

OHSU NEUROLOGICAL SURGERY NEUROTRANSMITTER

Spring 2012



Maria Fleseriu, MD, FACE

Featuring: The OHSU Northwest Pituitary Center

No other healthcare facility in the region matches the expertise and resources we have to offer to neuroendocrine and pituitary surgery patients. Our team has decades of accumulated expertise in the clinical, teaching and research realms, and we provide comprehensive, streamlined care for patients with pituitary abnormalities, including pituitary tumors and pituitary hormone problems.

At OHSU, we perform more pituitary diagnoses, second opinions and procedures of all types and complexities than any other medical center in the region. Each year we treat more than 500 new patients from across the country. We also have access to a multitude of clinical trials. Our center is uniquely positioned to be a one-stop regional resource center for pituitary care.

Patients are seen at OHSU's Center for Health & Healing, a state-of-the-art facility conveniently located in Portland's South Waterfront district. We provide the best and latest patient amenities, treatments and therapies in a comfortable and patient-friendly environment.

This extra measure of care is what you can expect of Oregon's only academic health center — the place where healing, teaching and discovery come together. We are pleased to offer this level of care for you, or someone you may know with pituitary abnormalities.

Maria Fleseriu, MD, FACE
Director, OHSU Northwest Pituitary Center, and associate professor of medicine (endocrinology, diabetes and clinical nutrition) and neurological surgery, OHSU School of Medicine



OHSU Northwest Pituitary Center

IN THIS ISSUE

Staff	2,7
Clinical Services	3
Quality of Life Tool	4
International Collaboration	5
Clinical Trials	5
Patient Testimonial	6
Fueling Research	6

Tel: 503 494-4314 Fax: 503 346-6810

3303 SW Bond Avenue
Portland OR 97239
Mail code CH8N



BRAIN INSTITUTE
Oregon Health & Science University

OHSU Northwest Pituitary Center Team

At the OHSU Northwest Pituitary Center, our pituitary team includes doctors, nurses and therapists experienced in the latest treatment and technology. Treatment options include surgery, medical therapy and radiation.

Some team members are featured below. Other team members include physicians from neuropathology (S. Humayan Gultekin, MD), neuroimaging (Jim Anderson, MD), neurointerventional radiology (Stanley Barnwell, MD, PhD) and radiation therapy (Carol Marquez, MD, and Martin Fuss, MD, PhD).



We are committed as a team to providing excellent patient care, contributing to knowledge about pituitary diseases and partnering with community doctors to care for their patients. Oregon Health & Science University... the knowledge of all for the care of one.

Meet our Staff



Maria Fleseriu, MD, FACE

Dr. Fleseriu received her medical degree from The University of Medicine and Pharmacy of Timisoara, Romania and completed residency training in internal medicine and an endocrinology fellow-

ship with a focus in pituitary disorders in Romania. Subsequently, she completed an additional internal medicine residency at Case Western Reserve University, Cleveland, Ohio and an endocrinology fellowship at Cleveland Clinic Foundation, Cleveland, Ohio. Dr. Fleseriu has a long-standing clinical and research interest in the pathophysiology and treatment of important clinical aspects of pituitary and adrenal disease. She is a frequent guest speaker on various topics related to treatments of pituitary tumors, especially acromegaly and Cushing's disease.

As the Director of the OHSU Northwest Pituitary Center, Dr. Fleseriu champions a balanced approach to clinical management, combining the most recent advances in the field of neuroendocrinology and the aggressive pursuit of multidisciplinary research. Dr. Fleseriu has published extensively and has coauthored several book chapters detailing pituitary and thyroid pathology. Dr. Fleseriu is Board Certified in endocrinology and internal medicine.



Chris Yedinak, DNP

Chris Yedinak is a family nurse practitioner who provides clinical management and program coordination for patients with pituitary and adrenal dysfunction.

Dr. Yedinak completed her undergraduate training in Australia and her post graduate and doctor of nursing practice studies at OHSU. For her doctoral thesis she developed and trialed an instrument for the measurement of quality of life for patients with pituitary tumors (*see page 4*). Her ongoing research is focused on outcome studies for patients with pituitary diseases. Dr. Yedinak has authored and co-authored a number of publications related to pituitary pathology and outcomes and has presented at a number of scientific and research meetings.



Aclan Dogan, MD

Dr. Dogan is a neurosurgeon with expertise in cerebrovascular and skull base neurosurgery. He specializes in the treatment of problems and abnormalities of blood vessels in the brain and spinal

cord, including: aneurysms, arteriovenous malformations, arteriovenous fistulas, cavernous malformations, carotid stenosis, and complex brain tumors including pituitary tumors.

Dr. Dogan completed his neurosurgical residency training in Turkey and in 2001 joined OHSU as a skull base instructor. Subsequently, he completed an additional neurosurgical residency at OHSU. Dr. Dogan joined the faculty of OHSU neurological surgery in July 2006.



Nicholas Coppa, MD

Dr. Coppa is a neurosurgeon with expertise in primary brain tumors, neuro-oncology, skull base, acoustic neuromas, and pituitary tumors.

He works in cooperation with the OHSU Northwest Pituitary Center team in the management of pituitary tumors. His neurosurgical interests include skull base neurosurgery, neurooncology, cerebrovascular neurosurgery, neuroanatomy and traumatic brain injury. Trained by Johnny Delashaw, MD, Dr. Coppa has a special interest in endoscopic pituitary surgery.



Julie Falardeau, MD

Dr. Falardeau is a neuro-ophthalmologist. She received her medical degree from the University of Montreal, Canada and completed her ophthalmology residency training at the same institution. She

subsequently completed a fellowship in neuro-ophthalmology at the University of Iowa Hospital and Clinics, Iowa. She returned to the University of Montreal for two years as an assistant professor of ophthalmology and then moved to Portland and OHSU in 2005.

Staff continued on page 7 ...

Our Clinical Services

A comprehensive, multidisciplinary approach

At the OHSU Northwest Pituitary Center, we know every patient is different. Our pituitary experts work together to create a personal patient treatment plan.

Our services include evaluations and treatments for:

- functional pituitary tumors (prolactinomas, Cushing's disease and acromegaly)
- nonfunctional pituitary tumors (adenomas, craniopharyngiomas, meningiomas, gliomas, chordomas and Rathke's cleft cysts)
- pituitary hormone deficiencies.
- pituitary hormone abnormalities.

At OHSU we do surgery for pituitary tumors, using magnetic resonance (MR) imaging during surgery (intra-operative imaging).

Our neurosurgeons are experts in removing pituitary tumors.

If you have a pituitary disorder, you can have all types of testing and care in one day at the OHSU Northwest Pituitary Center.

This can include:

- magnetic resonance imaging
- vision testing
- hormone testing.

We also provide radiation therapy, psychological evaluation and laboratory examination of tumor tissue.

Pituitary Hormone Testing

Measuring pituitary hormones accurately can require specialized hormone tests. These should be done by an experienced doctor or nurse. These specialized hormone tests can include measuring the body's hormone levels before and after taking certain medications, taking blood tests at different times of the day or taking saliva samples at different times. Measuring hormone levels several times, at different times of the day or for several hours or days, is called dynamic testing.

The OHSU Northwest Pituitary Center offers specialized hormone testing for pituitary function. Tests can be done before or after pituitary surgery.

Our neuroendocrine testing services:

- a dedicated neuroendocrine testing facility for performing dynamic studies
- patient education about testing methods, pituitary disorders, pituitary surgery and giving injections
- dynamic testing, including cortrosyn stimulation tests, growth hormone stimulation and suppression tests and CRH (corticotropin-releasing hormone) stimulation tests
- endocrine therapy injections.

Testing services are also available to community doctors. The OHSU Northwest Pituitary Center can monitor patients who are starting treatment with growth hormones and adjust the dose as needed. We can also interpret the results of laboratory tests for referring physicians (community doctors).

Neuro-Ophthalmology

Neuro-Ophthalmology staff at the OHSU Casey Eye Institute see patients with the entire spectrum of neuro-ophthalmic disorders and actively participate in residency education and clinical research.

The pituitary gland lies beneath the optic nerves and chiasm, therefore, it is vital that a neuro-ophthalmologist examine patients with pituitary tumors to maintain good visual health (*see Gary's story on page 6*). Some patients with pituitary tumors are completely unaware of their peripheral vision loss. Longstanding visual field deficit can lead to permanent visual impairment so early detection is crucial.

Dr. Falardeau (*see page 2*) and her colleagues see patients on an emergent basis prior to and after surgery and continue to follow patients along with their endocrinologists and neurosurgeons. Patients receive a thorough neuro-ophthalmic consultation. They examine eye functions including visual acuity, color vision, pupil reactivity, eye movements and peripheral vision via visual field exam. Pupils also are dilated for a complete retinal exam.

The average neuro-ophthalmic examination, including visual field testing, takes between 60-90 minutes.

Imaging the Pituitary (*see page 4*)

If you have a pituitary disorder, imaging studies such as computed tomography (CT) scans and magnetic resonance (MR) images help doctors see inside the body. This is helpful in diagnosing and treating pituitary disorders, including planning for surgery. The OHSU Northwest Pituitary Center has access to several different types of advanced imaging. This helps us use the best imaging technique(s) so patients receive the best care.

Our advanced imaging technology includes:

- rapid dynamic gadolinium-enhanced pituitary imaging that increases detection of pituitary abnormalities by about 10% over standard imaging in people with Cushing's disease
- 3-Tesla MR scanners that provide high-resolution images, precisely showing how far a pituitary tumor has spread to nearby organs. This helps doctors plan surgery and to evaluate and treat people who may have had an earlier surgery for a pituitary tumor
- high-field Philips 1-Tesla open MR scanner that provides high-resolution images. The image resolution is superior to most other open MR scanners.

At OHSU, imaging results are interpreted by radiologists who exclusively practice neuroradiology, have obtained certification of advance qualification, and remain up-to-date on the latest advances in pituitary imaging techniques and interpretation. OHSU neurosurgeons frequently use an intraoperative MR imaging unit, the only one of its kind in the Northwest.

Quality of Life

A tool that measures *Quality of Life* in patients with pituitary adenomas, is developed by Chris Yedinak, DNP

Quality of life is defined in terms of a patient's perception of their level of function with respect to physical, emotional, social, spiritual and economic domains of functions.

Background

Pituitary adenomas constitute 15% of all brain tumors. Although medical therapies for pituitary dysfunction improve symptoms, it is unclear how treatment affects a patient's overall quality of life (QoL) and life functions.

There is currently no standardized tool for the measurement of QoL in patients with pituitary adenomas that allows for needs assessment or further study to improve QoL outcomes.

Additionally, there was a need for a tool specific to pituitary adenomas with regard to clinical decision making and multicenter treatment comparisons.

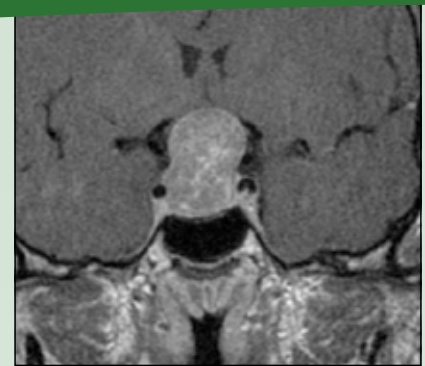
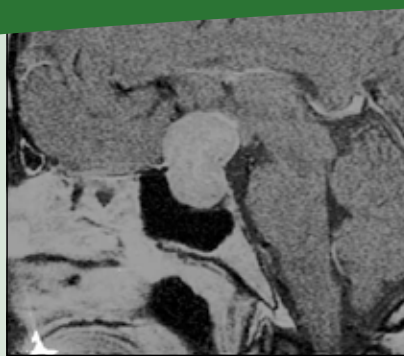
Tool Development

Christine Yedinak, DNP, developed a consistent and reliable tool that measures QoL in pituitary adenoma patients.

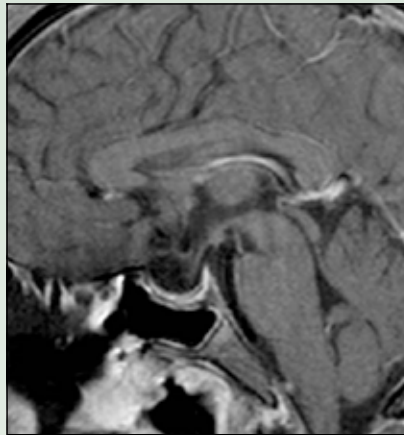
What does this mean for patients?

This tool provides the data needed for an individual assessment of care needs and more goal directed treatment to improve patient outcomes. It allows for further study to evaluate the most effective treatment and/or multidisciplinary treatment regimes to improve patient functionality.

Every pituitary patient completes this tool at a clinic visit.

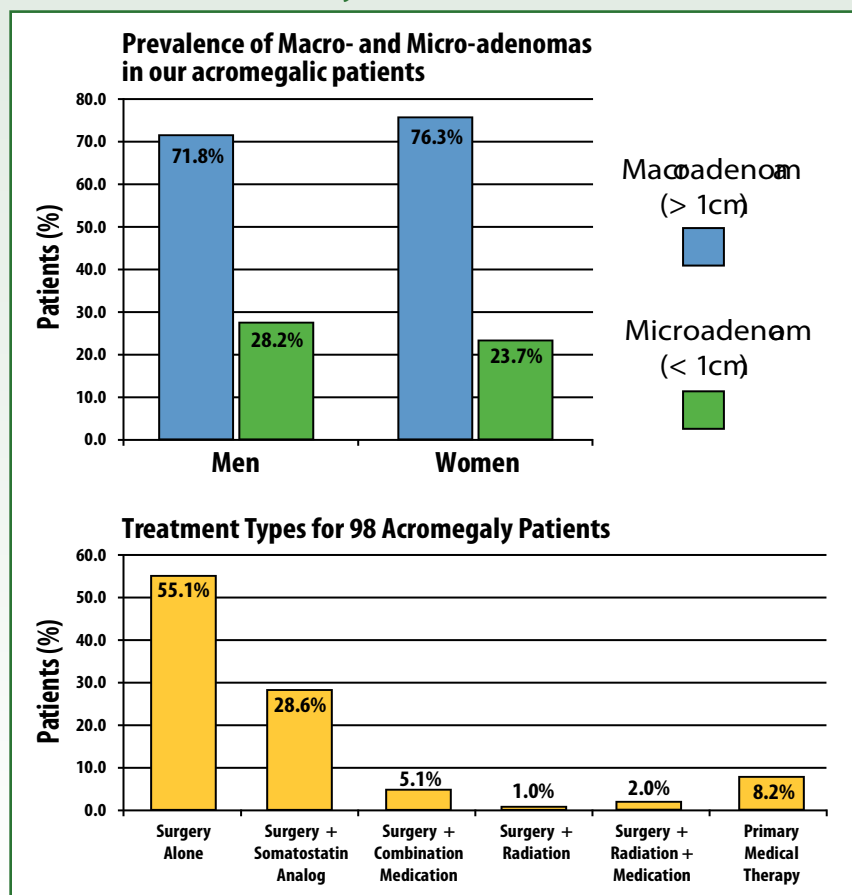


Pre-operative MR imaging: Large recurrent macroadenoma with optic chiasm compression in a patient of Dr. Nicholas Coppa (*sagittal and coronal views*)



3month Post-operative MR imaging: showing total tumor removal

OHSU Northwest Pituitary Center: Patient and Treatment Data



Researching Pituitary Disorders Clinical Trials

Clinical trials are the final step in a long process of research. They allow investigators to test the value of their research to diagnose, treat and prevent diseases and disabilities.

Each clinical trial is an opportunity to test a promising new intervention or treatment in humans for the first time.

At the OHSU Northwest Pituitary Center, patients have access to and the opportunity to participate in clinical trials of new treatments before they are available to patients anywhere else.

Novartis SOM230 (pasireotide) -- Acromegaly Study

A Phase III, Multicenter, Randomized, Parallel-group Study to Assess the Efficacy and Safety of Double-blind Pasireotide LAR 40 mg and Pasireotide LAR 60 mg versus Open-label Octreotide LAR or Lanreotide ATG in Patients with Inadequately Controlled Acromegaly. This is a multi-national trial at 75 sites. OHSU is now enrolling. <http://clinicaltrials.gov/ct2/show/NCT01137682>

Novartis SOM230 (pasireotide) -- Cushing's Study

Novartis drug SOM230 is the first medical therapy to show efficacy in a Phase III trial in Cushing's disease. Pasireotide has been approved for use in Europe to treat Cushing's disease. An open-label, multi-center, expanded access study of pasireotide (subcutaneously injected) in patients with Cushing's disease (Seascape) will be open for enrollment soon.

Corcept Therapeutics, Inc.: The Seismic Study

The SEISMIC study was a Phase III, multi-center study of Corlux for the treatment of endogenous Cushing's Syndrome. The study enrolled 50 Cushing's Syndrome patients at approximately 20-25 sites in the US. The OHSU Northwest Pituitary Center was the highest enrolling site.

For more information about these trials, please contact the Clinical Trials Coordinator at: 503-494-9546.

Clinical Trials at OHSU

Oregon Health & Science University requires all investigators that are conducting human subjects' research to respect and protect the rights and welfare of participants recruited for, and/or participating in, research under the supervision of OHSU. As part of this commitment, Responsible Conduct of Research education is required of all investigators, research staff, and other relevant personnel.

All clinical research undertaken at OHSU is subject to approval by the institutional review board (IRB). The institutional review board is a group that has been formally designated to approve, monitor, and review biomedical and behavioral research involving humans with the aim of protecting the rights and welfare of the subjects. The IRB approves, requires modifications to, or disapproves clinical research. The IRB performs critical oversight functions for research conducted on human subjects that are scientific, ethical, and regulatory.

International Collaboration

Acromegaly

Maria Fleseriu, MD, is a member of an international collaboration of endocrinologists and neurosurgeons: the acromegaly consensus group that reviews the criteria for cure of acromegaly, and updates guidelines detailing the latest management criteria. The results of a re-evaluation of the 2000 guidelines were published in the *Journal of Clinical Endocrinology & Metabolism* in 2010. These collaborative guidelines are essential for uniform disease management, for both treating physicians and patients.

Cushing's Disease

Drs. Fleseriu and Yedinak and the OHSU Northwest Pituitary Center team were recently closely involved in a clinical trial, which led to the development of the first US Federal Drug Administration approved medical therapy; Mifepristone (Korlym), for hyperglycemia associated with Cushing's syndrome. OHSU was the highest subject enroller in this study and Dr. Fleseriu was the lead author (in collaboration with other large US neuroendocrine centers) on a paper that was published in the *Journal of Clinical Endocrinology & Metabolism*.

Fleseriu M, Biller B, Findling J, Molitch M, Schteingart D, Gross C. Mifepristone, a Glucocorticoid Receptor Antagonist, Produces Clinical and Metabolic Benefits in Patients with Cushing's Syndrome. JCEM 2012, in press 2012.

New drug treatments

The OHSU Northwest Pituitary Center has recently been involved in clinical research of both Cushing's syndrome and acromegaly disease, which included international collaborations across several continents. In one acromegaly study of Pasireotide (data to be presented by Dr. Fleseriu both in Europe and the US later this year), an additional 18% of patients who did not respond to Octreotide responded to Pasireotide treatment. Adverse events of Pasireotide were similar to those of Octreotide with the exception of hyperglycemia, which was more frequently seen.

Cushing's Disease: Unraveling a Medical Mystery

The "Healthy Body Healthy Mind" television program dedicated to Cushing's disease features Marie Fleseriu, MD, FACE, Director, OHSU Northwest Pituitary Center and Lewis S. Blevins, Jr., MD, Medical Director, California Center for Pituitary Disorders at UCSF.

The goal of the program was to provide education on the mysterious condition known as Cushing's disease. Cushing's disease symptoms are similar to those of other conditions and a diagnosis is often delayed: many patients can have it for 5 or 10 years before they are correctly diagnosed. Cushing's disease experts Fleseriu and Blevins discuss how the disease can be treated and in some cases a full recovery is possible.

1903 - Cushing's Disease: Unraveling a Medical Mystery
www.healthybodyhealthymind.com

Patient Testimonial

Gary's Story

I first noticed something was wrong in April of 2010. I started feeling tired, and my vision was blurred. I thought it was from sitting in front of the computer too much. I was also more thirsty than usual.

I went to the eye doctor. He referred me to a specialist, who said it was a cataract; I had surgery to remove it. I didn't notice any difference. He said to give it 6 weeks.

Nothing changed.

When I had no peripheral vision, my primary care doctor sent me for MRI [magnetic resonance imaging]. A few days later I got the call: I had a large mass in the frontal lobe of my brain. It was a pituitary tumor. My doctor made an appointment for me at OHSU. I had surgery there to remove the tumor in February 2011. Thankfully, it was benign.

I had a whole team of specialists who collaborated on my care: Dr. Peter Anderson, head & neck surgeon; Dr. Nicholas Coppa, brain surgeon; Dr. Maria Fleseriu, endocrinologist; and Dr. Chris Yedinak, pituitary nurse practitioner. The care I got at OHSU was phenomenal: mind-boggling, awesome technology. They went in through my nose to remove the tumor. My vision came back immediately; in the recovery room, I could see the clock across the room.

After my hospital stay, the team explained to me that if my pituitary did not "kick in" within 6 months of my surgery, it was unlikely it ever would. Since my pituitary gland isn't yet



producing the hormones it needs, I'm taking medication. They monitor everything very closely: Every 3 months I go to OHSU to have my medication adjusted.

The staff at OHSU has been great and I've really enjoyed being under their care. They are a very friendly and caring group. They were always professional, but maintained a sense of humor. And the nurses were really nice; when I was in the hospital, I frequently craved fruit, so they kept extra on hand for when I woke up at 2 a.m. and wanted watermelon slices. They even liked to take their breaks in my room and keep me company.

Having a positive attitude helps. I also think it's important for eye doctors to be aware of this issue. If we'd known earlier, I could have had this removed sooner and maybe not have lost function in my pituitary gland.

I have nothing but good to say about OHSU. I was never nervous, the whole time. Those people are just awesome.

Why Fueling Research makes a Difference

If you or a family member has been touched by the OHSU Northwest Pituitary Center or the Department of Neurological Surgery at OHSU, you know what a difference research makes to your healthcare. Research breakthroughs—whether in surgical procedures, medications to shrink tumors and avoid surgery, safer, better tolerated hormones and enhanced quality of life—give hope for those living with diseases like a pituitary gland dysfunction or a brain tumor.

Hope is what research is about.

At OHSU, we use philanthropic gifts—big and small—to fuel research, which makes new treatments possible. Whether it is by inspiring young surgeons or funding a pilot project or purchasing needed equipment that will hasten the pace of research, we endeavor to make strategic investments with gifts of \$25 or \$250,000. Endowed gifts, which can be made by donors for professorships or innovation funds, allow us to sustain discovery over the long term. An endowed fund provides funds for scientists to explore ideas and encourages innovation every year with a sustained source of funds. Endowed funds can be funded through bequests, which is an impactful and powerful way to give.

Donor gifts are also pooled to purchase of high-tech research equipment that can change the way surgery is done or enhance imaging that can change surgical outcomes for patients, improving their quality of life.

When you make a gift or a bequest to the OHSU Northwest Pituitary Center or the Department of Neurological Surgery at OHSU, you make a gift to research. And research is the key to cures.

If you have further questions or would like to discuss a bequest, stock gift, or planned gift which would maximize, for example, the value of a rental property, please call Crystal Logan, associate director of development for the neurosciences, at 503.494.1934 or e-mail her at loganrcr@ohsu.edu.

... Staff continued from page 2

Dr. Falardeau is a Board Certified Ophthalmologist who in 2007 and 2011 received the Robert Watzke Resident Teaching Award at OHSU. Her research interests include idiopathic intracranial hypertension and optic neuritis.



Peter Andersen, MD

Dr. Andersen specializes in working with doctors from other OHSU specialties to care for patients with cancers and benign tumors of the head and neck. He strives to develop an individualized treatment plan for each patient that maximizes the chance of cure and minimizes side effects of treatment. While Dr. Andersen is a surgeon,

he is expert in both the surgical and nonsurgical treatment of head and neck tumors, including chemotherapy, radiation and minimally invasive surgical techniques.



Dara Ono, PA-C and Janette Remling, PA-C

Dara and Janette are physician assistants and they are an integral part of the OHSU Northwest Pituitary Center team. Physician assistants (PAs) are often referred to as mid-level providers. Physician assistants are highly trained members of our pituitary care team who practice medicine with the supervision of our licensed physicians, providing patients with a wide range of services that would otherwise be performed by physicians. Specific duties are defined by state regulation and practice setting, but include a variety of both diagnostic and therapeutic procedures.



Physician assistants are trained to:

- obtain medical histories
- perform complete physical examinations and minor surgical procedures
- diagnose illnesses
- order and interpret routine diagnostic tests
- develop treatment and management plans
- suture wounds
- set fractures
- assist in surgery, and
- provide education to patients regarding illness, health promotion and disease prevention.

Pituitary Research and Patient Support Group

This patient group is coordinated by David Cook, MD, emeritus professor and Chris Yedinak, DNP.

Support group sessions are intended to be a short presentation of some aspect of care regarding pituitary diseases by an expert of the subject matter followed by a longer period of questions and answers. Our main goal is to answer questions and inform patients, families and caregivers about some aspect of pituitary disease. These sessions are intended to provide up-to-date information on a variety of subjects, e.g.

- What is the pituitary and what does it do?
- What hormones are made in the pituitary and what are their functions?
- What is Cushing's syndrome and what is Cushing's disease?
- What is acromegaly and how is it treated?

Please contact pituitary@ohsu.edu if you would be interested in participating in such a group or for more information.

Please also view patient information available at www.ohsupituitary.com.



MyChart @ OHSU

Secure Private Online Access to Your OHSU Medical Record

As an innovator in health care, OHSU provides you access to your OHSU medical record whenever you want and wherever you are. With MyChart, you can get information privately and efficiently.

MyChart gives you easy online access to your laboratory test results and medical history at OHSU. You can log on to communicate with your OHSU healthcare team, request an appointment, pay your bill online or manage your child's or family member's online medical records. With MyChart, you can take more control of your own health care.

Sign up now!
Ask your provider for details.

MyChart is **not** for urgent medical matters.

For urgent medical matters or emergencies, go to the emergency department of a local hospital, and/or dial "911."

OHSU NW Pituitary Center



BRAIN INSTITUTE
Oregon Health & Science University

OHSU Neurological Surgery
3303 SW Bond Ave
Portland OR 97239
Mail code CH8N

Tel: 503 494-4314
Fax: 503 346-6810

*OHSU is an equal opportunity,
affirmative action institution. 0312(54)*

*Please contact the OHSU Integrity Office
at 1-855-257-4100 if you no longer wish
to receive fund-raising information.*

E-mail: nsg@ohsu.edu

Non-Profit Organization
U.S. Postage

PAID

Permit No. 722



TUNE iN

The OHSU Effect: Inside Health & Science

Saturdays at 8 a.m. on **KXL 101.1 FM**

You'll find news you can use to improve your health
and insights on tomorrow's treatments today.

