

OHSU NEUROTRANSMITTER

Editor:

Kim J. Burchiel, MD, FACS

Assistant Editor:

Shirley McCartney, PhD



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The Department of Neurological Surgery, Oregon Health Sciences University

<http://www.ohsu.edu/som-neurosurgery>

Welcome Message from Chairman

Kim J Burchiel, MD, FACS

Welcome to The Department of Neurological Surgery at Oregon Health Sciences University, which has a long standing history of excellence in providing neurosurgical care to the residents of Oregon and Southwest Washington.

In 1998, the division of Neurosurgery was granted full department status within the School of Medicine and officially became known as the Department of Neurological Surgery.

The Mission of the OHSU Department of Neurological Surgery is to promote:

- High quality health care delivery in the clinical neurosciences emphasizing innovation

and the dissemination of new knowledge.

- Curricula and an environment that stimulates, spirit of inquiry, initiative and cooperation between and among students and staff.

- Research into the prevention and cure of neurological disease and disability.

- Community outreach programs in health education, research and patient care that facilitate our mission as part of an educational institution and as a statewide consultative resource for the clinical neurosciences.

This is the foundation upon which the department continues to grow and prepare for the next millennium of neurosurgical care, training and research.

Awards, Honors and Recognition

Dr. Kim Burchiel was recently appointed by the Health Care Financing Administration (HCFA) to the newly established Medicare Coverage Advisory Committee. This committee will advise HCFA on Medicare coverage policy. Dr. Burchiel recently completed training for the committee in Baltimore, and attended the first MCAC public hearing.

Dr. Burchiel recently attended an Executive Development Seminar for Associate Deans and Department Chairs, sponsored by the American Association of Medical Colleges, in Ft. Lauderdale.

A paper by Drs. Burchiel, Anderson, Hammerstad and Nutt entitled "A Randomized Prospective Blinded Trial of Globus Pallidus vs. Subthalamic Stimulation for Parkinson's Disease" was the first plenary paper presented at the recent meeting of the Congress of Neurological Surgeons in Boston. This honor is given to the highest ranked paper submitted for presentation at the meeting. Dr. Burchiel presented the author.

Dr. Burchiel (and assistant Beth Fee) are finalizing his textbook *Pain Surgery* published by Thieme, which will be available at the AANS meeting spring 2000.

Dr. Johnny Delashaw was the Director of the *Korean Skull Base Society Skull Base Workshop* held in Seoul, Korea, February 1999.

Dr. Delashaw was also the Director of the *North American Skull Base Society Skull Base Workshop* held in Chicago, IL, May 1999.

Dr. Randall Chesnut was the Keynote Speaker at the 11th Annual Conference of the Brain Injury Association of Georgia held in Atlanta, GA, February 1999. Dr. Chesnut's topic was "Breakthroughs and Frontiers".

Dr. Chesnut was a panel leader on "Traumatic Brain Injury Rehabilitation" at the Aspen Neurobehavioral Conference held in Aspen, Colorado, March 1999.

Dr. Chesnut will be moderator on the topic of "Degenerative Cervical Spine" at the AO Spine Course to be held in Davos, Switzerland, December 1999.

Drs. Chesnut and Frank were contributing members of International Faculty attending an *AO/ASIF Comprehensive and Interactive Spinal Course* held in Tuckers Town, Bermuda, November 1999.

Dr. Frank was appointed Co-director of the Northwest Healing Center, OHSU in 1999.

Faculty/Divisions

Department Chairman

Kim J Burchiel, MD

Division of Functional and Stereotactic Neurosurgery

Kim Burchiel, MD
Martin Salinsky, MD
Gregory Anderson, PhD
David Gostnell, PhD
Fellow-Zvi Israel, MD

The Functional and Stereotactic Neurosurgery program encompasses a broad spectrum of surgical and nonsurgical treatments to manage and restore neurological function. Special programs include surgical management of movement disorders, surgical pain management, epilepsy surgery, peripheral nerve surgery, radiosurgery and stereotactic computer assisted neurosurgery.

PROGRAMS

- Surgical Treatment of Movement Disorders
- Surgical Pain Management
- Epilepsy Surgery
- Peripheral Nerve Surgery
- Radiosurgery
- Stereotactic Computer Assisted Neurosurgery

Surgical Treatment of Movement Disorders

This program includes neurosurgical interventions for Parkinson's disease, spasticity, and other movement disorders, as well as the use of such innovative and minimally invasive procedures as pallidotomy, thalamotomy, deep brain stimulation and percutaneous rhizotomy.

Surgical Pain Management

Kim Burchiel, MD
David Gostnell, PhD
Larisa Jeffreys, RN, MA
Beverly Cooke, RN
Jane Olsen NP

Pain is a complex and multifaceted disorder requiring multidisciplinary care. The Surgical Pain Management Program provides comprehensive pain care, including psychological evaluation and counseling, with a special emphasis on surgical treatment of medically intractable pain problems. The center is a national leader in the treatment of orofacial pains, including trigeminal neuralgia (*tic douloureux*). Surgical therapy for other disorders includes the use of spinal cord stimulation and intraspinal drug administration systems, as well as ablative procedures such as peripheral neurectomy (neuromasurgery), cordotomy and dorsal root entry zone lesions.

Epilepsy Surgery

The OHSU Comprehensive Epilepsy Center provides a full spectrum of medical services for patients with epilepsy. For some patients with medically intractable seizures, surgery to remove epileptogenic areas of the brain may be feasible. In conjunction with Martin Salinsky, MD, director of the Epilepsy Center, the department offers innovative and cost-effective surgical services. Surgical Procedures include extraoperative corticography and stimulation mapping (brain mapping), selective microsurgical amygdalohippocampectomy, neocortical resection, subpial transection, modified hemispherectomy and corpus callosotomy. Most surgical procedures involve the use of stereotactic computer-assisted navigational planning and guidance. Innovative research programs include the use of vagal nerve stimulation for patients in whom drugs are ineffective but who are not otherwise candidates for other epilepsy surgery.

Peripheral Nerve Surgery

This program specializes in surgical intervention of entrapment neuropathies (carpal tunnel, cubital tunnel), posttraumatic neuropathic pain (neuromas), and peripheral nerve and brachial plexus reconstruction. Intraoperative evoked potentials and nerve action potential recording is routinely used.

Radiosurgery

Stereotactically focused radiation or radiosurgery, can be used to treat a number of intracranial disorders including primary and metastatic tumors, acoustic neuromas, skull base tumors and arteriovenous malfunctions. This approach obviates the need for surgery in many cases. The center utilizes a medical linear accelerator with state-of-the-art hardware and software. This program is carried out in conjunction with the Department of Radiation Oncology.

Stereotactic Computer Assisted Neurosurgery

The ability to perform computer assisted neurosurgery allows for maximal precision in planning and performance of surgical interventions for movement disorders, epilepsy, brain tumors and other intracranial disorders. The Department of Neurological Surgery has pioneered the use of stereotactic neurosurgery and computer technology, and is an international training site for neurosurgeons interested in this new technology.

Division of Neurotrauma Intensive Care

Randy Chesnut, MD

The Division of Neurotrauma Intensive Care in cooperation with the Department of Surgery, provides comprehensive treatment of injuries associated with brain, spine and spinal cord trauma. This program adheres to the Guidelines for Neurotrauma Care (AANS/CNS) Joint Section on Trauma. The Neurotrauma Intensive Care program utilizes advance technology for the treatment of central nervous system injury and the provision of neurosurgical critical care.

OHSU NEUROTRAUMA RESEARCH GROUP

Principal Investigators include:

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- Randall Chesnut, MD, Associate Professor of Neurosurgery at Oregon Health Sciences University
- Hugo Maynard, PhD, Emeritus Professor of Psychology at Portland State University
- Anthony Borzotta, MD, Associate Trauma Director at Legacy Emanuel Hospital.

Additional investigators are:

- Nancy A Carney, PhD, MS, Department of Emergency Medicine at OHSU
- N Clay Mann, PhD, MS, Department of Emergency Medicine at OHSU
- McKay M Sohlberg, PhD, College of Education at the University of Oregon
- Anne E Glang, PhD, Teaching Research, a program of the Oregon University System.
- Bonnie J Todis, PhD, Teaching Research, a program of the Oregon University System.

Other contributors include:

- Danielle J Erb, MD, Rehabilitation Medical Associates in Portland
- Aimee Mooney, MS, Legacy Rehabilitation Services in Portland
- Jo Tanzer, MS, Legacy Rehabilitation Services in Portland
- Barbara Krauss, RN, and associates, Legacy Holladay Park Medical Center in Portland
- Sandra Faulkner, RN, CCRNC, Legacy Health System's Research Services in Portland.
- Judy Austin, CRC, Legacy Health System's Research Services in Portland.

Volunteers include:

- Community Psychology Group at Portland State University in Portland.

PSU TBI Team members:

Darrell J Ziemski, Piper Hackett, Leah Lagmay, Aimee Markwith, Jeff Jordshaugan, Jamal Taefy, and Kelly Jai Carpenter.

The PSU TBI Team has been involved in working on the model systems project at OHSU. This system was used to track the outcomes and treatments of traumatic brain injury (TBI) survivors. There are many components that will make the system work. The students have been working on the development and the gathering of information in the areas of tracking and retaining the TBI cohort. Last term they researched successful tracking methods, talked to TBI survivors and family members, talked to various sources in the field, and researched search engine resources on the Web. While the final information on the tracking system is being revised and implemented into a working model, work on a TBI Resource Link continued until the end of the school year-June, 99.

COMMUNITY PSYCHOLOGY

Community Psychology is an upper division psychology course that is based on the idea of students interacting and being part of

the community. In this class, seniors sign up for an entire academic year. The class offers the rare chance for an undergraduate student to apply the skills and knowledge they've obtained, and to work directly with and as part of the community. Students are given several groups to choose from that they will work with for the year. Whether a student is interested in research, social work, or working within an academic setting, there are a number of groups to satisfy various interests. The students work to help a partner in the community make changes to obtain goals pertinent to the well being of the community in which they and the partner are involved.

WORKING AS A COMMUNITY

Community psychology is based on the idea that active collaboration must occur so that multiple human efficiencies can be realized and utilized, and skills and knowledge can have a reciprocal relationship between the members of a community. It not only teaches students to work within the community, but the students as they form smaller groups from within the class, learn to form their own community and work together towards common goals and solutions. It is with these ideals that the PSU TEAM has been involved with their partners at OHSU and working as part of a community.

Division of Cerebrovascular Neurosurgery

Stanley Barnwell, MD, PhD
 Johnny Delashaw, MD
 Gary Nesbit, MD

Vascular Neurosurgery covers the surgical treatment of intra- and extracranial vascular lesions including carotid endarterectomy, and craniotomy for management of cerebral aneurysms and arteriovenous malformations. Specialized monitoring and diagnostic capabilities include transcranial doppler and intraoperative angiography.

Endovascular Neurosurgery is provided in association with the Dotter Interventional Institute and the Oregon Stroke Center. Endovascular neurosurgery utilizes leading edge catheter and imaging technology for treatment of vascular disorders and tumors, without the necessity of a traditional open surgical procedure. This program emphasizes treatment of vascular disorders including aneurysms, arteriovenous malformations, and stroke.

Interventional Neuroradiology is an exciting, minimally invasive approach in the treatment of diseases of the brain and spine. Conditions in the past that would have required surgical intervention such as aneurysms, arteriovenous malformations, and tumors of the brain, spine, head and neck can be considered for treatment by using an endovascular approach to reach the lesion. Interventional neuroradiologic techniques such as thrombolysis are also useful in the management of patients with acute ischemic stroke. These endovascular procedures can allow treatment of previously untreatable or difficult lesions.

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OHSU has been a pioneer in this field and remains an international leader in research and education.

Division of Neurooncology and Skull Base Surgery

Johnny B Delashaw, MD
Sean McMenomey, MD
Fellow-Joseph Finizio, MD

The Neurooncology and Skull Base Surgery program includes neurosurgical therapies for skull base tumors, acoustic neuromas, and vascular lesions (aneurysms, AVMs), in cooperation with the Department of Otolaryngology and Head and Neck Surgery. Advanced nonsurgical treatment protocols for brain tumors such as glioblastoma multiforme and other gliomas also are offered through the center.

Division of Pediatric Neurosurgery

Joseph Piatt, Jr MD

The Pediatric Neurosurgery program provides comprehensive surgical treatment of nervous system disorders of pediatric patients under the age of 16 years. Common problems treated in the program include hydrocephalus, brain tumors, craniofacial deformities, spasticity, myelomeningocele and other forms of spina bifida, and pediatric craniospinal trauma. The pediatric neurosurgery program is the setting for clinical research in the management of hydrocephalus, including the use of intracranial endoscopic surgical techniques, and the program also is an active participant in the clinical brain tumor research activities of the Children's Cancer Group. A special offering of the program is the neurosurgical reconstructive management of severe brachial plexus birth injury. In recognition of the emotional and social needs of children with hydrocephalus, who have a recurring requirement for cranial neurosurgical procedures, the program has developed a technique for operating without shaving hair.

Division of Spinal Surgery

Edmund Frank, MD
Randy Chesnut, MD

The Spinal Surgery program provides neurosurgical treatment for disorders related to the spine, including degenerative disease, trauma, tumors, infection, and congenital disorders in patients over 16. The program specializes in complex spinal disorders, requiring a team approach involving neurosurgery and orthopedic surgery. Original and creative research includes the development of instrumentation and procedures for minimally-invasive spinal surgery, spinal endoscopy, and stereotactic spine surgery. These advances will contribute to the reduction of recovery time and cost of care for many spinal surgical procedures.

Veterans Affairs Medical Center

Jennifer Kernan, MD

(General neurosurgical services for the Portland VAMC Hospital and Clinics).

Research

Valerie Anderson PhD
Thomas Baumann, PhD
Mary Heinricher, PhD
(See page 6...)

Neurological Surgery Fellows

Zvi Israel MD, Functional and Stereotactic Fellow
Joseph Finizio MD, Skull Base Fellow

Neurological Surgery Residents

Todd Kuether MD, Chief Resident
Jordi Kellogg MD, Research
Frank Hsu MD, PhD, Senior Resident
Raymond Tien MD, PhD, Veteran's Administration Resident
Michael Sandquist MD, Elective Year
Farhad Limonadi MD, Junior Resident
Chris Aho MD, Intern in General Surgery

Fellows 1999-2000

Dr. Zvi Israel joins the Department of Neurological Surgery as Functional and Stereotactic Fellow for 1999-2000. He has previously held appointments in the Department of Neurosurgery, Hadassah University Hospital, Jerusalem. Dr. Israel graduated in 1983 from King's College, London with a BSc in neurosciences and he completed his undergraduate medical education in 1986 at Westminster Medical School, London receiving his MB, BS(Lond.). Having moved to Israel in 1990, he completed his neurosurgery residency in 1995 at the Hadassah University Hospital, Jerusalem. He is presently Clinical Lecturer in Neurosurgery at the Hadassah University Hospital, Jerusalem. He certified with the Israeli Board of Neurosurgery in 1995. Dr. Israel's recent focus of interest has been on novel delivery methods of novel therapeutics across the Blood Brain Barrier for the treatment of brain neoplasia, Parkinson's disease and chronic pain syndromes. His current work includes delivery of antisense oligonucleotides to the brain parenchyma using novel polymeric delivery devices.

Dr. Joseph Finizio joins the Department of Neurological Surgery as Skull Base Fellow for 1999-2000. Dr. Finizio graduated in 1987 from NY University with a BA majoring in Biology and Chemistry and he completed his undergraduate medical education in 1991 at UMDNJ-Robert Wood Johnson Medical School, receiving his MD. Dr. Finizio is presently completing his Neurosurgical Residency in Department of Neurological Surgery, Louisville, KY.

Invited Speakers 1999

The John Raaf Lecture

OHSU's Department of Neurological Surgery is proud to recognize the accomplishments of John Raaf, MD, widely regarded as the father of neurosurgery in the state of Oregon. Dr. Raaf advanced the profession during his years as chairman of the Department of Neurosurgery at Good Samaritan Hospital, for creating an outstanding resource for the neurosciences community in the Pacific Northwest. Though retired, he continues to enjoy great respect among his colleagues in the professional community and the gratitude of many of the patients he served.

The 9th John Raaf Lecture

The John Raaf Lecture for 1999 featured Dr. Robert Grossman, professor and Chairman of the Department of Baylor College of Medicine. Dr. Grossman holds an MD from the College of Physicians and Surgeons of Columbia University and has been affiliated with Baylor College of Medicine since 1980.

The Origin and Surgery of Temporal Lobe Epilepsy

Dr. Grossman discussed the latest surgical techniques for this type of epilepsy, as well as trends in diagnosis and current noninvasive and surgical treatment.

The Economic Consequences of Managed Care

The principles of managed care are profoundly impacting health care delivery in this country, including the teaching and research that occurs in medical centers. Dr. Grossman shared his perspective on this important subject, especially as it applies to neuroscience.

Past John Raaf Lecturers

Lawrence F Marshall MD	1991
John A Jane MD PhD	1992
Julian T Hoff MD	1993
Albert L Rhoton Jr MD	1994
Martin H Weiss MD	1995
Robert H Wilkins MD	1996
John M Tew Jr MD	1997
Donlin M Long MD PhD	1998

Technology in Pediatric Neurosurgery

Mike Levy, MD, Pediatric Neurosurgeon specializing in Head GSW's was invited to lecture in August 1999 as part of the Residents Skull Base Course, held at OHSU.

Workshops/Courses 1999

Oregon Lateral Skull Base Hands-on Workshop

Residents Skull Base Course

Date: 20 August-24 August 1999

Sponsors: Department of Neurosurgery, Division of Continuing Medical Education, School of Medicine, OHSU Department of Otolaryngology and Head and Neck Surgery, Division of Continuing Medical Education, School of Medicine, OHSU The ANSPACH Effort, Inc., Attn: Ronda D. Brown, Dept. of Education, 4500 Riverside Drive, Palm Beach Gardens, FL 33410

Location: Neuro/Sensory Research Center at OHSU

Contact: Department of Neurological Surgery at 503-494-7737

AANS/CNS Pain Course

Date: 6-7 August 1999

Sponsor: AANS/CNS

Location: Oregon Health Sciences University Portland, OR.

Contact: AANS Professional Development Office (847) 692-9700

Intra-Arterial Thrombolytic Stroke Treatment Practical Course

Dates: 22-23 July 1999 and 16-17 Sept. 1999

Sponsor: Dotter Interventional Institute and the Oregon Stroke Center, (Support provided in part through generous grants from Boston Scientific/Target Therapeutics Inc.)

Location: Oregon Health Sciences University Portland, OR.

Contact: Dixie McWilliams, Dotter Institute, (503) 494-3918, e-mail to mcwillid@ohsu.edu

New Employees 1999

Kaliha Holiday joined the Department as a student file clerk at the end of September. Kaliha is studying to be a Medical Assistant at Concorde Career Institute. Kaliha assists with both the Department's patient filing and the Division of Skull Base Surgery.

Mira Bastrica-Womack BSN joined the Department as a Senior Research Assistant at the beginning of November. Mira will be assisting with clinical and research activities in the Division of Stereotactic and Functional Neurosurgery.

Megan Brooke joined the Department as an Administrative Assistant at the beginning of September. Megan primarily assists Dr. Chesnut in the Division of Neurotrauma Intensive Care.

Employee Recognition 1999

Employees of the Quarter

Spring-Shirley McCartney PhD

Summer-Christine Hammerton

Autumn-Cynthia Kolch

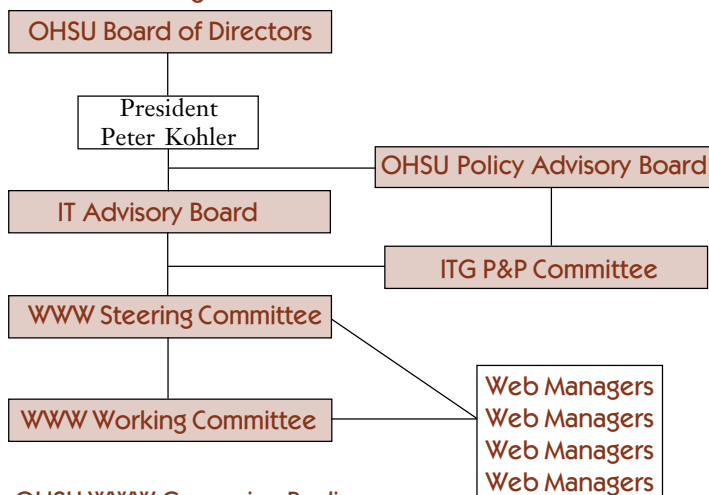
Winter-Joanie Mastrandrea...Employee of the Year

The Web

How does the web work @ OHSU?

Web Services is the principal provider of World Wide Web resources for Oregon Health Sciences University. Web Services is coordinated by the Web Services Manager, aka Webmaster, Richard Appleyard PhD.

OHSU WWW Organization Chart



OHSU WWW Governing Bodies

IT Advisory Board

Responsible for linking the OHSU current and future business plans with its information technology strategy. It recommends the multi-year financial commitment to information technology, as well as selects projects that are to be pursued. These projects need to be cost justified to the Advisory Board and then reviewed on an ongoing basis. This group is the forum in which senior management discusses direction, matches operational needs with technology potential, resolves policy disputes, builds commitment to policies and standards, and provides stability for information technology priorities.

WWW Steering Committee

Responsible for ensuring that the OHSU WWW site portrays the image and content needed to support its missions of Education, Research and Health Care. Approves or recommends WWW policies and/or procedures including recommendations from the WWW Working Committee. Recommends to the ITG Advisory Board and the OHSU Policy Advisory Committees on proposed WWW initiatives which include, but are not limited to, Web Applications, funding alternatives, prioritization of resources, and other changes or enhancements.

WWW Working Committee

Responsible for overseeing the OHSU WWW environment, including the Internet (world viewable), the Extranet (OHSU & affiliates viewable only), and the Intranet (OHSU viewable only) WWW sites. Develops consensus on issues surrounding the use of the WWW at OHSU. Identifies WWW needs and recommends WWW initiatives and directions to the WWW Advisory Committee. Recommends WWW policies and/or procedures to the WWW Governing Bodies, i.e., the ITG and WWW Advisory Committees. Implements the WWW policies,

procedures and directions laid down by the WWW Governing Bodies.

Web Managers

Departmental Web Managers meet at monthly meetings and are responsible for the look and content of their respective Departmental Web Site. They are also responsible for providing feedback to Web services with regards their departmental web requirements. Web Managers have recently been working with Web Services and Human Resources to classify their positions as Web Managers. Classifications currently do not exist and proposals from HR are for a Web Specialist 1 and Web Specialist 2 category, based on experience.

Development of the Neurological Surgery Site <http://www.ohsu.edu/som-neurosurgery>

Early in 1998 the Department of Neurological Surgery was pleased to launch a new and improved web-site. Since that time many additions and changes have been made not only to the look but to the content of the site.

In 1999 OHSU Web Services introduced new templates for all of OHSU's site, which are designed maintain a consistency within the OHSU site and to help guide visitors through the site to their specific destination. These templates are in use on the Neurological Surgery site. The site has been redesigned to reflect the reorganization of the department into six distinct divisions. Additions to the site have included; anonymous resident evaluation form submissions; the development of an intranet site specifically, to share internal departmental information. Future developments include; enhancing the information provided on the site to pain patients and a project has been initiated with Medtronic Inc.; further addition of patient and physician information on each of the divisional sites.

OHSU Web Services Retreat

On July 12 1999, OHSU Web Services held a Retreat at the Columbia Gorge Hotel, OR, this was attended by Shirley McCartney PhD, aka Neurological Surgery's Webmaster. A range of OHSU employees attended this retreat from Library administrators, to ITG representatives. The outreach/education goal was to troubleshoot the role of the Web @ OHSU and examine how best the Web @ OHSU could serve not only departments within OHSU but OHSU as a whole.

The top four major concerns cited at this retreat included:

- Lack of understanding how Web fit into the main OHSU goals
- Lack of vision
- Lack of executive understanding
- Web Manager recognition and compensation

Responses to these concerns included:

- Web Manager Orientation "Packet"
- Increased 2-hour Orientation
- Create a Web page for immediate use "How to Plan Your Web Site" based on what Hypix has put out. Emphasizing importance of group input and user testing at appropriate junctures
- Initiate Outreach Sessions with various departments
- Web Manager Brown-Bags for User Groups
- Transfer management of Web Buddy program to Web Services

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Current Funding/Research

Drs Burchiel and Anderson

Spinal Cord Stimulation Study in Patients Receiving a Transverse Tripole Lead

The Transverse Tripole Spinal Cord Stimulation (TTS) system differs from the conventional spinal cord stimulators with regard to the geometry of the electrodes. Used with a conventional generator, the TTS system functions like conventional stimulators. However, when used with the TTS generator, the TTS system may provide stimulation to areas that are difficult to access with the conventional systems. This study attempts to determine if the TTS lead and generator results in more complete pain relief. All devices and surgical techniques used in this study are approved by the FDA. Patients enrolled in this study will have chronic nonmalignant (not cancer-related) pain which may respond to spinal cord stimulation.

Randomized Screening Trial of Intraspinal Morphine

This trial studies the differences between two trial methods commonly used in assessing patient's response to intraspinal morphine administration. Neither method is experimental. Our goal is to compare the two methods with regard to relative safety, effectiveness and cost. Patients enrolled in the study will have persistent nonmalignant (not cancer-related) pain that has responded poorly to oral medications or standard surgical procedures. If the patient's pain appears to respond to the morphine, he/she will be offered an implantable infusion system for delivery of morphine to the spine. Pain control will continue to be monitored for the first six months after placement of the permanent implantable system.

Drs Burchiel, Anderson and Hammerstad

A prospective, randomized study of the efficacy of bilateral subthalamic vs. pallidal stimulation in Parkinson's Disease

The goal of this study is to determine whether Deep Brain Stimulation (DBS) of the subthalamic nucleus or globus pallidum (deep structures in the brain involved in the control of movement) is more effective in relieving certain symptoms of Parkinson's Disease, including bradykinesia (slowness of movement), dyskinesia (uncontrolled movements), tremor and rigidity. The DBS system is not experimental and has been approved by the FDA for use in the control of parkinsonian tremor. However, placement in the subthalamic nucleus and globus pallidum has not been approved by the FDA for use in alleviating the other symptoms mentioned above. Patients enrolled in this (at least 2 year) study will have Parkinson's disease that is poorly controlled by oral medications.

Dr. EH Frank

Contact Fusion Cage (CFC) for Lumbar Fusion, -April 2000

Fusion devices are often used as part of a surgical intervention for patients with degenerative disc disease. The devices replace a portion of the vertebral disc, are filled with small pieces of the patient's own bone and facilitate stabilization of the spine as the bone pieces join with existing vertebrae. The purpose of this study is to determine if the Contact Fusion Cage (CFC), an investigational device, is as safe and effective as a conventional

fusion device known as the Ray Threaded Fusion Cage (TFC). The CFC is shaped differently than the TFC and may cause less tissue disruption at the time of surgery. Patients enrolled in this study will have degenerative disc disease that has been treated non-surgically in the 6 months preceding enrollment in this study. Participation in the study lasts at least 2 years.

Dr. EH Frank (Co-Investigator)

The Influence of Osteoporosis on Bone Repair-March 2000
Collins Foundation

Dr. JB Delashaw

Skull Base Fellowship Grant 1999 - Present Synthes /Anspach

Dr. JH Piatt

Endoscopic Shunt Insertion Trial 05/10/96-present
Executive Committee and Principal Investigator, Portland (\$100 per patient on a contractual basis with the University of British Columbia)

Dr. Chesnut

In 1999 Oregon Health Sciences University's Neurotrauma Research Group was awarded a 1.3 million dollar grant to study different approaches to "treating and rehabilitating adult survivors of traumatic brain injury in Oregon". The multi-year study is being funded by the National Institute on Disability and Rehabilitation Research and will be done in collaboration with Drs. Maynard and Borzotta, Brain Injury Support Group of Portland, Portland State University's Community Psychology Program and Legacy Health System. A goal of the study is to investigate different approaches to treating traumatic brain injury, from acute care through rehabilitation. Another goal is to develop a scientifically based model of treatment that will help traumatic brain injury patients around the country. This research is part of a national incentive to better track what happens to brain injury patients once they leave the hospital.

Drs. Baumann and Burchiel

The Neurophysiology of Trigeminal Neuralgia- Nov 2002

Trigeminal neuralgia is an excruciating facial pain syndrome that affects mainly older patients. The purpose of this project is to produce, for the first time, neurophysiological observations from humans with trigeminal neuralgia that can be correlated with the patient's own sensation of the neuralgic pain. Micro-electrode recordings in the trigeminal ganglion and nerve are performed intraoperatively in patients before they undergo percutaneous gangliolysis for the treatment of pain. The goal of the study is to determine whether the pathophysiological mechanism of the pain is due to abnormal action potential discharges in trigeminal primary afferent (sensory) neurons.

Dr. TK Baumann

Dental Sensory Mechanisms-Nov. 2000

The long term goal of this research is to develop methods for the prevention and treatment of dental pain, based on a better understanding of the membrane mechanisms which lead to the excitation of trigeminal primary afferent neurons by mechanical

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Presentations 1999

January 1999

Drs TA Kuether, GM Nesbit and SL Barnwell presented the following: “Neurointerventional use of Reopro for the prevention and treatment of carotid and intracranial thromboembolism”, “The GDC Learning Curve”, “Hemiplegic basilar migraine and vertebral stenting”, “Embolization of AVMs with liquid coils” at the Working Group Interventional Neuroradiology, Val D’Isere, France

Dr. RM Chesnut presented, “CPP? ICP?: Parameters for Initiating Treatment” and “Evaluation of the Head Injured Patient: What Drugs, How Much and How Long?” at the Society for Critical Care Medicine 1999 Symposium Program, held in San Francisco, CA

Dr. EH Frank presented the following: “Endoscopic Anterior Odontoid Screw Fixation”, “Endoscopic Treatment of Spinal Stenosis” at the 17th Course for Percutaneous Spinal Surgery and Associated techniques held in Zurich, Switzerland

February 1999

Dr. RM Chesnut presented “Traumatic Brain Injury” at the North Douglas County Rural EMS/Fire Retreat, Drain, OR

Dr. EH Frank presented “Treatment of Osteoporosis” at Advances in Clinical Neurosurgery, Snowmass, Colorado

March 1999

Dr. TK Baumann presented a research poster at the “Advances in Ion Channel Research” Symposium, San Francisco with the title “Trigeminal ganglion neurons express both stretch-activated and stretch-inactivated ion channels”

Dr. RM Chesnut presented the following: “Monitoring and Management of Increases in Intracranial Pressure and Securing Viable Cerebral Perfusion”; “Management of Severe Head Injuries”; “Physiological Principles in the Management of Traumatic Brain Injuries” at the 37th Annual Symposium on Critical Care, Trauma and Emergency Med. Las Vegas, NV

Dr. RM Chesnut presented the following: “Evidence-based Guidelines for the Management of Severe Head Injury”; “Targeted Therapy in Modern Management of Severe Traumatic Brain Injury” at The 22nd Annual Meeting of the Japan Society of Neurotraumatology, Fukuoka, Japan

April 1999

Dr. JH Piatt Jr. presented as a breakfast seminar at the 67th Annual Meeting of the AANS New Orleans LA “Selection and Maintenance of CSF Shunts”

Dr. RM Chesnut was Panel Moderator “TBI Management Challenges” and presented “Traumatic Brain Injury Update” at the 10th Annual NW States Trauma Conference, Bend, OR

Dr. RM Chesnut presented “Traumatic Brain Injury: The #1 Killer of Youth” as part of the OHSU Marquam Hill Lectures.

May 1999

Drs. JB Delashaw, S Spektor, GJ Anderson, SO McMenomey presented at the North American Skull Base Society in Chicago, IL, “Quantitation of Exposure of the Far-Lateral Transcondylar Approach”

Dr. JB Delashaw, presented at the North American Skull Base Society in Chicago, IL, “Unusual Lesions of the Jugular Foramen: Chordomas and Chordosarcomas”

Dr. RM Chesnut presented “Guidelines for the Management of Severe Head Injury, Initial Management” at the Eastern European Symposium on Traumatic Brain Injury, Prague, Czech Republic

Dr. RM Chesnut presented the following: “Emergency management in spinal cord injuries”, “Clinical complications and head injury”, “Pupillary asymmetry and head injury and its relation to the size and location of trauma”, “Clinical management of intracranial pressure and head injury” at the VIII Congress of the Northeastern Society of Neurosurgery, Natal-RN/Brazil

June 1999

Dr. JH Piatt Jr. presented “Selection and Maintenance of CSF Shunts” and Dr. EH Frank presented “Endoscopic Instruments for Spinal Stenosis Surgery” at the Washington/Oregon Neurosurgical Societies 1999 CME Meeting, Salishan Lodge, Gleneden Beach, OR

Drs. EH Frank, FPK Hsu and J Martin presented “Endoscopic Treatment of Spinal Stenosis” and Drs. EH Frank, FPK Hsu and M Horgan presented “Endoscopic Treatment of Odontoid Fractures” at the 4th International Congress on Minimally Invasive Neurosurgery, Barcelona, Spain

July 1999

Dr. K Burchiel was invited to lecture at the American Society for Stereotactic and Functional Neurosurgery meeting at Snow Bird, Utah on “Brain Stimulation for Pain Control”

August 1999

Dr. K Burchiel was invited to lecture, at the 9th International Association for the Study of Pain, World Congress on Pain, Vienna, Austria, “Surgical Treatment of Trigeminal Neuralgia” and Dr. TK Baumann presented the following research posters: “Spontaneous action potential discharge in the somata of DRG neurons from patients with chronic neuropathic pain”, and “Capsaicin-sensitivity of human DRG neurons from patients with neuropathic pain” at the IASP Satellite Symposium “The Nociceptive Neuron,” in Prague, Czech Republic

Dr. JH Piatt Jr. presented at the Emergency Medical Services for Children Conference, Rogue Valley Med. Center, Medford OR “Serious Head Injury in Children: Progress or Not?”

web cont...

- Develop a standardized set of tools/technical expertise
- Reserve time in each Web Manager meeting (15-20 minutes?) for Web Managers to formally share what they have been working on and if there are others who have answers they are seeking.
- Initiate "Web Site of the Month" and promote via "OHSU Outlook", our Intranet page, Web Manager meeting, etc.
- Create "Show and Tell" Opportunities
- Create a quarterly opportunity or "Web Showcase"

Many of the concerns addressed at the retreat are presently being addressed by Web Services. Further information can be viewed at <http://www.ohsu.edu:8900/webadmin/response.htm>

Internet Health Care Topics are Explored at OHSU Web Conference

Health-related questions are the number one reason people turn to the World Wide Web for answers. On Friday, Oct, 15 1999 Oregon Health Sciences University sponsored a conference for employees and students, examining the relationship between the Internet and the field of health and medicine.

The web@ohsu Conference included presentations by speakers and panelists from OHSU's Division of Medical Informatics and Outcomes Research and from the high-tech industry on topics related to health care communication online. Dr. Blackford Middleton of Medicallogic/OHSU's Division of Medical Informatics and Outcomes Research spoke on "Web-based Doctor-Patient Relationship: Implications for Health Care Service, Quality and Satisfaction"

Dr. William Hersh and Dr. Holly Jimison, OHSU's Division of Medical Informatics and Outcomes Research addressed "Quality of Health Care Information on the Web" "What Makes a Successful Health Care Web Site?" was discussed by Charlie Levenson, of HTS Healthcare and Michael Clark, of Pacific Intermedia.

"Accessibility Issues and the Web" were discussed by Doral Vance-Hackett, and Will Foran OHSU CDRC and by Maxine Williams, of Doghouse Productions.

Other topics covered included, a condensed web manager orientation, e-commerce, effective web searching, metadata, UNIX and an introduction to XML.

In addition, the conference featured a vendor fair, OHSU Web site showcases, and demonstrations of the latest Web tools and technologies. A complete schedule of the conference events is available at <http://www.ohsu.edu/webconference/schedule.html>.

E-mail patient use

The use of e-mail has dramatically increased from 100,000 users in the 1970's to 50 million users in 1997. The American Medical Informatics Association predicts more than 100 million users by the year 2000.

In a Silicon Valley study, about half of the patients had access to e-mail through work. One quarter of those patients use e-mail to communicate with their providers, and another quarter said they would, if e-mail were available. Respondents expressed concerns about confidentiality, especially if e-mail was accessed through their employers. (JAMIA)

funding cont...

stimuli. Trigeminal nociceptive neurons which innervate the teeth are excited by thermal, mechanical, osmotic, and chemical stimuli. Experimental evidence is consistent with the hydrodynamic theory of sensory transduction in the dentine. According to this theory, external stimuli (be they thermal, mechanical, or osmotic) are translated into movements of fluid in the dentinal tubules, the movements deform sensory nerve endings and cause the excitation of nociceptors. The hydrodynamic theory implies the presence of mechanosensitive transducer elements in the nerve endings. It is hypothesized that the transducer elements are mechanosensitive ion channels. The goal of this research proposal is to characterize the properties mechanosensitive ion channels in trigeminal ganglion neurons in general and in tooth afferent neurons in particular. Furthermore, since tissue inflammation is known to cause the sensitization of nociceptive fibers to mechanical stimuli, the next goal of this research proposal is to determine if the operating characteristics of mechanosensitive channels in trigeminal ganglion neurons are altered by low extracellular pH or exposure to inflammatory mediators.

presentations cont...

September 1999

Dr. K Burchiel was invited to lecture, at the Western Neurosurgical Society meeting in Coeur d'Alene on "Failed Back Surgery Syndrome"

Dr. JH Piatt Jr. presented at Noon Conference, St Luke's Hospital, Boise, ID "What Primary Physicians Should Know about Hydrocephalus"

Dr. TK Baumann was invited to a NIH workshop "Trigeminal Neuralgia: Opportunities for Research and Treatment" in Bethesda MD, where he gave a presentation "Pathophysiology of trigeminal neuralgia: New evidence from trigeminal ganglion intraoperative recording"

Dr. RM Chesnut presented the following: "Classification of cervical injuries", "The Importance of understanding outcome studies", "Laser Surgery: Is it justified?", "Rheumatoid arthritis of cervical spine", "Modern management of spinal cord injuries" at an AO Spine Course, Nottingham, UK

Dr. RM Chesnut presented the following: "Guidelines, TBI: Four years later", "Target Therapy: Does it Exist?", "The Role of Decompressive Surgery" at the XXIII Annual Meeting of the Argentine Intensive Care Society, Buenos Aires, Argentina Symposium: "Xenon CT, Research or Practice", "Untreatable or refractory ICH, does it exist?"

Dr. RM Chesnut presented "CPP Directed Therapy" at the Annual Meeting of the Royal College of Physicians and Surgeons of Canada, Montreal, Canada

November 1999

Drs. Kellogg JX, Horgan ML, Martin JE and Chesnut RM, presented "Does CPP therapy really do what we think it does?" at the CNS Annual Meeting, Massachusetts, BA

Selected Publications 1999

A pitfall in the diagnosis of child abuse: External hydrocephalus, subdural hematoma and retinal hemorrhages
Piatt JH Jr *Neurosurgery Focus* (accepted for publication)

Some hypothalamic hamartomas contain transforming growth factor alpha, a puberty-inducing growth factor, but not luteinizing hormone-releasing hormone neurons

Jung H, Carmel P, Witkin JW, Mentele JHP, Westphal M, Piatt JH, Costa ME, Cornea A, Ma YJ, Ojeda SR
J. Clin. Endocrinol. Metab., (accepted for publication)

Comparison of Pallidal and Subthalamic Nucleus Deep Brain Stimulation for Advanced Parkinson's Disease: Results of a Randomized, Blinded Pilot Study

Burchiel, KJ, Anderson, VC, Favre, J, Hammerstad, JP, *Neurosurgery*, (in press)

Efficacy of Transverse Tripolar Stimulation in the Relief of Chronic Low Back Pain: Results of a Single Center

Slavin, KV, Burchiel, KJ, Anderson, VC, Cooke, B, *Stereotac. Func. Neurosurg.*, (in press)

Limited zytomatic osteotomy for skull base lesions: A cadaveric study

Schwartz M, Horgan MA, Kellogg JX, Anderson G, McMenemy SO, Delashaw JB, *J. Neurosurgery* (in press)

Quantitative Description of the Far Lateral Transcondylar Transtuberular Approach to the Foramen magnum and Clivus.

Spektor S, Anderson GJ, McMenemy SO, Horgan MA, Kellogg JX, Delashaw JB. *J. Neurosurgery*, (in press)

Treatment of Orbital Apex Tumors

Kellogg, JX and Delashaw, JB *Contemporary Neurosurgery*, (in press)

Surgical approaches to the anterior skull base

Delashaw JB, Jane JA, Tedeschi H, Dolenc V, Persing JA (Eds), *Management of Cranial Base Lesions Symposium*, New York: Springer-Verlag, (in press)

Brain infarctions requiring surgical decompression

Delashaw JB, Vollmer DG, Broaddus WC, Kassell NF, Kassell NF, Vollmer DG (Eds) *Contemporary Topics in Neurosurgery Contemporary Neurology Series*, Philadelphia: F. A. Davis Co., (in press)

Extensive arachnoid ossification with associated syringomyelia presenting as thoracic myelopathy. Case report and review of the literature

KV Slavin, MD, RR Nixon, MD, PhD, GM Nesbit, MD, and KJ Burchiel, MD, *FACS Neurosurgery Focus* 6 (5): Article 9, 1999

The Chiari II malformation: Lesions discovered within the fourth ventricle

Piatt JH Jr. and D'Agostino A *Pediatric Neurosurgery* 30: 79-85, 1999

Subdural empyema complicating cerebrospinal fluid shunt infection

Dickerman RD, Piatt JH, Hsu F, Frank EH *Pediatric Neurosurgery* 30: 310-311, 1999

A Prospective Study of Long-term Intrathecal Morphine in the Management of Chronic Nonmalignant Pain

Anderson, VC, Burchiel, KJ *Neurosurgery*, 44: 289-30, 1999

Comparison of Pallidal versus Subthalamic Nucleus Deep Brain Stimulation: Results of a Randomized, Blinded Pilot Study

Hammerstad, J, Anderson, V, Favre, J, Burchiel, K *Neurology*, 52 (Suppl.), A271, 1999

Use of the radial forearm Microvascular free-flap and skull base surgery

Schwartz MS, Cohen, JI, Meltzer T, Wheatley MJ, McMenemy SO, Horgan MA, Kellogg JX, Delashaw JBJ *Neurosurg* 4: 651-655, 1999

Bilateral Proptosis: An Unusual Presentation of Fibrous Dysplasia

Horgan MA, Delashaw JB, Dailey RA *British J. Neurosurgery* 13(3): 335-337, 1999

Dural Sinus Thrombosis Endovascular Therapy

Frank P K Hsu, MD, PhD, Todd Kuether, MD, Gary Nesbit, MD and Stanley Barnwell, MD, PhD Critical Care Clinics Endovascular Therapy and Neurocritical Care, Vol 15, Num. 4, Oct. 1999

Efficacy of intraarterial thrombolysis for basilar artery stroke

Egan R, Clark W, Lutsep H, Nesbit GM, Kellogg JX, Barnwell SL Journal of Stroke and Cerebrovascular Diseases, 8: 22-27, 1999

Use of the radial forearm microvascular free-flap for cranial base reconstruction

Schwartz MS, Cohen JI, Meltzer T, Wheatley M, McMenomey SO, Horgan MA, Kellogg JX, Delashaw JB J. Neurosurg. 90: 651-655, 1999

Posterior cervical arthrodesis and stabilization: An early report using a novel lateral mass screw and rod technique

Horgan M, Kellogg JX, Chesnut RM Neurosurgery 44: 1267-1272, 1999

Visual field deficits in conventional anterior temporal lobectomy versus amygdalohippocampectomy

Egan RA, Shults WT, Burchiel K, Kellogg JX, So N, Salinsky M American Academy of Neurology, Vol. 51, April 1999

Cervical Radiculopathy Secondary to a Tortuous Vertebral Artery

Horgan MA, Hsu FPK and Frank EH J Neurosurg 89: 489, 1999

An Endoscopic Aneurysm Clip Applicator: Preliminary Development

Frank EH and Horgan MA Minim. Invas. Neurosurgery 42: 89-91, 1999

Endoscopic Treatment of Spinal Epidural Hematoma

Steel TR, Kellogg JX, Kuether TA, Favre J and Frank EH J Clinical Neuroscience 5: 460-463, 1999

Subdural Empyema Complicating Cerebrospinal Fluid Shunt Infection

Dickernan RD, Hsu FPK, Frank EH and Piatt JH Peds. Neurosurg 30: 310-311, 1999

History and classification of the petrosal approach to the petroclival region: 100 years of progress

Horgan M, Schwartz MS, Kellogg JX, McMenomey SO, Delashaw JB

Quantification of exposure in orbitozygomatic approaches

Schwartz MS, Anderson GJ, Horgan M, Kellogg JX, McMenomey SO, Delashaw JB

Annual Meeting of the American Association of Neurological Surgeons New Orleans, Louisiana 1999

Human spinal sensory ganglia

Baumann, TK IBRO Handbook Series: The Neuron in Tissue Culture, LW Hayne (Ed.), John Wiley and Sons, 398-406, 1999

Dural sinus thrombosis: Endovascular therapy

Hsu FPK, Kuether TA, Nesbit GM and Barnwell SL RC Gomez (Ed.), Critical Care Clinic, W B Saunders Company, Philadelphia, 1999

Endovascular treatment of dural AVMS

Kuether TA, Kellogg JX, Nesbit GM, Barnwell SL Vascular Malformations of the Central Nervous System, JJ Jafar, IA Awad, and RH Rosenwasser (Eds.), Lippincott Williams & Wilkins, Philadelphia 1999

Cerebral venous thrombosis: A guide to diagnosis and drug treatment

Hsu FPK, Nesbit GM, Kuether TA and Barnwell SL CNS Drugs, Adis International, Auckland, New Zealand, 1999

Acute Ischemic Stroke - Other Endovascular Treatment Strategies

Kuether TA, Nesbit GM and Barnwell SL Neuroimaging Clinics of North America, Philadelphia, WB Saunders, 1999

Surgical and Endovascular Treatment of Intracranial Arteriovenous Fistulae

Kuether TA, Nesbit GM and Barnwell SL Textbook of Neurological Surgery, Philadelphia, Lippincott Raven Publishers, 1999

Endovascular Treatment of Cerebral Sinus Thrombosis

Kuether TA, Nesbit GM and Barnwell SL Critical Care Clinics of North America – Endovascular Therapy and Neurocritical Care, Baltimore, Williams and Wilkins, 1999

Oregon Health Sciences University,
Neurological Surgery, L-472
3181 SW Sam Jackson Park Road
Portland, OR 97201

Contact Information
Administration (503) 494-4314
Referrals/Appointments/Surgery Scheduling (503) 494-4314
Facsimile (503) 494-7161
e-mail mccartns@ohsu.edu
<http://www.ohsu.edu/som-neurosurgery>
Physician Consultation Service
Portland (503) 494-4567
Outside Portland (800) 245-6478

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