesnut, MD, Jamshid Ghajar, MD, Mark N. Hadley, MD, Thomas G. Luerssen, MD, Donald Marion, MD, Neil A. Martin, MD, David W. Newell, MD, Claudia S. Robertson, MD, Thomas G. Saul, MD, Daniel J. Scodary, MD, Jack E. Wilberger, MD, Philip A. Villanueva, MD

005 SURGICAL MANAGEMENT OF ACOUSTIC NEUROMAS AND TEMPORAL BONE ANATOMY

Course Co-Directors: Steven L. Giannotta, MD, Stephen J. Haines, MD

Faculty: Paul J. Camarata, MD, John D. Day, MD, Takanori Fukushima, MD, Lawrence H. Pitts, MD

006 SURGERY OF THE CERVICAL CAROTID ARTERY

Course Director: Robert R. Smith, MD

Faculty: Lon F. Alexander, MD, Elizabeth Burns, RN, Robert J. Dempsey, MD, Fernando G. Diaz, MD, Gary G. Ferguson, MD, Duane Haines, MD, David G. Piepgras, MD, Harold K. Smith, MD, Linda L. Sternau, MD, Charles Tegeler, MD, Joseph M. Zabramski, MD

8:00 a.m. - 12:00 p.m.

A.M. Courses
(Limited Enrollment)

007 SKULL BASE SURGERY - ANTERIOR APPROACHES

Course Co-Directors: Laligam N. Sekhar, MD, Donald C. Wright, MD

Faculty: Ramesh P. Babu, MD, Michael B. Cusimano, MD, Damirez Fossett, MD, Jan Hart, Brian Holmes, MD, Sunil J. Patel, MD, Chandranath Sen, MD, Mitesh V. Shah, MD, William Wilson, MD

008 CERVICAL SPINE STABILIZATION AND INSTRUMENTATION

Course Director: Charles L. Branch, Jr., MD

Faculty: Curtis A. Dickman, MD, Regis W. Haid, MD, Louis H. Harkey, MD, Richard H. Tippets, MD

009 TECHNIQUES IN ANEURYSM SURGERY

Course Co-Directors: H. Hunt Batjer, MD, Arthur L. Day, MD

Faculty: Ralph G. Dacey, MD, Roberto C. Heros, MD, Albert L. Rhoton, Jr., MD, Duke S. Samson, MD

010 RADIOSURGERY; APPLICATIONS, PRINCIPLES, AND TECHNIQUES

Course Director: Robert J. Coffey, MD

Faculty: Eben Alexander, III, MD, Antonio A.F. DeSalles, MD, PhD, Sergio Gonzales Arias, MD, Tyrone L. Hardy, MD, Douglas S. Kondziolka, MD

011 SURGICAL MANAGEMENT OF MENINGIOMAS

Course Director: Ossama Al-Mefty, MD

Faculty: Leonard I. Malis, MD, Robert G. Ojemann, MD, Robert F. Spetzler, MD

012

NEURO-ENDOSCOPY; APPLICATIONS, PRINCIPLES, AND TECHNIQUES

Course Co-Directors: Kerry R. Crone, MD, Alan R. Cohen, MD

Faculty: Kim H. Manwaring, MD, Lucia Zamorano, MD

013

SURGICAL ANATOMY OF THE LOWER EXTREMITY PERIPHERAL NERVES

Course Co-Directors: David G. Kline, MD, John E. McGillicuddy, MD

Faculty: James N. Campbell, MD, Alan H. Friedman, MD, Kevin O. Lillehei, MD, Suzie C. Tindall, MD

9:00 a.m. - 12:00 p.m.

014

CONSULTANTS CORNER FOR SPINAL SURGERY

Course Director:

Stewart B. Dunsker, MD

Faculty: Kevin T. Foley, MD, Russell Knockles, MD, Noel Perin, MD, Gary L. Rea, MD

10:00 a.m. - 10:30 a.m.

COFFEE BREAK

1:00 p.m. - 5:00 p.m.

P.M. Courses
(Limited Enrollment)

015

SKULL BASE SURGERY - LATERAL APPROACHES

Course Co-Directors: Harry R. Van Loveren, MD, Jeffrey T. Keller, PhD

Faculty: Alain Bouthillier, MD, Magdy El-Kalliny, MD, Jan Hart, Christopher G. Miller, MD, Daniel J. Scodary, MD

016

SURGERY OF THE CRANIOCERVICAL JUNCTION; OPERATIVE EXPOSURE AND STABILIZATION TECHNIQUES

Course Director: Arnold H. Menezes, MD

Faculty: Wade M. Mueller, MD, Noel Perin, MD, Vincent C. Traynellis, MD, Dennis G. Vollmer, MD, John A. Wilson, MD, Eric J. Woodard, MD

017

TECHNIQUES IN ANEURYSM SURGERY

Course Co-Directors: H. Hunt Batjer, MD, Arthur L. Day, MD

Faculty: Daniel L. Barrow, MD, Neil A. Martin, MD, Albert L. Rhoton, Jr., MD, Robert F. Spetzler, MD

018

SURGICAL MANAGEMENT OF MENINGIOMAS

Course Director: Ossama Al-Mefty, MD

Faculty: Leonard I. Malis, MD, Robert G. Ojemann, MD, Robert F. Spetzler, MD

019

NEURO-ENDOSCOPY; APPLICATIONS, PRINCIPLES, AND TECHNIQUES

Course Co-Director: Kerry R. Crone, MD, Alan R. Cohen, MD

Faculty: Kim H. Manwaring, MD, Lucia Zamorano, MD

020

PREPARATION OF A GRANT

Course Director: Howard M. Eisenberg, MD

Faculty: Ralph G. Dacey, MD, J. Marc Simard, MD, PhD, Michael D. Walker, MD

3:00 p.m. - 3:30 p.m.
COFFEE BREAK



VANCOUVER:
SPECTACULAR...BY NATURE



Monday, October 4, 1993

Scientific Program

6:30 a.m. - 7:45 a.m.

100

INTERNATIONAL BREAKFAST AND PROGRAM

Speaker: Evandro De Oliveira, MD

Title: Neurosurgery, A Kind of Art

30

8:00 a.m. - 12:00 p.m. GENERAL SCIENTIFIC SESSION I: ANATOMICAL PRINCIPLES OF SKULL BASE AND POSTERIOR FOSSA SURGERY

Presiding Officer: Arthur L. Day, MD

Moderators: Robert A. Solomon, MD, H. Hunt Batjer, MD

8:00 a.m. - 8:20 a.m. - **Cavernous Sinus Lesions**
Vinko Dolenc, MD

8:20 a.m. - 8:40 a.m. - **Glomus Jugulare Tumors**
Jon H. Robertson, MD

8:40 a.m. - 9:00 a.m. - **Petroclival Lesions**
Robert F. Spetzler, MD

9:00 a.m. - 9:20 a.m. - **Brainstem Vascular Malformations**
John M. Tew, Jr., MD

9:20 a.m. - 10:00 a.m. - **HONORED GUEST PRESENTATION**
Microsurgical Anatomy of the
Posterior Fossa
Albert L. Rhoton, Jr., MD

10:00 a.m. - 10:30 a.m. - **COFFEE AND EXHIBITS**

10:30 a.m. - 10:50 a.m. - **Skull Base Surgery for Cerebellopontine**
Angle Lesions
Ossama Al-Mefty, MD

10:50 a.m. - 11:10 a.m. - **Radiosurgery for CPA Lesions**
L. Dade Lunsford, MD

11:10 a.m. - 12:00 p.m. - **Controversies in Clinical Management**
Panel Discussion
(with electronic audience feedback)
Moderators: Robert A. Solomon, MD,
Robert F. Spetzler, MD

12:15 p.m. - 2:15 p.m.

LUNCHEON SEMINARS

Regular registrants should indicate the first number on the registration form. Course numbers followed by "R" should be used by residents.

101/102R

Treatment of Occult Vascular Lesions

Moderator: Daniel L. Barrow, MD
Panelists: Fabian Isamat, MD, L. Dade Lunsford, MD, Philip E. Stieg, MD, Joseph M. Zabramski, MD

103/104R

Deep Hemispheric AVMs

Moderator: Roberto C. Heros, MD
Panelists: David Larson, MD, Christopher S. Ogilvy, MD, Phillip D. Purdy, MD, Christopher M. Wallace, MD

105/106R

Management of Post-Herpetic Neuralgia

Moderator: Andrew G. Shetter, MD
Panelists: Bennett Blumenkopf, MD, Allan H. Friedman, MD, Bradley Galer, MD, Robert M. Levy, MD

107/108R

Current Strategies in Trigeminal Neuralgia

Moderator: Robert B. King, MD
Panelists: Jeffrey A. Brown, MD, Peter J. Jannetta, MD, John M. Tew, Jr., MD

109/110R

Pediatric Craniofacial Anomalies

Moderator: John Shillito, MD
Panelists: William O. Bell, MD, John A. Jane, MD, Timothy B. Mapstone, MD, Harold L. Rekate, MD

111/112R

Spinal Dysraphism

Moderator: Dachling Pang, MD
Panelists: William M. Chaddock, MD, Shizuo Oi, MD, Donald H. Reigel, MD

113/114R

Vascular Anomalies in Children

Moderator: Michael S.B. Edwards, MD
 Panelists: Gary Duckwiler, MD, Corey Raffel, MD, Reizo Shirane, MD

115/116R

Management of Lesions of the Craniocervical Junction

Moderator: Arnold Menezes, MD
 Panelists: Chandraneth Sen, MD, Volker K. Sonntag, MD, A. Byron Young, MD

117/118R

Multilevel Cervical Spondylosis and OPLL

Moderator: Thomas B. Ducker, MD
 Panelists: Curtis A. Dickman, MD, Hiroshi Nakagawa, MD, Richard Saunders, MD, Phillip A. Tibbs, MD

119/120R

Management of Lumbar Spondylosis - Spondylolisthesis

Moderator: Philip R. Weinstein, MD
 Panelists: Nancy Epstein, MD, Howard W. Morgan, MD, Paul B. Nelson, MD

121/122R

Lumbar Disk Herniation

Moderator: Joseph C. Maroon, MD
 Panelists: Robert S. Hood, MD, Gary L. Rea, MD, Eugene Rossitch, Jr., MD

123/124R

Temporal Lobe Epilepsy

Moderator: George A. Ojemann, MD
 Panelists: Nicholas M. Barbaro, MD, Youssef G. Comair, MD, Robert E. Maxwell, MD

125/126R

Frameless Stereotaxy for Open Craniotomy, Transcranial Procedures, and Radiosurgery

Moderator: Barton L. Guthrie, MD
 Panelists: John R. Adler, Jr., MD, Richard D. Bucholz, MD, Robert J. Maciunas, MD

127/128R

Missile Injury of the Head and Spine

Moderator: Thomas G. Saul, MD
 Panelists: Raj K. Narayan, MD, J. Douglas Miller, MD, Jack E. Wilberger, MD

129/130R

History of Neurosurgery

Moderator: Samuel H. Greenblatt, MD
 Panelists: James T. Goodrich, MD, T. Glenn Pait, MD, John M. Thompson, MD, Robert H. Wilkins, MD

133/134R

Tumors of the Anterior Skull Base

Moderator: Jon H. Robertson, MD
 Panelists: Dennis E. Bullard, MD, Jen Pei Lee, MD, Bruce E. Mickey, MD, Donald C. Wright, MD

135/136R

VIDEO LUNCHEON SEMINAR Anterior Circulation Aneurysms

Moderator: Robert F. Spetzler, MD
 Panelists: Takanori Fukushima, MD, Shigeaki Kobayashi, MD, David G. Piepgras, MD, Fernando Vinuela, MD

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NEUROSURGICAL NURSING UPDATE LUNCHEON (Part 1)

Moderators: Aileen Staller, RN, CNRN, Greg Zorman, MD

12:15 p.m. - 1:00 p.m.

Clinical Decisions in Spinal Instrumentation

Charles B. Stillerman, MD

1:00 p.m. - 1:45 p.m.

Intraoperative Nursing Considerations with Spinal Instrumentation

Pamela Mattingly, RN, CNRN

1:45 p.m. - 2:15 p.m.

Nursing Management of Pain and Failed Back Syndrome

Cynthia Adent, RN, MS

2:30 p.m. - 4:30 p.m.

SPECIAL COURSE I SURGERY OF THE TEMPORAL LOBE

Moderator: John P. Girvin, MD

Course Introduction
 John P. Girvin, MD

Surgical Anatomy
 Daniel L. Silbergeld, MD

Microvascular Anatomy of Inferomesial Structures
 M. Gazi Yasargil, MD

Approaches to Vascular Lesions
 Roberto C. Heros, MD

Functional Cortical Anatomy (Including Mapping)
 George A. Ojemann, MD

CEREBROVASCULAR SURGERY	
101/102R	Occult Vascular Lesions
103/104R	Deep Hemispheric AVMs
135/136R	Anterior Circulation Aneurysms
PAIN	
105/106R	Post-Herpetic Neuralgia
107/108R	Trigeminal Neuralgia
PEDIATRIC	
109/110R	Pediatric Craniofacial Anomalies
111/112R	Spinal Dysraphism
113/114R	Vascular Anomalies
SPINE AND PERIPHERAL NERVES	
115/116R	Craniocervical Junction Lesions
117/118R	Spondylosis and OPLL
119/120R	Lumbar Spondylosis - Spondylolisthesis
121/122R	Lumbar Disk Herniation
STEREOTACTIC AND FUNCTIONAL NEUROSURGERY	
123/124R	Temporal Lobe Epilepsy
125/126R	Frameless Stereotaxy
TRAUMA	
127/128R	Missile Injury
TUMORS	
131/132R	Therapeutic Strategies
133/134R	Anterior Skull Base
OTHER	
129/130R	History of Neurosurgery
137	Nursing Update

131/132R

Gliomas: Novel Therapeutic Strategies

Moderator: Philip H. Gutin, MD
 Panelists: Keith L. Black, MD, Henry Brem, MD, Griff R. Harsh, MD

2:30 p.m. - 5:30 p.m.

JOINT SECTION ON SPINE AND PERIPHERAL NERVE WORKSHOP

2:30 p.m. - 3:20 p.m.

Symposium: Cost Effectiveness of Spinal Instrumentation and Pain Management for Low Back Disorders

Moderators: Edward C. Tarlov, MD, Russell Travis, MD

Speakers: Richard G. Fessler, MD, Philipp M. Lippe, MD, Donlin M. Long, MD, James D. Weinstein, MD

OPEN SCIENTIFIC SESSION

3:20 p.m. - 3:30 p.m.

Vertebral Artery Injury in Cervical Spine Trauma
Simcha J. Weller, MD, Eugene Rossitch, Jr., MD

3:30 p.m. - 3:40 p.m.

Complications of Spinal Instrumentation in the Elderly
Jay More, MD, Narayan Sundaresan, MD

3:40 p.m. - 3:50 p.m.

Transoral Odontoidectomy Update: Report of 105 Cases
Paul J. Apostolides, MD, Christian G. Zimmerman, MD, William R. Zerick, MD, Robert F. Spetzler, MD, Volker K. Sonntag, MD

3:50 p.m. - 4:00 p.m.

Trends in Management of Acute Traumatic Axis Fractures: Review of 315 Cases
Karl A. Greene, MD, Frederick F. Marciano, MD, Christian G. Zimmerman, MD, Janine Drabier, RN, Mark N. Hadley, MD, Volker K. Sonntag, MD

4:00 p.m. - 4:30 p.m.

COFFEE BREAK

4:30 PM - 4:40 PM

MRI of Nerve and Muscle in the Evaluation and Treatment of Peripheral Nerve Problems
Michel Kliot, MD, Aaron G. Filler, MD, Cecil E. Hayes, PhD, Franklin A. Howe, BA, DPhil, Robert Goodkin, MD, Jay S. Tsuruda, MD

4:40 p.m. - 4:50 p.m.

Intra-Operative Computer-Assisted Spinal Orientation
Iain H. Kalfas, MD, Donald W. Kormos, PhD, Michael Murphy, FRACS, Rick L. McKenzie, MD

4:50 p.m. - 5:00 p.m.

Cervical Subarachnoid Pressure Waves Promote Syringomyelia Progression
John D. Heiss, MD, Nicholas J. Patronas, MD, Thomas Shawker, MD, Alec B. Eidsath, PhD, Thomas L. Talbott, MS, Edward H. Oldfield, MD

5:00 p.m. - 5:10 p.m.

Spinal Epidural Abscesses: Diagnosis and Management
David W. Cockerill, MD, Richard K. Osenbach, MD, Patrick W. Hitchon, MD

5:10 p.m. - 5:20 p.m.

Assessment of Bladder Function Following Lumbar Decompressive Laminectomy for Spinal Stenosis
Hugh G. Deen, Jr., MD, Richard S. Zimmerman, MD, Scott K. Swanson, MD, Thayne R. Larson, MD

5:20 p.m. - 5:30 p.m.

Comparative Analysis of Spinal Instrumentation in Fractures
Patrick W. Hitchon, MD, James C. Torner, PhD, Kenneth A. Follett, MD, PhD, John Brayton, MD

2:30 p.m. - 5:30 p.m.

JOINT SECTION ON NEUROTRAUMA AND CRITICAL CARE WORKSHOP

Symposium: "What's New in Neurotrauma?"

Moderator: Raj. K. Narayan, MD

2:30 p.m. - 2:50 p.m.

Head Injury
Michael J. Caron, MD

2:50 p.m. - 3:05 p.m.

Spinal Injury
Regis W. Haid, Jr., MD

3:05 p.m. - 3:20 p.m.

Peripheral Nerve Injury
Michel Kliot, MD

OPEN SCIENTIFIC SESSION

3:20 p.m. - 3:30 p.m.

Standard of Neurologic Examination for Spinal Cord Function in Trauma
Thomas B. Ducker, MD, Michael Bracken, PhD, Charles H. Tator, MD, Wise Young, MD, PhD, Jack E. Wilberger, MD

3:30 p.m. - 3:40 p.m.

Civilian Craniocerebral Gunshot Wounds: 10 Years of Experience at Cook County Hospital
Lynn F. Fitzgerald, MD, PhD, James L. Stone, MD, Yogesh Gandhi, MD

3:40 p.m. - 3:50 p.m.

Image-Guided Techniques for Ventricular Catheter Placement
Jaimie Mcd. Henderson, MD, Richard D. Bucholz, MD, Carol Baumann, RN

3:50 p.m. - 4:00 p.m.

The Effect of Early Management of Head Injuries on Outcome
John N. Wilden, FRCS, John C. Sutcliffe, FRCS, Rita McAvinchey, FRCR, Clive C. Kirk, FIMLS, Helen Hetherington, Dip COT, Suzanne S. Turvey, Dip CSP, Alistair Wilson, FRCS, Ian G. Wylie, FRCR, E. Sydney Watkins, FRCS

4:00 p.m. - 4:30 p.m.

COFFEE BREAK

4:30 p.m. - 4:40 p.m.

Magnetic Resonance Spectroscopy in Diffuse Axonal Injury
Thomas A. Gennarelli, MD, Douglas H. Smith, MD, Robert Lenkinski, PhD, David F. Meaney, PhD, Douglas T. Ross, PhD

4:40 p.m. - 4:50 p.m.

Hypothermia-Induced Cerebral Protection Following Contusion Injury Is Not Due to a Reduced Level of Excitatory Amino Acids
Donald Marion, MD, Alan M. Palmer, PhD, Michelle L. Botscheller, BS, Beth E. Redd, BS

4:50 p.m. - 5:00 p.m.

Attenuation of Post-Traumatic Intracranial Hypertension and Cerebral Edema by Anti-Inflammatory Compound BL-106
Robert J. Hariri, MD, Victor A. Chang, MD, Philip S. Barie, MD, Jamshid Ghajar, MD

5:00 p.m. - 5:10 p.m.

Loss of Forebrain Cholinergic Neurons Following Moderate Fluid Percussion Head Injury. Etiology of Post-Concussive Syndrome?
Richard H. Schmidt, MD, PhD, M. Sean Grady, MD

5:10 p.m. - 5:20 p.m.

Comparison of a Quantitative Measure of Somatosensory Evoked Potentials and Glasgow Outcome Scores in Severe Head Injury
Stefan J. Konasiewicz, MD, Richard J. Moulton, MD, Peter M. Shedden, MD

5:20 p.m. - 5:30 p.m.

Controlled Lumbar Drainage for Pediatric Head Injury
David I. Levy, MD, W. Bruce Cherny, MD, Kim H. Manwaring, MD, S. David Moss, MD, Hillel Baldwin, MD, Harold L. Rekate, MD



TUESDAY, OCTOBER 5, 1993

SCIENTIFIC PROGRAM

6:30 a.m. - 7:45 a.m.

199

DECADE OF THE BRAIN BREAKFAST

Medal Presentation: Arthur L. Day, MD

Medalist Lecture: Gene Therapy in the Central Nervous System
Fred H. Gage, PhD, 1993 Medalist

8:00 a.m. - 12:00 p.m.

GENERAL SCIENTIFIC SESSION II ANATOMICAL PRINCIPLES OF SPINAL SURGERY

Presiding Officer: Ralph G. Dacey, Jr., MD

Moderators: Charles L. Branch, Jr., MD, William A. Friedman, MD

8:00 a.m. - 8:20 a.m. - **The Craniocervical Junction**

Arnold H. Menezes, MD

8:20 a.m. - 8:40 a.m. - **Intradural Lesions**

Paul C. McCormick, MD

8:40 a.m. - 9:00 a.m. - **Anatomical Basis of Spinal Instability**

Edward C. Benzel, MD

9:00 a.m. - 9:20 a.m. - **RESIDENT AWARD PRESENTATION**

**Adenovirus Mediated in Vivo Gene Transfer
into the Central Nervous System of a Non-
Human Primate**

Stephen E. Doran, MD

9:20 a.m. - 9:30 a.m. - **THINK FIRST**

Results - National Efficacy Study

Thomas G. Saul, MD

9:30 a.m. - 10:00 a.m. - **COFFEE AND EXHIBITS**

10:00 a.m. - 10:20 a.m. - **Degenerative Disease of Lumbar Spine**

Charles L. Branch, Jr., MD

10:20 a.m. - 10:40 a.m. - **Degenerative Disease of Cervical Spine**

Stephen M. Papadopoulos, MD

10:40 a.m. - 11:20 a.m. - **Controversies in Clinical Management
Panel Discussion**

(with electronic audience feedback)

Moderator: Charles L. Branch, MD

11:20 a.m. - 12:00 p.m. - **PRESIDENTIAL ADDRESS**

Arthur L. Day, MD

12:15 p.m. - 2:15 p.m.

LUNCHEON SEMINARS

200R

RESIDENT/HONORED GUEST LUNCHEON

Albert L. Rhoton, Jr., MD

201

Management of Carotid Territory Ischemia

Moderator: Donald O. Quest, MD

Panelists: Robert D.G. Ferguson, MD,
John Frazee, MD, Christopher Loftus,
MD, Yasuhiro Yonekawa, MD

203

Perioperative Management of SAH

Moderator: Warren R. Selman, MD

Panelists: Julian E. Bailes, MD, Jay M.
Findlay, MD, Namio Kodama, MD,
Fernando Vinuela, MD

205

Management of Cancer Pain

Moderator: Nicholas M. Barbaro, MD

Panelists: Elizabeth Bullitt, MD, Robert
Goodman, MD, Richard B. North, MD,
Richard D. Penn, MD

207

Pediatric Epilepsy

Moderator: Peter McL. Black, MD

Panelists: Allan H. Friedman, MD,
Robert E. Maxwell, MD, Richard B.
Morawetz, MD

209

Craniopharyngiomas

Moderator: Peter W. Carmel, MD

Panelists: Derek A. Bruce, MD,
William M. Chaddock, MD, Edward R.
Laws, Jr., MD

211

Primary and Metastatic Vertebral Tumors

Moderator: Mel H. Epstein, MD

Panelists: Mark N. Hadley, MD, James
Hughes, MD, Richard G. Perrin, MD

213

Thoraco-lumbar Fractures

Moderator: Sanford J. Larson, MD
Panelists: Charles L. Branch, MD, Louis H. Harkey, MD, Patrick W. Hitchon, MD, Dennis G. Vollmer, MD

215

Intramedullary Lesions of the Spinal Cord

Moderator: Edward H. Oldfield, MD
Panelists: Hiroshi Abe, MD, George J. Dohrmann, MD, Paul C. McCormick, MD

217

Back Pain: Therapies of Last Resort

Moderator: Donlin M. Long, MD
Panelists: Robert M. Levy, MD, Richard A. Roski, MD, Hubert L. Rosomoff, MD

219

Epilepsy of Non-Temporal Lobe Origin

Moderator: Issam A. Awad, MD
Panelists: G. Rees Cosgrove, MD, Dennis Spencer, MD, Allen R. Wyler, MD

221

Neural Transplantation

Moderator: Roy A.E. Bakay, MD
Panelists: Samuel F. Ciricillo, MD, Massimo S. Fiandanca, MD, Robert J. Plunkett, MD

223

Late Sequelae of Head Injury: Prevention and Management

Moderator: Howard M. Eisenberg, MD
Panelists: Thomas A. Gennarelli, MD, Michael Miner, MD, A. Byron Young, MD

225

Orbital and Parasellar Tumors

Moderator: Joseph C. Maroon, MD
Panelists: Ossama Al-Mefty, MD, Linda L. Sternau, MD, Harry R. Van Loveren, MD

227

Acoustic Schwannomas

Moderator: Robert G. Ojemann, MD
Panelists: Joshua B. Bedersen, MD, Stephen J. Haines, MD, Douglas S. Kondziolka, MD, Lawrence H. Pitts, MD

229

**VIDEO LUNCHEON SEMINAR
Posterior Circulation Aneurysms**

Moderator: Duke S. Samson, MD
Panelists: Steven L. Giannotta, MD, L. Nick Hopkins, MD, Neil A. Martin, MD, Robert A. Solomon, MD

CEREBROVASCULAR SURGERY	
201	Carotid Territory Ischemia
203	Perioperative Management of SAH
229	Posterior Circulation Aneurysms
PAIN	
205	Cancer Pain
PEDIATRIC	
207	Pediatric Epilepsy
209	Craniosynostosis
SPINE AND PERIPHERAL NERVES	
211	Vertebral Tumors
213	Thoraco-lumbar Fractures
215	Intramedullary Lesions
217	Last Resort Therapies
STEREOTACTIC AND FUNCTIONAL NEUROSURGERY	
219	Non-Temporal Lobe Epilepsy
221	Neural Transplantation
TRAUMA	
223	Late Sequelae of Head Injury
TUMORS	
225	Orbital and Parasellar Tumors
227	Acoustic Schwannomas
OTHER	
200R	Resident/Honored Guest
231	Nursing Update

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**NEUROSURGICAL NURSING
UPDATE LUNCHEON (Part 2)**

Moderators: Aileen Staller, RN, CNRN, Greg Zorman, MD

12:15 p.m. - 12:45 p.m.

Treatment of Pediatric Brain Tumors

Laura Gaeif, RN, MS

12:45 p.m. - 1:15 p.m.

Pituitary Tumors: Diagnosis and Treatment

Evangeline Martin-Thomsen, RN, CNRN

1:15 p.m. - 1:45 p.m.

Current Advances in Treatment of Head Injuries

Kathleen Thomas, RN

1:45 p.m. - 2:15 p.m.

Interventional Neuroradiology

Kathy Finon, RN

2:30 p.m. - 4:30 p.m.

**SPECIAL COURSE II
PRINCIPLES OF BONE
GRAFTING AND
ARTHRODESIS**

Moderator: Dennis G. Vollmer, MD

Course Introduction
Dennis G. Vollmer, MD

Physiology of Bone Healing and Fusion
Richard G. Perrin, MD

Graft Material and Bone Banking
Donald J. Prolo, MD

Technical Considerations in Graft Harvest and Spinal Arthrodesis
Edward C. Benzel, MD

Synthetic Substitutes, Bone Growth Stimulation and Future Directions
M. Sean Grady, MD

2:30 p.m. - 5:30 p.m.

**JOINT SECTION ON
STEREOTACTIC AND
FUNCTIONAL NEURO-
SURGERY WORKSHOP**

Moderators: Michael L.J. Apuzzo, MD, L. Dade Lunsford, MD

2:30 p.m. - 3:20 p.m.

Seminar: Pallidotomy - A Better Procedure for Movement Disorders?

Mahlon Delong, MD, Michael Dogali, MD, Ronald R. Tasker, MD

OPEN SCIENTIFIC SESSION

3:20 p.m. - 3:30 p.m.

Dose-Time Radiobiology of Human Meningiomas After Radiosurgery Using a Nude Mouse Subrenal Capsule Xenograft Model

Walter S. Langheinrich, MD, Mark E. Linskey, MD, A. Julio Martinez, MD, T. Whiteside, PhD, Douglas S. Kondziolka, MD, L. Dade Lunsford, MD, A.H. Maitz, MSc

3:30 p.m. - 3:40 p.m.

Functional Magnetic Resonance Imaging of Human Rolandic Cortex
Itzhak Fried, MD, PhD, David Gozal, MD, Konrad Kirlow, MD, Hong Tang, BSc, Robert Lufkin, MD, Ronald M. Harper, PhD, Fernando Vinuela, MD

3:40 p.m. - 3:50 p.m.

Microvascular Decompression for Hemifacial Spasm: A 20-year Experience
Frederick G. Barker, II, MD, Philip T. Shields, MD, David Bissonette, MD, Hae-Dong Jho, MD, PhD, Peter J. Jannetta, MD

3:50 p.m. - 4:00 p.m.

Neurosurgical Navigation Using Implantable Fiducial Markers
Robert J. Maciunas, MD, Robert L. Galloway, Jr., PhD, J.M. Fitzpatrick, PhD, George S. Allen, MD, PhD

4:00 p.m. - 4:30 p.m.**COFFEE BREAK****4:30 p.m. - 4:40 p.m.**

A New Virtual Reality Technique For Tumor Localization
P. Langham Gleason, MD, Peter McL. Black, MD, PhD, Ron Kikinis, MD, William Wells, PhD, David Altobelli, DMD, William Lorenson, PhD, Harvey Cline, PhD, Ferenc A. Jolesz, MD

4:40 p.m. - 4:50 p.m.

A Holographic-Based Stereotactic Surgical Guidance System
Mark P. Carol, MD, David Larson, MD, PhD, Brian Butler, MD

4:50 p.m. - 5:00 p.m.

Nerve Growth Factor-Expressing PC12 Brain Grafts for Use in Animal Models of Parkinson's and Alzheimer's Diseases
Daniel C. Rohrer, MD, Valerie J. Nipper, BS, Gajanan Nilaver, MD, Curtis A. Machida, PhD

5:00 p.m. - 5:10 p.m.

Epilepsy Surgery Without Pre-Operative Ictal Monitoring
Matthew A. Howard, MD, Guy McKhann, MD, George A. Ojemann, MD

5:10 p.m. - 5:20 p.m.

Endoscopic Laser Stereotaxis: Our Experience in 160 Consecutive Cases
Lucia Zamorano, MD, M. Christina Chavantes, MD, PhD, Federico Castro-Moure, MD, Fernando G. Diaz, MD, PhD

5:20 p.m. - 5:30 p.m.

Neurosurgical Implantation of Cells Genetically Engineered to Secrete a Neurotrophic Factor Protects Dopaminergic Neurons in a Rat Model of Parkinson's Disease
David Frim, MD, Ole Isacson, MD, PhD

5:30 p.m. - 6:00 p.m.**BUSINESS MEETING****2:30 p.m. - 5:30 p.m.****JOINT SECTION ON CEREBROVASCULAR SURGERY WORKSHOP****Seminar: Normal Perfusion Pressure Breakthrough - Fact or Fiction**

Moderator: Linda L. Sternau, MD

2:30 p.m. - 2:45 p.m.

Normal Perfusion Breakthrough - A 15 Year Retrospective
Robert F. Spetzler, MD

2:45 p.m. - 2:55 p.m.

Venous Outflow Obstruction in AVMs
Charles B. Wilson, MD, Grant B. Hieshima, MD

2:55 p.m. - 3:05 p.m.

SPECT as a Predictor in AVM Surgery
H. Hunt Batjer, MD

3:05 p.m. - 3:15 p.m.

Panel Discussion

OPEN SCIENTIFIC SESSION

Moderators: Robert J. Dempsey, MD, Philip E. Stieg, MD

3:15 p.m. - 3:25 p.m.

Correlation of Risk Factors of Hemorrhage with the Natural History of Brain AVMs
Michael P Marks, MD, Gary K. Steinberg, MD, Paige M. Bracci, MSc

3:25 p.m. - 3:35 p.m.

Pedicle Pressure Changes Correlated with Hemorrhage in Pre and Postembolization Patients with Cerebral Arteriovenous Malformations
Arvind Ahuja, MD, Kimberly Livingston, MD, Scott C. Standard, MD, Lee R. Guterman, MD, PhD, L.N. Hopkins, MD

3:35 p.m. - 3:45 p.m.

Treatment for Symptomatic Cerebral Vasospasm with Transluminal Angioplasty
Peter D. Le Roux, MB, CHB, John P. Elliott, MD, Joseph M. Eskridge, MD, David W. Newell, MD, Marc R. Mayberg, MD, H. Richard Winn, MD

3:45 p.m. - 3:55 p.m.

Cardiac Performance Enhancement Resultant from Dolbutamine in Patients Refractory to Hypervolemic Therapy for Cerebral Vasospasm
Michael L. Levy, MD, Craig H. Rabb, MD, Vladimir Zelman, MD, PhD, Steven L. Giannotta, MD

3:55 p.m. - 4:20 p.m.**COFFEE BREAK****4:20 p.m. - 4:30 p.m.**

GALBRAITH AWARD
Reversal of Cerebral Vasospasm by Nitric Oxide (NO) in a Primate Model of Subarachnoid Hemorrhage (SAH)
Kourosh B. Afshar, MD, Ryszard Pluta, MD, Robert J. Boock, PhD, Edward H. Oldfield, MD

4:30 p.m. - 4:40 p.m.

Treatment of 100 Direct Carotid-Cavernous Fistulas: 12-year Experience Using Detachable Balloons
Adam I. Lewis, MD, Thomas A. Tomsick, MD, John M. Tew, Jr., MD

4:40 p.m. - 4:50 p.m.

Long-Term Anticonvulsant Prophylaxis Is Not Necessary in the Postoperative Management of Intracranial Aneurysms
Christopher J. Baker, MD, Robert A. Solomon, MD, Charles J. Prestigiacomo, MD

4:50 p.m. - 5:00 p.m.

Prognosis and Management of Dural Intracranial Arteriovenous Malformations
Terry J. Coyne, FRACS, M. Christopher Wallace, MD, R. Willinsky, FRCP (C), K. Ter Brugge, FRCP (C)

5:00 p.m. - 5:10 p.m.

Dynamic Cerebral Blood Flow Changes Associated with Carotid Sacrifice
Thomas C. Origiano, MD, PhD, Ossama Al-Mefty, MD, John P. Leonetti, MD, Nobuo Aoki, MD

5:10 p.m. - 5:20 p.m.

A Novel Strategy for the Treatment of Cerebral Ischemia by Intracellular Calcium Chelators
Michael Tymianski, MD, M. Christopher Wallace, MD, Charles H. Tator, MD, Milton P. Charlton, PhD

5:20 p.m. - 5:30 p.m.

"Brain Attack" - Cerebrovascular Surgery in the Year 2000
Roberto C. Heros, MD

5:30 p.m. - 6:00 p.m.**BUSINESS MEETING**



WEDNESDAY, OCTOBER 6, 1993

SCIENTIFIC PROGRAM

7:00 a.m. - 7:45 a.m.

POSTER SESSION PRESENTATIONS AND BREAKFAST

8:00 a.m. - 12:00 p.m.

GENERAL SCIENTIFIC SESSION III ANATOMICAL PRINCIPLES OF CEREBROVASCULAR SURGERY

Presiding Officer: Daniel L. Barrow, MD

Moderator: Marc R. Mayberg, MD

8:00 a.m. - 8:40 a.m. - **HONORED GUEST PRESENTATION**
Microsurgical Anatomy of Aneurysms,
Albert L. Rhoton, Jr., MD

8:40 a.m. - 9:00 a.m. - **Anterior Circulation Aneurysms**
H. Richard Winn, MD

9:00 a.m. - 9:20 a.m. - **The Basilar Apex**
Shigeaki Kobayashi, MD

9:20 a.m. - 9:40 a.m. - **Cerebral Ischemic Protection, Hypothermia,
and Circulatory Arrest**
Robert A. Solomon, MD

9:40 a.m. - 10:00 a.m. - **Arteriovenous Malformations**
Evandro de Oliveira, MD

10:00 a.m. - 10:30 a.m. - **COFFEE AND EXHIBITS**
DEVELOPMENTS IN HEALTH POLICY

Presiding Officer: Richard A. Roski, MD

Moderator: Joseph M. Zabramski, MD

10:30 a.m. - 10:50 a.m. - **The American Health Care System
in the "Clinton Era"**
Russell L. Travis, MD

10:50 a.m. - 11:10 a.m. - **The Canadian Health Care System**
Herman Hugenholtz, MD

11:10 a.m. - 11:30 a.m. - **Hospital Based Neurosurgical Systems**
Donald D. Sheffel, MD

11:30 a.m. - 12:00 p.m. - **Health Policy
Panel Discussion**
(with electronic audience feedback)
Moderator: Joseph M. Zabramski, MD

12:15 p.m. - 2:15 p.m.

LUNCHEON SEMINARS

301/302R

AVMs of the Posterior Fossa

Moderator: H. Hunt Batjer, MD

Panelists: Stanley L. Barnwell, MD,
Evandro De Oliveira, MD, Gary K.
Steinberg, MD

303/304R

**Management of Complex Dural
AVMs**

Moderator: David G. Piepgras, MD

Panelists: Grant B. Hieshima, MD,
Thomas A. Kopitnik, MD, J. Parker
Mickle, MD, Michael B. Sisti, MD

305/306R

✓ **CSF Obstruction and Loculation**

Moderator: Harold L. Rekate, MD

Panelists: Arno H. Fried, MD, Robert
Dauser, MD, Kerry R. Krone, MD, Paul
Steinbok, MD

307/308R

Childhood Posterior Fossa Tumors

Moderator: Corey Raffel, MD

Panelists: Samuel F. Ciricillo, MD, Bruce
A. Kaufman, MD, James Rutka, MD

309/310R

✓ **Instability of the Cervical Spine**

Moderator: Volker K. Sonntag, MD

Panelists: Regis W. Haid, MD, Stephen
M. Papadopoulos, MD, Vincent
Traynelis, MD

311/312R

**Management of Lesions of the
Thoracic Spine**

Moderator: Vallo Benjamin, MD

Panelists: Donald L. Erickson, MD,
Richard G. Fessler, MD, PhD, Mark N.
Hadley, MD

313/314R

Traumatic and Compressive Neuropathies

Moderator: John E. McGillicuddy, MD
Panelists: Allan Belburg, MD, David G. Kline, MD, Jay S. Tsuruda, MD, Eric L. Zager, MD

315/316R

Spinal Infections

Moderator: Paul C. McCormick, MD
Panelists: Patrick W. Hitchon, MD, James Hughes, MD, Karin M. Muraszko, MD

317/318R

Functional Mapping in Open Craniotomies

Moderator: John P. Girvin, MD
Panelists: Mitchel S. Berger, MD, Chris Gallen, MD, Tyrone L. Hardy, MD, Richard LeBlanc, MD

319/320R

Functional Stereotaxy

Moderator: G. Rees Cosgrove, MD
Panelists: Michael Dogali, MD, Samuel J. Hassenbusch, MD, Robert P. Iacono, MD

321/322R

Intracranial Infections

Moderator: Stephen J. Haines, MD
Panelists: William T. Couldwell, MD, Mark L. Rosenblum, MD, Franklin C. Wagner, MD

323/324R

Endocrinologically Active Pituitary Microadenomas

Moderator: William F. Chandler, MD
Panelists: David S. Baskin, MD, Edward H. Oldfield, MD, Kalmon D. Post, MD

325/326R

Pituitary Macroadenomas

Moderator: George T. Tindall, MD
Panelists: Donald P. Becker, MD, Paul B. Nelson, MD, Warren R. Selman, MD

327/328R

Metastatic Brain Tumors

Moderator: Michael Salzman, MD
Panelists: Eben Alexander, III, MD, Edward A. Neuwelt, MD, Raymond Sawaya, MD, John W. Walsh, MD

329/330R

Tentorial Meningiomas

Moderator: Fred Gentili, MD
Panelists: Laligam N. Sekhar, MD, Masato Shibuya, MD, John M. Tew, Jr., MD

CEREBROVASCULAR SURGERY

- 301/302R Posterior Fossa AVMs
- 303/304R Complex Dural AVMs
- 333/334R Giant Aneurysm Complications

PEDIATRIC

- 305/306R CSF Obstruction and Loculation
- 307/308R Posterior Fossa Tumors

SPINE AND PERIPHERAL NERVES

- 309/310R Cervical Spine Instability
- 311/312R Thoracic Spine Lesions
- 313/314R Traumatic and Compressive Neuropathies
- 315/316R Spinal Infections

STEREOTACTIC AND FUNCTIONAL NEUROSURGERY

- 317/318R Functional Mapping
- 319/320R Functional Stereotaxy

TUMORS

- 321/322R Intracranial Infections
- 323/324R Pituitary Microadenomas
- 325/326R Pituitary Macroadenomas
- 327/328R Metastatic Brain Tumors
- 329/330R Tentorial Meningiomas

OTHER

- 331/332R Career Choices
- 335 Nursing Update

331/332R

Career Choices in Neurosurgery

Moderator: Julian T. Hoff, MD
Panelists: Roy P. Baker, MD, Daniel L. Barrow, MD, Richard A. Roski, MD

333/334R

**VIDEO LUNCHEON SEMINAR
Complication Avoidance in Giant Aneurysm Surgery**

Moderator: Eugene S. Flamm, MD
Panelists: Ralph C. Dacey, MD, Fernando G. Diaz, MD, Winfield S. Fisher, MD

335

NEUROSURGICAL NURSING UPDATE LUNCHEON (Part 3)

Moderator: Kathleen C. Redelman, RN, CNRN

12:15 p.m. - 1:15 p.m.

Ethical Issues in Neurosurgery
Sally Weiss, RN, MSN
Aileen Staller, RN, CNRN

1:15 p.m. - 2:15 p.m.

Collaborative Practice: A Panel Discussion

2:30 p.m. - 4:30 p.m.

**SPECIAL COURSE III
CRITICAL CARE AND
INTENSIVE MONITORING**

Moderators: Robert J. Dempsey, MD, J. Douglas Miller, MD

Jugular Venous Oxygen Saturation
Claudia S. Robertson, MD

Transcranial Doppler Monitoring in Neurosurgery
David W. Newell, MD

Tissue Oxygen Monitoring
James I. Ausman, MD

Lipoprotein Oxidation Analysis
Robert J. Dempsey, MD

Multi-Modality Monitoring for Detection of Secondary Insults in Brain Injured Patients
J. Douglas Miller, MD, PhD

2:30 p.m. - 5:30 p.m.

**PEDIATRIC SECTION
WORKSHOP**

Seminar: Update on Pediatric Neurosurgery

Moderator: Bruce B. Storrs, MD

2:30 p.m. - 2:50 p.m.

Rationale for Management of Post-Hemorrhagic Hydrocephalus in the Premature Infant
Roger Hudgins, MD

2:50 p.m. - 3:05 p.m.

Effective Management of CSF Shunt Infections

Robert W. Dauser, MD

3:05 p.m. - 3:20 p.m.

Management of Childhood Brain Tumors
Timothy B. Mapstone, MD

OPEN SCIENTIFIC SESSION

3:20 p.m. - 3:30 p.m.

Quantitative Cine-Mode MRI in Chiari I Malformation

Rocco Armonda, MD, Richard G. Ellenbogen, MD, Charles M. Citrin, MD

3:30 p.m. - 3:40 p.m.

Intractable Epilepsy and Pediatric Brain Tumors: Completeness of Tumor Resection Determines Seizure Outcome
Kaveh Khajavi, MD, Youssef G. Comair, MD

3:40 p.m. - 3:50 p.m.

The Detection and Management of Intracranial Hypertension Following Early Craniofacial Surgery

Shah N. Siddiqi, MD, James T. Rutka, MD, Jeffrey C. Posnick, MD, FRCS, Harold J. Hoffman, MD, Robin P. Humphreys, MD, James M. Drake, MD

3:50 p.m. - 4:00 p.m.

Treatment of Intraventricular Hemorrhage in the Premature Infant with Urokinase

William R. Boydston, MD, Roger Hudgins, MD, Patricia A. Hudgins, MD, Saul M. Adler, MD

4:00 p.m. - 4:30 p.m.

COFFEE BREAK

4:30 p.m. - 4:40 p.m.

The Long-Term Outcome in Children with Late-Onset Aqueductal Stenosis Resulting from Low-Grade Tectal Gliomas

Ian F. Pollack, MD, Dachling Pang, MD, A. Leland Albright, MD

4:40 p.m. - 4:50 p.m.

Hydrocephalus May Cause Irreversible Pathology in the Retina of Neonatal Kittens

James P. McAllister II, PhD, Eileen C. Williamson, Helen E. Pearson, PhD, David W. Miller, MD

4:50 p.m. - 5:00 p.m.

Diagnostic and Management Problems of Nasal Dermal Sinus Cyst with Intracranial Extension in Children

Yoon Sun Hahn, MD, Bruce Bauer, MD, Jay Pensler, MD, Andrew Hotaling, MD

5:00 p.m. - 5:10 p.m.

The Effect of Untreated and Shunt-Treated Hydrocephalus on Cortical Pyramidal Cell Morphology in the H-TX Rat

Neil G. Harris, PhD, James P. McAllister II, PhD, Hazel C. Jones, PhD

5:10 p.m. - 5:20 p.m.

Treatment of Cerebrospinal Fluid Shunt Infection: Development of Prognostic Models for Success or Failure with Various Therapies

Beverly Walters, MD, Robin P. Humphreys, MD, Harold J. Hoffman, MD, Carey Levinton, BSc, Irene McNeill, BS, CPhm

5:20 p.m. - 5:30 p.m.

Atypical Teratoid/Rhabdoid Tumors of the Brain in Children - Review of 10 Cases

Leslie N. Sutton, MD, Roger Packer, MD, L. B. Rorke, MD, Beverly Lange, MD, Joel Goldwein, MD, J. Biegel, PhD

2:30 p.m. - 5:30 p.m.

JOINT SECTION ON TUMORS WORKSHOP

Symposium: Gene Therapy

Moderator: Peter McL. Black, MD

2:30 p.m. - 2:50 p.m.

Identifying Vectors for Gene Therapy
Howard Fine, MD

2:50 p.m. - 3:10 p.m.

Clinical Trials of Gene Therapy
Edward H. Oldfield, MD

3:10 p.m. - 3:20 p.m.

Panel Discussion

OPEN SCIENTIFIC SESSION

3:20 p.m. - 3:30 p.m.

Fluid and Sodium Abnormalities After Transphenoidal Surgery for Pituitary Adenomas with Emphasis on Delayed Hyponatremia: A Review of 99 Patients
Daniel F. Kelly, MD, Damirez Fossett, MD, Edward R. Laws, Jr., MD

3:30 p.m. - 3:40 p.m.

Gene Therapy for Malignant Brain Tumors: Preliminary Results of a Clinical Study Using Retroviral-Mediated In Situ Transduction

Kinase Zvi Ram, MD, Kenneth W. Culver, MD, Hetty L. DeVroom, RN, Eric M. Oshiro, MD, R. Michael Blaese, MD, Ramesh Raman, MD, Edward H. Oldfield, MD, Robert C. Moen, MD

3:40 p.m. - 3:50 p.m.

Long Term Results of Fibrin Glue Nerve Grafting at the Time of Acoustic Neuroma Surgery

B. Anthony Bell, MD, FRCS, Neil Weir, MB, FRCS, Michael M. Haglund, MD, PhD

3:50 p.m. - 4:00 p.m.

Decreased Tumorigenic Growth of Glioblastoma Cells Transfected with Platelet Derived Growth Factor (PDGF)
Abhijit Guha, MD, Steve Skamah, MSc, Charles D. Stiles, PhD

4:00 p.m. - 4:30 p.m.

COFFEE BREAK

4:30 p.m. - 4:40 p.m.

PREUSS AWARD

Intraoperative Optical Imaging of Tumor Grade and Margins in Rat and Human Gliomas

Michael M. Haglund, MD, Mitchel S. Berger, MD, Alexander M. Spence, MD, Daryl W. Hochman, BSc

4:40 p.m. - 4:50 p.m.

MAHALEY AWARD

Cytokine Expression in Pituitary Adenomas

John H. Schneider, Jr., MD, Martin H. Weiss, MD, D.R. Hinton, MD, Florence Hoffman, PhD

4:50 p.m. - 5:00 p.m.

MRI-CBV Mapping Identifies Glioma Grade and Distinguishes Tumor from Radiation Necrosis

Griffith R. Harsh, IV, MD, Hannu J. Aronan, MD, G. Rees Cosgrove, MD, Fred Hochberg, MD, Barry R. Rosen, MD

5:00 p.m. - 5:10 p.m.

CSF Tumor Dissemination Following Ventricular Entry During Surgical Resection of Supratentorial Malignant Gliomas

John P. Elliott, MD, Evren Keles, MD, Michael Waite, BS, Mitchel S. Berger, MD

5:10 p.m. - 5:20 p.m.

Stereotactic Radiosurgery for Glioblastoma Multiforme

Jeffrey Masciopinto, MD, Allan B. Levin, MD, M. Mehta, MD, Blair S. Rhode, BS

5:20 p.m. - 5:30 p.m.

Molecular Genetic Analysis of the Chromosome 9p Interferon Gene Cluster in Glioma Cell Lines

C. David James, PhD, Ju He, MD, Jeffrey J. Olson, MD



THURSDAY, OCTOBER 7, 1993

SCIENTIFIC PROGRAM

8:00 a.m. - 11:00 a.m.

GENERAL SCIENTIFIC SESSION IV

ANATOMICAL PRINCIPLES OF CNS TUMOR SURGERY

Presiding Officer: Steven L. Giannotta, MD

Moderator: Keith L. Black, MD

8:00 a.m. - 8:20 a.m. - Anterior Skull Base Surgery

Harry R. Van Loveren, MD

8:20 a.m. - 8:40 a.m. - Lesions in Eloquent Cortex

Mitchel S. Berger, MD

8:40 a.m. - 9:00 a.m. - The Value of Cytoreductive Surgery

Michael Salcman, MD

9:00 a.m. - 9:20 a.m. - Image-Guided Tumor Resection

Barton L. Guthrie, MD

9:20 a.m. - 9:40 a.m. - Imaging and Drug Delivery to Tumor-Infiltrated Brain

Keith L. Black, MD

9:40 a.m. - 10:20 a.m. - HONORED GUEST PRESENTATION

Ventricular Anatomy

Albert L. Rhoton, Jr., MD

10:20 a.m. - 10:40 a.m. - Ventriculoscopic Surgery

Alan R. Cohen, MD

10:40 a.m. - 11:00 a.m. - Controversies in Clinical Management

Panel Discussion (with electronic audience feedback)

Moderator: Keith L. Black, MD

POST CONVENTION SCIENTIFIC PROGRAM

A post-convention meeting will be held at the beautiful Chateau Whistler mountain resort, 90 minutes north of Vancouver by car or rail, on October 7-10, 1993. Dr. Mitchel Berger and his program committee have planned an exciting Scientific Program, incorporating distinguished guest speakers, open scientific papers and case presentations. The smaller size of this meeting is particularly conducive to active interchange between the speakers and audience.

There will be two half-day Scientific Programs on Friday and Saturday. Each day will begin with 10 open presentations – selected abstract submissions. Each of these open talks will be 10 minutes in length, followed by a 5 minute discussion period. We hope this format will stimulate a lot of audience participation.

After the open presentations, we plan to have a 90 minute “mini-symposium.” On Friday, the topic will be “Acute Intervention in Cerebrovascular Disease”. On Saturday, the topic will be “Craniocervical Junction Surgery.” Each morning session will conclude with a 30 minute case presentation/panel discussion. In the afternoon, attendees can enjoy the ambiance of one of the most spectacular mountain resorts in North America. Outdoor activities include hiking, canoeing, rafting, fishing, and mountain biking. An opening reception is planned for Friday evening and a banquet for Saturday evening. Transportation to the Vancouver airport will be provided early Sunday morning.

Please refer to the CANTRAV insert for details on the low package price, which includes transportation, food and lodging. The Chateau Whistler post-convention meeting promises to be the perfect ending to a wonderful scientific and social experience in the Pacific Northwest.

William A. Friedman, MD
Annual Meeting Chairman



POST CONVENTION FRIDAY, OCTOBER 8, 1993 SCIENTIFIC PROGRAM

8:00 a.m. - 12:00 p.m. GENERAL SCIENTIFIC SESSION V

Moderators: Mitchel S. Berger, MD, Shigeaki Kobayashi, MD

8:00 a.m. - 8:15 a.m. Treatment of Cerebral Vasospasm and Ischemia by the Protein Kinase Inhibitor AT877

Masato Shibuya, MD, Yoshio Suzuki, MD, Masakazu Takayasu, MD, Kenichiro Sugita, MD

8:15 a.m. - 8:30 a.m. Controversy Pertaining to Therapeutic Modalities for Pineal Region Tumors: Discrepancy Between U.S. and Japan

Shizuo Oi, MD, Osamu Sato, MD, Satoshi Matsumoto, MD

8:30 a.m. - 8:45 a.m. Reoperation after "Upfront" Radiosurgery for Glioblastoma Multiforme

Eben Alexander, III MD, Jay S. Loeffler, MD

8:45 a.m. - 9:00 a.m. Ruptured Distal Anterior Cerebral Artery Aneurysms. A Report on 46 Verified Cases

Shiro Kobayashi, MD, Takuro Okada, MD, Kazuo Isayama, MD, Shozo Nakazawa, MD

9:00 a.m. - 9:15 a.m. Titanium Mesh for Vertebral Body Defects Early North American Results

Gary L. Lowery, MD, PhD, Thomas A. Zdeblick, MD, Patrick F. O'Leary, MD, Frank P. Cammisa, Jr., MD, Louis M. Rappaport, MD, Jeffrey C. Dick, MD

9:15 a.m. - 9:30 a.m. The Fate of Bone Graft Used for Anterior Stabilization of Cervical Spine Fractures in Children

Nachshon Knoller, MD, Itzhack Shacked, MD, Steven Velkes, MB, ChB, Zvi Ram, MD

9:30 a.m. - 9:45 a.m. Giant Cerebral Aneurysms Treated with Circulatory Arrest, Hypothermia, and Barbiturate Cerebral Protection

Mark G. Hamilton, MD, Robert F. Spetzler, MD

9:45 a.m. - 10:00 a.m. Early Surgical Treatment of the Patient with Central Cord Syndrome

Paul M. Francis, MD, William R. Zerick, MD, Volker K. Sonntag, MD

10:00 a.m. - 10:15 a.m. Staged Operation for Giant Intracranial Arteriovenous Malformations

Yong-Kwang Tu, MD

10:15 a.m. - 10:30 a.m. Analysis of 260 Intracranial Dissecting Aneurysms

Akira Yamaura, MD, Junichi Ono, MD

10:30 a.m. - 11:30 a.m. MINI-SYMPOSIUM:

Acute Intervention in Cerebrovascular Disease

Moderator: H. Hunt Batjer, MD

Speakers: Shigeaki Kobayashi, MD, H. Richard Winn, MD

11:30 a.m. - 12:00 p.m. FIRING LINE: Problem Case Presentations

Moderator: H. Hunt Batjer, MD





POST CONVENTION SATURDAY, OCTOBER 9, 1993 SCIENTIFIC PROGRAM

8:00 a.m. - 12:00 p.m. GENERAL SCIENTIFIC SESSION VI

Moderators: Mitchel S. Berger, MD, Shigeaki Kobayashi, MD

8:00 a.m. - 8:15 a.m.

Subtemporal Amygdalohippocamp- ectomy for Treating Medically Intractable Temporal Lobe Epilepsy

Tomokatsu Hori, MD, K. Akatsuka, MD, A. Takenobu, MD, T. Watanabe, MD

8:15 a.m. - 8:30 a.m.

Effect of the Extent of Surgical Resection on Survival in Patients with Supratentorial Anaplastic Astrocytomas & Glioblastomas

Hee-Won Jung, MD, Chun Kee Chung, MD, Chang-Wan Oh, MD, Ki-Bum Sim, MD, Dae Hee Han, MD

8:30 a.m. - 8:45 a.m.

The Removal of Lesser Wing for Basilar Tip Aneurysm in the Acute Stage - Cadaveric and Clinical Procedure

Shuzo Sato, MD, B. Mihara, MD, K. Yunoki, MD

8:45 a.m. - 9:00 a.m.

Preliminary Data Regarding the Natural History of Cavernous Malformation: A Prospective Comparison Between the Familial and Sporadic Form

Daniele Rigamonti, MD, Van Doren Hsu, PharmD, Frank P.K. Hsu, BSE, Thomas R. Price, MD, Joseph M. Zabramski, MD, Neal Wake, JD

9:00 a.m. - 9:15 a.m.

Autologous Vertebral Bone Graft in Anterior Approach for Segmental OPLL of the Cervical Spine

Hiroshi Nakagawa, MD, Kinjiro Iwata, MD, Kiyoshi Tamai, MD, Hideki Yamamoto, MD, Kazuo Watanabe, MD

9:15 a.m. - 9:30 a.m.

Intrinsic Midbrain Tumors in Children: A Benign Subset of Brainstem Tumors?

Karin M. Muraszko, MD, Patricia L. Robertson, MD, Robert Dauser, MD, Andrew T. Turrisi, MD

9:30 AM - 9:45 AM

Herniated Lumbar Disc Disease in the Elderly

Mark A. Testaiuti, MD, Kamran Tabaddor, MD

9:45 AM - 10:00 AM

Surgical Treatment for Syringomyelia Associated with Chiari Malformation

Yoshinobu Iwasaki, MD, Kazutoshi Hida, MD, Hiroyuki Imamura, MD, Hiroshi Abe, MD

10:00 AM - 10:15 AM

A Method for Reducing Pain at Iliac Crest Bone Graft Harvest Sites

Walter J. Levy, Jr., MD

10:15 AM - 10:30 AM

Ventriculoscopic Guided Stereotactic Aspiration of Colloid Cysts of the Anterior Third Ventricle

Steve Bloomfield, MD, Ric Gross, PhD, Sandi Cline, BART, Joyce Herschberger, RN

10:30 a.m. - 11:30 a.m.

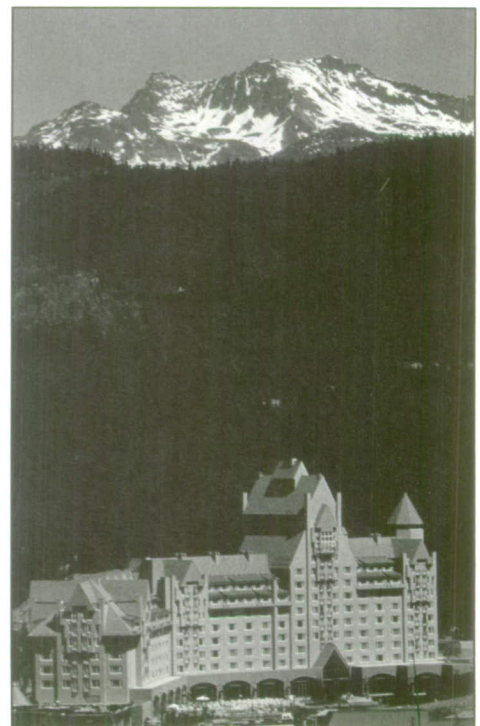
MINI-SYMPOSIUM: Surgery of the Cranio-cervical Junction

Moderator: Albert L. Rhoton, Jr., MD
Speakers: Hiroshi Abe, MD, Philip Gutin, MD

11:30 a.m. - 12:00 p.m.

FIRING LINE: Problem Case Presentations

Moderator: Mitchel S. Berger, MD



Auxiliary NEWS

VANCOUVER: SPECTACULAR BY NATURE

We hope you will make plans to attend the 43rd Annual Meeting of the Congress of Neurological Surgeons in Vancouver, BC, from Saturday, October 2 to Thursday, October 7. The meeting will be held in the Vancouver Trade and Convention Centre, located on the city's waterfront. Shuttle service will connect the official meeting hotels, and it's a wonderful city for walking. A Post-Convention Meeting is planned in Whistler, to enable you to experience more of this beautiful area.

The Opening Reception will feature a Pacific Rim experience, and will be held at the centrally-located Convention Centre. Tours have been specially selected to enable you to experience all that the city and area have to offer.

Wednesday has been designed as a special day for you - for exploration, inspiration, and relaxation. For complete details of this very special program, see your very own "gift package" in this section of the preliminary program.

Rock and roll your way through this year's Annual Banquet, which features the show that was never held - with Elvis, Roy Orbison, and Buddy Holly. Come and join us in the Pacific Northwest for a spectacular experience.

ABOUT THE PRESIDENT...

Art and Dana Day were both raised in Louisiana, Art on a farm in Red Chute, and Dana in New Orleans. They met and were later married while Art was in medical school at LSU in New Orleans. After an internship in Birmingham, Alabama, they moved to Gainesville, Florida, for neurosurgery training under the newly appointed chairman of that program, Dr. Albert Rhoton.

Upon completion of residency, Art did a fellowship in neuropathology and brain tumor immunology. He then joined the Neurosurgical faculty at the University of Florida in 1978, where he is currently Professor and James and Newton Elben Scholar in Cerebrovascular Surgery.

Dana initially taught school, but now devotes much of her time to her family and community responsibilities. She is founder and director of the Gainesville Harvest program, a group that collects and distributes food to needy families in the

Gainesville area. Her work has been recently recognized by awards from the Florida Medical Association and the City of Gainesville.

Art and Dana have three children: Lauren (17), Steven (14), and Lindsey (7). When they are able to get away together as a family, they enjoy walking or working out at the track, skiing or spending time at Amelia Island.



SATURDAY, OCTOBER 2

DINE-A-ROUND

6:30 PM - 10:30 PM

Sample Vancouver's diverse cuisine and magnificent scenery on your first evening. Make your selection from the following acclaimed restaurants.

451

ANDERSON'S

Located over the water on the north side of False Creek with breathtaking views of Granville Island, Burrard and Granville Bridges as well as English Bay. Gourmet menu features fresh seafood as well as beef and poultry.

452

DYNASTY RESTAURANT

Discover the award-winning delights of Vancouver's finest Cantonese restaurant. Fresh ingredients and savory sauces made this a truly authentic dining experience. And, with a tradition of gracious service and elegant perfection, a uniquely elegant atmosphere is created.

453

RAINTREE RESTAURANT

Synonymous with wholesome food, this restaurant commits itself to the best of local markets, working closely with growers, fishermen, ranchers, cheesemakers, and local winemakers to serve original West Coast cuisine. The interior design features native masks, fish ceramics, original oils and massive flower sculptures, and a beautiful view of North Shore lights and Stanley Park.

454

SALMON HOUSE ON THE HILL

Dine on fresh B.C. Salmon, barbecued West Coast Style over an open, alder fire pit while enjoying a spectacular view of Vancouver. Casual atmosphere features native Indian decor.

SUNDAY, OCTOBER 3

525

DELUXE CITY TOUR

9:00 AM - 12:00 PM

Explore the beauty and diversity of Vancouver. See Stanley Park's totem poles and unmatched ocean views. Travel through the exclusive Shaughnessy district, on your way to Queen Elizabeth



Park. The city's highest geographical point offers a panoramic view of Vancouver. View tropical flora and exotic birds at the Bloedel Conservatory in the park.

Next, enjoy browsing and nibbling from the Granville Island Market's huge selection of fresh seafood and produce. See the second largest Chinese community in North America, followed by Gastown, a turn-of-the century community with brick and stone architecture and cobblestone streets.

526

WEST COAST TOUR

10:00 AM - 3:00 PM

Explore Canada's great West Coast! Don't miss a visit to the Museum of Anthropology, Canada's largest university museum. A stunning



collection of monumental totem poles will enable you to compare the intricate styles of Haida, Tsimshian and Kwakwaka'wakw carvers and learn what totems mean in the lives of coastal peoples. This outstanding museum also houses feast bowls, ceremonial masks, jewelry, weapons and sculptures - all exemplifying the beauty of Native art. Lunch in the award-winning Raintree Restaurant will feature a Pacific Northwest cooking demonstration and souvenir recipes.

527
MAJESTIC NORTH SHORE
10:00 AM - 3:00 PM

Experience the best of the outdoors at the North Shore, Vancouver's mountain playground! Take in the panoramic water and mountain scenes on your way to Horseshoe Bay where breathtaking views and shopping await. Travel to British Properties, one of the city's most exclusive residential areas, featuring elegant homes and magnificent views of Vancouver.

Drum up your courage for the Capilano Suspension Bridge, high above the rapids which roar through the stony gorge below. More than a century old, this bridge is Vancouver's oldest attraction. A trip on the Sky Ride brings you to the top of the Grouse Mountain for unparalleled views of Vancouver. Walk the nature trails, or explore the gift shop's souvenirs and native crafts.



At Lonsdale Quay, nestled on the water at the foot of the mountains, wander through the public market, boutiques and restaurants. Take a short cruise on the Seabus across Burrard Inlet, which connects North Vancouver with downtown. You will be dropped off near Gastown, the site where Vancouver first began, to enjoy the sites or browse through the shops on your own.

528
GASTOWN WALKING TOUR
1:30 PM - 3:30 PM

Meet some of the people who helped make Vancouver's history while exploring the oldest section of Vancouver with 1800's characters. Stroll the Gastown area, while you experience this historical locale first hand. At the completion of the walk, enjoy wine and cheese at a special Gastown restaurant.



529
NORTH SHORE SHOPPING TOUR
1:30 PM - 5:30 PM

Meet in the lobby of Seabus Station at the foot of Gastown, a short walk from your hotel, for a unique trip across the waters of Burrard Inlet. Enjoy the panoramic views of the mountains and cityscape on your way to Lonsdale Quay Market. This market by the sea is home to arts and craft displays, a market place and several restaurants and cafes. Our local guide for the walking tour will show you the sights and sounds of this wonderful marketplace. Return back across the water to downtown.

501, 502, 503, 504
OPENING RECEPTION:
THE PACIFIC RIM EXPERIENCE
6:30 PM - 9:30 PM

The "Pacific Rim Experience" brings together the beautifully diverse mélange of cultures of Asia's eastern seaboard and North America's west coast. Guests travel the Pacific Rim, from Japan to Australia, from China to Polynesia and back to Canada's own native scene, in one evening enjoying the sounds of a Japanese Koto player, Chinese



Pipa player, a Polynesian guitarist as well as the antics of a "Crocodile Dundee" character – and more. An event of international cuisine, culture, and entertainment – not to be missed!

MONDAY, OCTOBER 4

530 VICTORIA DAY TRIP 6:30 AM - 5:00 PM

Gather at the Vancouver Seabus terminal lobby, near The Vancouver Trade and Convention Centre, sharply at 6:30 a.m. After boarding the Royal Sealink catamaran, sit back and enjoy the 2-1/2 hour journey to Victoria. The Sealink traverses Georgia Strait, before entering the scenic Gulf Islands. Sport fishermen, sailors and wildlife add a nautical backdrop to the beauty of the islands.

After the Gulf Islands, its clear sailing to Victoria's Inner Harbour, home of the Empress Hotel, Parliament Buildings, the Royal British Columbia Museum, and a wealth of other attractions. Transferring to your deluxe motorcoach, professional guides will show you the sights of this little piece of England. Your tour of Victoria will include Oak Bay, the most prestigious area of Victoria.



Tudor-style homes, British mansions and exclusive shops line the streets as you journey onward through this picturesque area. Stop for a visit to the Royal British Columbia Museum, ranked among the top ten museums of the world. Highlighted among the many displays is an unmatched collection of West Coast native artifacts, and outside the museum is Thunderbird Park, with its collection of magnificent totem poles.

After enjoying a traditional English lunch at the jewel of Victoria, the Empress Hotel, wander through the streets of Victoria. Discover Government Street, where you will find shops featuring

English china, Scottish woolens, and Irish linens. Market Square, lined with ornamental iron gates, offers crafts, jewelry and other quaint shops for your browsing pleasure. Back aboard the Royal Sealink at 2:30, you will arrive in Vancouver at 5:00 p.m.

531 VANCOUVER SHOPPING SHUTTLE 10:00 AM - 3:00 PM

Vancouver is a shopper's paradise - stocked with every conceivable line of merchandise, from department store fare, to the splendid, the exotic, the eccentric. There will be a continuous shuttle running from the Convention Centre, making a circuit of unique shopping areas. Whether it's native fashions and Indian artwork, or designer labels from around the world, you'll find it in Vancouver.



532 ART IN VANCOUVER 12:30 PM - 4:30 PM

This delightful afternoon takes you to the Vancouver Art Gallery, which is located in one of the city's most splendid 19th century heritage buildings. Enjoy lunch in the gallery building while listening to a local art historian.

After lunch, walk through the gallery's exhibits addressing both historical and contemporary issues. A portion of the permanent collection features paintings and drawings by Emily Carr, one of Canada's greatest artists.

533 GRAND CITY TOUR 1:30 PM - 4:30 PM

Visit Vancouver's highlights in this afternoon overview of the city. The first destination is Stanley Park, a 1,000 acre oasis of landscaped park and primeval forest in the middle of the City. See the totem poles and unmatched ocean vistas. Travel through the exclusive neighborhood of Shaughnessy on your way to the botanical delights of

Queen Elizabeth Park, which also offers a panoramic view of Vancouver.

Next it is on to the bustling ethnic community of Chinatown – the second largest in North America, followed by a visit to Vancouver's birthplace, Gastown, with its brick and stone turn-of-the-century architecture and cobblestone streets.

534
WINES OF THE WESTCOAST
1:30 PM - 5:30 PM

Travel to the Raintree Restaurant, site of Vancouver's finest West Coast wine selection. Sample a wide variety of British Columbian and Pacific Northwest wines. Led by a wine expert, you will be introduced to the regional flavors of local wines. An intimate wine cellar setting in Gastown will follow for dessert wine tasting.

505
JOE FORTES & BACK ALLEY THEATRE
6:00 PM - 11:00PM

Enjoy a specially prepared dinner at Joe Fortes Seafood House featuring seafood from both local and foreign waters in addition to steaks, chops and ribs, in traditional American and contemporary Northwest styles. After dinner, leave by the back door, for it's only an alley away to Back Alley Theatre, featuring award-winning improv performers in interactive theatre.

TUESDAY, OCTOBER 5

506
FUN RUN - 5K - STANLEY PARK
6:15 AM - 7:30 AM

Start your morning with a 5K walk or run through Vancouver's Stanley Park at the Annual CNS Fun Run! Stanley Park is a 1,000 acre oasis of landscaped park and primeval forest in the middle of the City.

T-SHIRTS

The official Fun Run T-shirt for Vancouver is available in both adult and children's sizes. Whether or not you participate in this year's Fun Run, you will want this souvenir of the meeting.



535
VICTORIA DAY TRIP
6:30 AM - 5:00 PM

See tour #530 for description.

536
SPA PROGRAM
9:00 AM - 11:30 AM

Your senses will be engaged as you arrive via limousine for a morning of pampering and revitalization. Indulge in an aromatherapy facial massage at a health spa that rivals internationally famous locales for elegance and comfort.

537
WEST COAST TOUR
10:00 AM - 3:00 PM

See tour #526 for description.



537
NORTH SHORE TOUR
12:30 PM - 5:30 PM

See tour #527 for description.

507
GRANVILLE ISLAND AND ARTS CLUB THEATRE
5:30 PM - 11:00 PM

Enjoy some of the best dining in Vancouver, on Granville Island overlooking beautiful False Creek. After-dinner entertainment will feature the current production at the Arts Club Theatre.



WEEK AT A GLANCE

	Saturday October 2	Sunday October 3	Monday October 4	Tuesday October 5	Wednesday October 6
Morning		Deluxe City Tour 9:00 am-12:00 pm West Coast Tour 10:00 am-3:00 pm Majestic North Shore Tour 10:00 am-3:00 pm	Victoria Day Trip 6:30 am-5:00 pm Vancouver Shopping Shuttle 10:00 am-3:00 pm	Fun Run and Walk 6:15 am-7:30 am Victoria Day Trip 6:30 am-5:00 pm Spa Program 9:00 am-11:30 am West Coast Tour 10:00 am-3:00 pm	Auxiliary Educational Session Parenting 9:00 am-10:00 am Transitions 9:00 am-10:00 am Time Management 10:30 am-11:30 am Relationships 10:30 am-11:30 am Children's Program 9:30 am-3:00 pm
Afternoon		Gastown Walking Tour 1:30 pm-3:30 pm North Shore Shopping Tour 1:30 pm-5:30 pm	Art in Vancouver 12:30 pm-4:30 pm Grand City Tour 1:30 pm-4:30 pm Wines of the Westcoast 1:30 pm-5:30 pm	North Shore Tour 12:30 pm-5:30 pm	Auxiliary Lunch 12:00 pm-2:00 pm Spa Program 2:30 pm-5:00 pm
Evening	Dine-A-Round - Anderson's - Dynasty - Raintree - Salmon House on the Hill 6:30 pm-10:00 pm	Opening Reception 6:30 pm-9:30 pm	Joe Fortes & Back Alley Theatre 6:00 pm-11:00 pm	Granville Island & Arts Club Theatre 5:30 pm-11:00 pm	Annual Reception and Banquet 7:00 pm-1:00 am 85



INTRODUCING . . .

WILLIAM AND RANSOM FRIEDMAN ANNUAL MEETING CHAIRMEN



Bill Friedman grew up in Cincinnati, Ohio. He attended Oberlin College and the Ohio State University Medical School. He performed his internship and residency training at the University of Florida, where he remained as a faculty neurosurgeon. He currently is the Edward Shedd Wells Professor of Stereotactic Neurosurgery and Associate Chairman of the Neurosurgery Department.

Ransom Friedman grew up in Cocoa Beach, Florida, where her father was medical director (Cape Canaveral). She attended Columbia University Nursing School in New York City, then worked as a cardiovascular nurse clinician and, later, Assistant Professor of Nursing, at the University of Florida College of Nursing. Bill and Ransom met at the University of Florida. They have three children: Daniel (11), Abigail (8) and David (4).

HUNT AND JANET BATJER SCIENTIFIC AND EDUCATIONAL CHAIRMEN

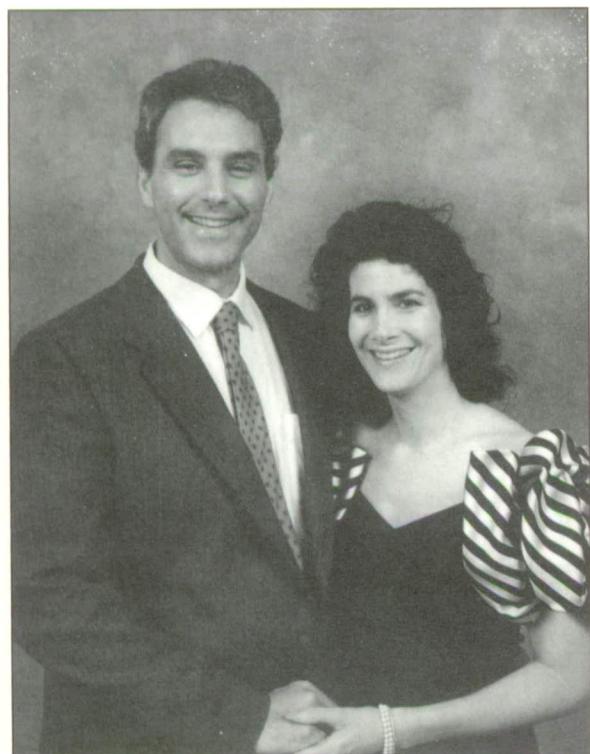


Hunt Batjer was born in Burlington, Vermont, and raised in San Angelo, Texas. He played baseball while attending the University of Texas in Austin and graduated from the University of Texas Southwestern Medical School in Dallas. His internship and residency were performed at Southwestern also, with the exception of a fellowship in Neurology at the National Hospital, Queens Square, London, and a fellowship in Cerebrovascular Surgery at the University of Western Ontario, London, Ontario. Hunt is currently Professor of Neurosurgery in the Department of Neurological Surgery at the University of Texas Southwestern Medical Center.

Janet was raised in Dallas, and attended Austin College. She received an MBA from the University of Texas. She was on the staff at the University of Texas Southwestern Medical Center when she and Hunt were married in May, 1989. They currently have two daughters, Hannah (3 1/2) and Devon (almost 2).

... KEY PLAYERS

MITCH AND JOAN BERGER
LOCAL ARRANGEMENTS CO-CHAIRMEN



Mitch and Joan Berger moved to the Pacific Northwest in 1986 following residency training at the University of California, San Francisco. Mitch is currently an Associate Professor of Neurosurgery at the University of Washington, the American Cancer Society Professor of Clinical Oncology for Washington State, and Co-Director of the Northwest Neuro-Oncology Research and Therapy Section at the University of Washington and the Childrens Hospital of Seattle.

Joan is a dental hygienist and practices in the Seattle area. Together they have two children, Lindsay Freda (8), and Alex (4). Joan is active in several community projects and she, Mitch and the family avidly enjoy the Northwest. They look forward to being your hosts in Super Natural Vancouver, British Columbia.

PAUL AND EDIE STEINBOK
LOCAL ARRANGEMENTS CO-CHAIRMEN



Paul Steinbock grew up in Barbados and went to medical school in Jamaica. After an internship in Toronto, he completed his residency training at the University of British Columbia in Vancouver. This was followed by a one year fellowship with Steve Mahaley in Chapel Hill. He then returned to Vancouver where he is currently the Head of the Division of Pediatric Neurosurgery at British Columbia's Children's Hospital and Associate Professor in the Department of Surgery at the University of British Columbia.

Edie Steinbock is a native Vancouverite. She obtained a Bachelor of Science at the University of British Columbia and currently teaches in Vancouver. Edie and Paul have a 15 year old son, Jeffrey, and a 13 year old daughter, Laura.



CHICAGO, ILLINOIS, 1994

The 44th Annual Meeting of the Congress of Neurological Surgeons will be held in Chicago, Illinois. Chicago is a vibrant, cosmopolitan city and a convenient and accessible location for North American Neurosurgeons. Dick and Debbie Roski as President-Elect of the Congress and Congress Auxiliary have plans well underway for a superb Scientific and Social Program. Hunt Batjer will be the Annual Meeting Chairman and Marc Mayberg will serve as Scientific Program Chairman. Jeff Cozzens will be Local Arrangements Chairman. The Annual Meeting and Scientific Program Committees are working hard to develop a dynamic Scientific and Social Program to offer practicing neurosurgeons the newest developments in clinical and basic neuroscience as well as insights into the rapidly changing health care environment.

Mark your calendars now for the 44th Annual Meeting in Chicago, October 1-6, 1994.

The Auxiliary Board would like to take this opportunity to thank all the dedicated people who have worked so hard to make this meeting an informational and wonderful family event.

FUTURE MEETINGS

October 1-6, 1994
Chicago, Illinois

October 14-19, 1995
San Francisco, California

September 28 - October 3, 1996
Montreal, Quebec

RICHARD AND DEBBIE ROSKI PRESIDENT-ELECT AND AUXILIARY PRESIDENT-ELECT



Dick earned his MD degree at Case Western Reserve School of Medicine in 1976. He stayed on at Case to do his Residency in Neurological Surgery. In 1981, after completing his Neurological Surgery Residency, he was appointed to the faculty at the University of Louisville, Kentucky, where he served as Assistant Professor for two years. He has been in private practice since 1984, and currently practices in Davenport, Iowa. In 1990, Dick received his MSM through the Krannert School of Business at Purdue University.

Debbie is past president of the Junior League of the Quad Cities and is currently involved in many volunteer organizations. The Roski's have four children, Kathryn and Kara, who live in Indianapolis, and Courtney and Justin. In his spare time, Dick enjoys golf, tennis and skiing.

"TIDBITS"

DO NOT FORGET - Deadline for Housing and Advance Registration is September 1, 1993.

Name badges must be worn for entry into the Hospitality Suite. To help others get to know you, please register and wear your badge at all times. Additionally, they are required for admission into the General Sessions or the Exhibits Area, where you can view the latest neurosurgical products.

IMPORTANT AIR TRAVEL NEWS

FOR CONGRESS OF NEUROLOGICAL SURGEONS ANNUAL MEETING

**VANCOUVER, B.C.
OCTOBER 2 - OCTOBER 7, 1993**

The Congress of Neurological Surgeons has negotiated special rates with Delta Airlines and United Airlines to offer you savings on air travel to Vancouver, B.C. October 2 - October 7, 1993.

Delta and United provide service to most major cities worldwide, and have achieved records of passenger satisfaction unequalled in the industry. Both airlines offer mileage programs to their passengers.

To make your reservations, call one of the toll-free numbers listed below. A trained meeting specialist will be happy to assist you or your travel agent in confirming reservations to the CNS Annual Meeting. **Don't forget to identify yourself as a CNS participant and provide the special meeting file number indicated below.**

For Reservations, Call:

DELTA AIRLINES
800-241-6760
8:00 am - 11:00 pm
Eastern Standard Time
Seven Days a Week

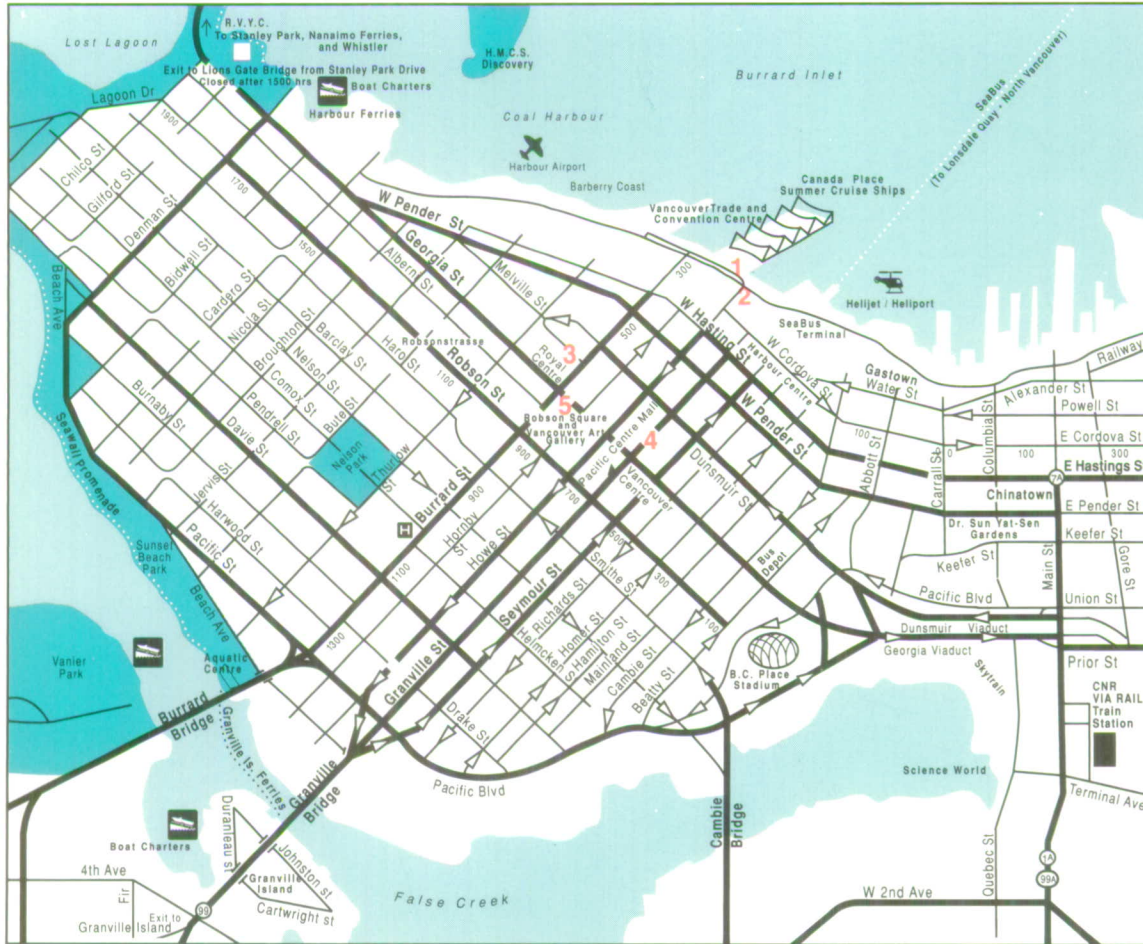
Ask for file:
PO344

UNITED AIRLINES
800-521-4041
7:00 am - 1:00 am
Eastern Standard Time
Seven Days a Week

Ask for file:
529YI

These discounts are available only through Delta or United Airlines toll free numbers, so call today! We look forward to welcoming you to Vancouver, B.C.!





DOWNTOWN VANCOUVER

1. PAN PACIFIC HOTEL
2. WATERFRONT CENTRE HOTEL
3. HYATT REGENCY HOTEL
4. FOUR SEASONS HOTEL
5. HOTEL VANCOUVER

HOTEL RESERVATIONS

OFFICIAL CNS HOTELS		RATES	CANADIAN	APPROX. U.S. VALUE	
1. Pan Pacific Hotel	Superior/Deluxe	Single	\$203.00	\$159.00	
	Co-Headquarters	Superior/Deluxe	Double	\$215.00	\$168.00
		Additional persons		\$ 30.00	\$ 23.44
2. Waterfront Centre Hotel	Co-Headquarters	Premier	Single	\$175.00	\$137.00
			Double	\$175.00	\$137.00
	Entree Gold	Single	\$215.00	\$168.00	
		Double	\$215.00	\$168.00	
	Additional persons		\$ 20.00	\$ 15.63	
3. Hyatt Regency Hotel	JCSNS Headquarters Resident Headquarters Exhibitor Headquarters	Single	\$170.00	\$133.00	
		Double	\$190.00	\$148.00	
	Residents (on special form only)	Single	\$160.00	\$125.00	
		Double	\$160.00	\$125.00	
	Additional persons		\$ 25.00	\$ 19.50	
4. Four Seasons Hotel	Superior/Deluxe	Single	\$190.00	\$148.00	
		Double	\$190.00	\$148.00	
	Additional persons (3 max)		\$ 25.00	\$ 19.50	
5. Hotel Vancouver	Premier	Single	\$160.00	\$125.00	
		Double	\$185.00	\$143.00	
	Courtyard	Single	\$200.00	\$156.00	
		Double	\$225.00	\$176.00	
	Additional persons		\$ 25.00	\$ 19.50	

- To receive the special CNS discounted convention rate, the enclosed form must be used to make your hotel reservations.
- Please mail your housing form to Tourism Vancouver, or fax to (604) 683-2601. Upon receipt of your request, a confirmation will be mailed to you from the hotel. Please allow four weeks for processing.
- All reservations or changes must be received by August 23. After this date please telephone hotels directly.
- All scientific meetings will be held at the Vancouver Convention Centre, the Pan Pacific and Waterfront Hotels.
- All room charges are quoted in Canadian Dollars and are subject to prevailing taxes, currently 17% per night (10% Provincial, 7% GST) in British Columbia. The current exchange rate for U.S. Dollars is 0.7813.
- GST refund forms will be available to Non-Canadian residents at the hotels upon request. Revenue Canada will issue the rebates.
- Reservations must be guaranteed with a credit card number on the housing reservation form.
- Early reservations are strongly suggested.
- If more than one room is needed, additional forms must be submitted, one for each room.
- A limited number of suites are available. Please call Tourism Vancouver, (604) 683-2772, for more information.



VANCOUVER: SPECTACULAR... BY NATURE



Photographs courtesy of
Mitchel S. Berger, MD

**Congress of Neurological Surgeons
Annual Meeting Office
22 South Washington Street
Park Ridge, IL 60068
708/692-9500**