



OHSU Northwest Pituitary Center



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Meet our medical director



Dr. Fleseriu has a long-standing clinical and research interest in the pathophysiology and treatment of pituitary and adrenal disorders. She has served as the director of the OHSU Northwest Pituitary Center since 2007.

She is a frequent national and international guest speaker on various topics related to treatments of pituitary tumors (especially Cushing's and acromegaly) and is the principal investigator in numerous clinical trials.

Dr. Fleseriu writes frequently on pituitary issues: She has authored more than 100 manuscripts and chapter books. She has also edited books and special-issue journals, and has written numerous articles on current and future treatments for Cushing's disease and acromegaly. She has contributed chapters to *Clinical Reproductive Medicine and Surgery*, *Endocrinology Clinics of North America*, *A Case-Based Guide*

to Clinical Endocrinology, *Challenges in Endocrinology*, *Pituitary*, and *Pituitary Disorders: Diagnosis and Management*. She is also the chief editor of *Frontiers Endocrinology Pituitary*, the consulting editor for *Endocrinology Clinics of North America* and a member of the editorial board for many journals including *Pituitary*, *Endocrine*, *Reviews in Endocrinology* and *Metabolism*. She has also been a guest editor for Cushing's special issues in *Pituitary*, *International Journal of Endocrinology* and *Endocrinology Clinics of North America*.

She currently chairs the Endocrine Society Guidelines Committee, is on the Board of Directors of Pituitary Society and serves on several committees for the American Association of Clinical Endocrinology.

Dr. Fleseriu received her medical degree from The University of Medicine and Pharmacy of Timisoara, Romania, and completed an endocrinology fellowship with a focus in pituitary disorders. She pursued additional training in the United States: a residency in internal medicine at Case Western Reserve University and an endocrinology fellowship at Cleveland Clinic. She is now a professor of medicine and neurological surgery at OHSU.

About us

A national leader in pituitary care

At the OHSU Northwest Pituitary Center, we treat more than 500 patients a year from around the United States. We diagnose more pituitary conditions, give more second opinions and perform more pituitary procedures than any other medical center in the region. Led by internationally recognized pituitary expert, Maria Fleseriu, M.D., F.A.C.E., the OHSU Northwest Pituitary Center offers unmatched experience and skill in treating neuroendocrine conditions. No other facility in the region, and few in the United States, can match our expertise and resources.



Contact the OHSU Northwest Pituitary Center

Call 503 494-4314, visit www.ohsubrain.com/pituitary or email pituitary@ohsu.edu with questions or for consultation.

The OHSU pituitary team’s work has been published in many well-regarded, peer-reviewed journals, including *The Lancet*, *Diabetes & Endocrinology*, *Journal of Clinical Endocrinology and Metabolism*, *Pituitary*, *Journal of Neurosurgery*, *European Journal of Endocrinology* and *Journal of Molecular Endocrinology*. The team’s contributions to medical literature are highly cited, reaching over 125 citations in additional journals. We also contribute to several international diagnostic guidelines for the treatment of pituitary tumors.

Multidisciplinary specialty care

While many pituitary disorders are treated with surgery, others require medical therapy and radiation. The OHSU Northwest Pituitary Center brings multiple specialists together to create a customized treatment plan for each patient.

A leader in pituitary research and publication

Research sets the OHSU Northwest Pituitary Center apart. Since OHSU is a leading academic medical center, our specialists are not just aware of the latest research — they are personally involved in developing new diagnostic and treatment techniques and are widely published. Our specialists are happy to discuss their findings or consult on clinical questions.

Our research studies are focused on the medical treatment of hyperfunctioning pituitary tumors, patient outcomes, quality of life and pituitary dysfunction

before and after surgical and/or other adjuvant therapies for pituitary adenomas. Currently, we are involved in more than a dozen active studies for pituitary disorders that include but are not limited to Cushing’s disease, acromegaly and growth hormone deficiency.

As the West Coast’s most comprehensive pituitary center and one of the largest in the country, we were a major contributor to clinical studies that resulted in two new FDA-approved, first in their class treatments for Cushing’s disease and one for acromegaly (e.g., glucocorticoid receptor-blockers and somatostatin receptor ligands). We are involved in many international pituitary clinical trials and frequently have the highest patient participation.

For more information on available clinical trials visit www.ohsubrain.com/pituitary.

Making an impact through collaboration

In addition, our team members contribute to a number of national and international multidisciplinary committees aimed at developing guidelines for pituitary tumor treatment and research. We collaborate with the National Institutes of Health (NIH) on a study of pituitary genetics and are part of an International Familial Pituitary Adenomas Consortium screening for patients with sporadic pituitary adenomas.

The latest imaging and treatment technology

Technology at OHSU is the most advanced available for both diagnostic imaging and radiation therapy. Our technology includes 3-Tesla magnetic resonance imaging, open MRI, endoscopes and, for radiation treatment, the Trilogy™ stereotactic linear accelerator.

What we treat

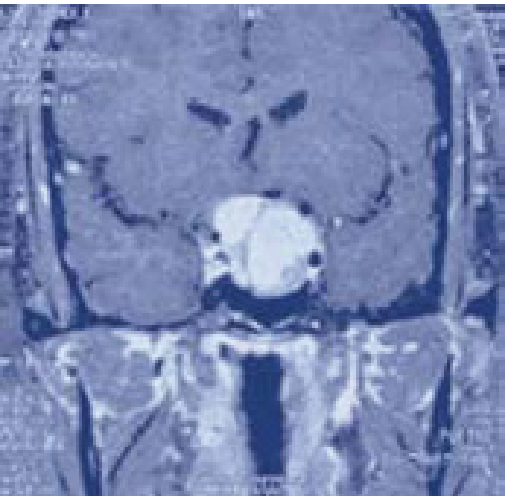
We evaluate and treat all types of pituitary conditions, including:

- Non-functioning pituitary adenomas
- Prolactinomas
- Cushing’s syndrome
- Acromegaly
- Rathke’s cleft cysts
- Meningiomas, gliomas, craniopharyngiomas and chordomas

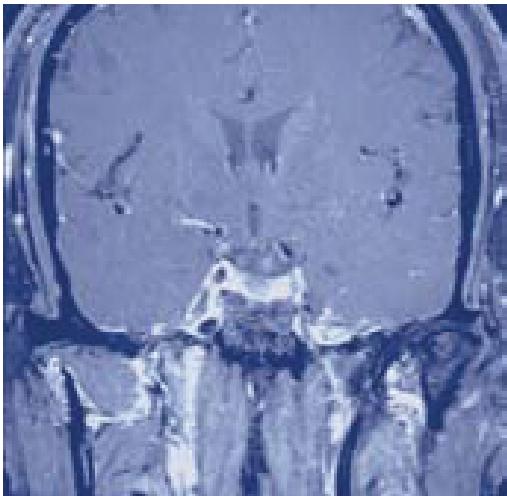
Comprehensive, patient-centered care

We see patients at the OHSU Center for Health & Healing, conveniently located in Portland’s South Waterfront district. This new facility is comfortable and patient-friendly, including easy access to I-5 and ample free parking.

Pituitary evaluation is often completed in one clinic day, including neuroendocrinology, neurological surgery, MRI, neuro-ophthalmology and neuroendocrine testing as needed. Patients can also see other specialists if necessary.



LEFT Magnetic resonance imaging showing large sellar and suprasellar pituitary tumor compressing the optic chiasm and invading the cavernous sinuses.



RIGHT MRI three months after surgery shows nearly complete tumor resection.

Pediatric pituitary services

The pediatric endocrinology team at OHSU Doernbecher Children’s Hospital provides comprehensive, state-of-the-art care to children and adolescents with pituitary disorders. Our program is specifically designed to treat children and adolescents with hormonal disorders that impact growth and development. Treatment plans are customized to meet your patient’s specific developmental and emotional needs.

The disorders that impact pituitary function in childhood treated by our pediatric endocrinologists include:

- Disorders caused by excess production of prolactin, growth hormone and ACTH (leading to Cushing’s)
- Hormonal deficiencies caused by:
 - Developmental defects
 - Genetic defects
 - Trauma
 - Treatment of intracranial tumors

The pediatric endocrinology team works closely with the adult pituitary team to smoothly and seamlessly transition care at the appropriate time.

Doernbecher Children’s Hospital and OHSU has the only pediatric neurosurgery team in the region with dedicated training in the minimally invasive endoscopic techniques used to treat pediatric pituitary disorders. If surgery is needed, the pediatric endocrinology team and the pediatric neurosurgical team work closely together to provide a continuum of care.

Pediatric endocrinologists

Bruce Boston, M.D.
Kara Connelly, M.D.
Ines Guttmann-Bauman, M.D.
Lisa Madison, M.D.
Lindsey Nicol, M.D.
Katie Woods, M.D.

Pediatric endocrinology physicians assistant

Kelly Keller, P.A.

Pediatric endocrinology nurse

Michelle Bloom, R.N.

Pediatric neurosurgeons

Lissa Baird, M.D.
Christina Sayama, M.D., M.P.H.
Nathan Selden, M.D., Ph.D., F.A.C.S., F.A.A.N.

Quick reference guide

Pituitary disorders can be challenging to diagnose and treat. This short guide covers common signs and symptoms of pituitary disorders, basic testing and indications for consultation or referral.

Pituitary disease etiology

Benign tumors called pituitary adenomas are the most frequent cause of pituitary disease. Adenomas may be functioning (overproducing at least one pituitary hormone) or non-functioning. While approximately 10,000 pituitary tumors are diagnosed annually in the United States, prevalence of pituitary tumors might approach 25 percent based on imaging and autopsy examinations.

Pituitary disorders can also be caused by infiltrative, immune, ischemic, hypothalamic and metastatic conditions and by trauma.

Signs and symptoms of pituitary disease

Patients with pituitary disease present with diverse, often nonspecific symptoms. This can be a barrier to a preliminary diagnosis. The tables to the right list some common signs and symptoms of pituitary disorders.



Common signs and symptoms of pituitary disorders

SYMPTOM OR SIGN	DISORDER	HORMONE DEFICIENCY OR EXCESS
Constipation, cold intolerance, dry skin, hair loss, memory loss, proximal muscle weakness	Hypothyroidism	Thyroid stimulating hormone (TSH) deficiency
Moon face, truncal obesity, purple stria, hirsutism, hypertension, diabetes mellitus, proximal muscle weakness	Cushing's syndrome	Adrenocorticotrophic hormone (ACTH) or cortisol excess
Abdominal discomfort, joint aches, orthostasis	Adrenal insufficiency	ACTH deficiency
Lack of vigor, decreased exercise tolerance, feelings of social isolation	Adult growth hormone deficiency	Growth hormone (GH) deficiency
Galactorrhea, sexual dysfunction, infertility, headaches	Hyperprolactinemia	Prolactin excess
Polydipsia, polyuria, nocturia	Diabetes insipidus	Antidiuretic hormone (ADH or vasopressin) deficiency
Sexual dysfunction, hot flashes, irregular menstrual periods	Hypogonadism	Luteinizing hormone (LH) / follicle stimulating hormone (FSH) deficiency
Enlarged hands, feet and jaw, carpal tunnel syndrome, oily skin, joint pain	Acromegaly	GH excess

Pituitary disorder signs and symptoms by specialty

Patients with pituitary disorders may present to any medical specialty. The table below shows possible presenting signs and symptoms.

SPECIALTY	MAY SEE PATIENTS WITH THESE SYMPTOMS
Obstetrics and gynecology	Irregular menstrual periods, infertility, galactorrhea, hirsutism
Urology	Sexual dysfunction, hypogonadism
Neurology	Headaches, proximal muscle weakness, carpal tunnel syndrome
Ophthalmology	Blurred vision, visual field loss, double vision
Dermatology	Dry, oily or diaphoretic skin
Orthopaedics	Joint pain, bone or joint abnormalities
Internal medicine and family practice	All of the above plus fatigue, depression and hair loss

Helpful questions for diagnosing pituitary disorders

1.

Are there signs or symptoms of pituitary hormone deficiencies?
Hormone deficiencies can happen singly or in combination. Patients with large non-functioning pituitary tumors (i.e., not producing excess pituitary hormones) often show signs of hormone deficiency as the tumor affects the healthy pituitary gland.
2.

Are there signs or symptoms of excess pituitary hormones?
Hormonal overproduction can also occur in isolation or in combinations and can occur in the background of other hormonal deficiencies.
3.

Are there signs or symptoms of a space-occupying pituitary lesion?
Clinical manifestations of a space-occupying pituitary lesion can include headaches, vision problems (especially peripheral vision loss and diplopia) and occasionally seizures, cranial nerve deficits or palsies.)

Initial testing for suspected pituitary disease or tumor

Diagnosing pituitary disease can be challenging, but the basic testing is straightforward. Based on symptoms, it includes:

- Laboratory tests**
 - Prolactin
 - 8 a.m. serum cortisol and adrenocorticotrophic hormone (ACTH) (or cortrosyn stimulation test)
 - Thyroid-stimulating hormone (TSH) and free T4
 - Luteinizing hormone (FH) and follicle stimulating hormone (FSH)
 - Testosterone (men)
 - Insulin-like growth factor 1 (IGF-1)
 - 24-hour urine free cortisol
- MRI of the head, if laboratory tests indicate pituitary disease or you suspect a space-occupying lesion**

If you diagnose a pituitary disorder

If the basic tests indicate a pituitary tumor or disease, many clinicians will then collaborate with pituitary disease experts on treatment and management. Treatment often includes medication, surgery or both and sometimes adjuvant radiation. However, most large non-prolactin secreting tumors are treated with surgery, most commonly transsphenoidal resection.

Outcomes studies have repeatedly shown that surgeons highly experienced in this procedure have the highest cure rates with the lowest rates of complications. Patients should be evaluated before and after surgery by an endocrinologist comfortable with managing neuroendocrine conditions.

How the OHSU Northwest Pituitary Center can help

We are always happy to discuss a case or provide consultation or a second opinion. Our clinic is conveniently located at the OHSU Center for Health & Healing in Portland’s South Waterfront District, and most patients can be evaluated in a single day.



Diagnostic tools

At the OHSU Northwest Pituitary Center, testing for pituitary disorders includes the following diagnostic tools and expertise:

Dynamic imaging

Our combination of advanced imaging technology and neuroradiology expertise helps us customize imaging for each patient. We offer:

- Rapid dynamic gadolinium-enhanced pituitary imaging — more effective than standard imaging for detecting Cushing's syndrome
- 3-Tesla MRI scanners — high-resolution imaging for better detection of tumor involvement in surrounding tissues, leading to better surgical planning and outcomes
- Phillips 1-Tesla open MRI — high-resolution images for any patient, with better resolution than most open MRI scanners
- Neuroradiologists — familiar with the latest advances in pituitary imaging.

Cavernous sinus sampling

In ACTH-dependent Cushing’s syndrome, finding an ACTH-secreting pituitary tumor can be challenging. Cavernous sinus sampling is the best available test to pinpoint a pituitary tumor as the source of elevated ACTH. In this test, an experienced neurosurgeon moves catheters from the femoral veins up to the cavernous sinuses bilaterally. This allows accurate sampling of venous outflow from both right and left sides of the pituitary.

Neuro-ophthalmology

The pituitary gland lies beneath the optic nerve and optic chiasm, so neuro-ophthalmic evaluation is critical for patients with pituitary tumors. Some patients may experience vision problems if a pituitary tumor presses on the cranial nerve.

Neuro-ophthalmologists at the OHSU Casey Eye Institute see patients before and after surgery and follow them as needed. The neuro-ophthalmologist evaluates visual acuity, color vision, pupil reactivity, eye movement and peripheral vision and conducts a comprehensive retinal exam.

Neuropathology

Our board-certified neuropathologist works with the OHSU Northwest Pituitary Center to provide comprehensive diagnosis. Laboratory tests used include enzyme histochemistry, immunohistochemistry, cytogenetics, molecular pathology and ultrastructural analysis. Testing is conducted in specialized laboratories under the strictest quality assurance policies by technicians expert at processing neural tissue.

Pituitary hormone testing

OHSU offers specialized pituitary function testing before and after surgery. Services include:

- Dynamic testing, including cortrosyn and corticotropin-releasing stimulation tests and growth hormone stimulation and suppression tests
- Test interpretation for referring physicians
- Patient education on testing methods, pituitary disorders, pituitary surgery and giving injections.

Testing is done in our dedicated neuroendocrine testing facility, which is fully equipped for dynamic testing. Pituitary hormone testing services are all available to referring physicians.



Treatment options

Surgery for pituitary tumors

Pituitary tumors often require surgical removal. Neurosurgeons can perform this procedure through the nostril, using either a microscope or an endoscope, without facial incisions.

Microscopic transsphenoidal surgery

With the patient under general anesthesia, an incision is made inside the nostril to expose the nasal sinus. The microscope is inserted into the field, and the tumor is removed with microsurgical instruments under high magnification.

Endoscopic transsphenoidal surgery

The surgeon places an endoscope through the nostril into the sinus and the tumor is removed with visualization on a television monitor. This minimally invasive procedure has advantages over using a microscope: better lighting and magnification and a large field of view for the surgeon.

Radiation therapy for pituitary disorders

Radiation therapy is used as an adjunct when medical therapy or surgery does not control tumor growth. OHSU uses a laser-guided Trilogy stereotactic linear accelerator, the most precise and powerful technology available. On-board computed tomography allows precise targeting of the smallest tumors.

Following treatment, OHSU's radiation therapy team performs imaging studies every three months for two years, followed by annual studies. Patients also receive clinical assessments, visual examinations and blood testing. This extended management approach helps ensure the best outcomes possible after radiation therapy.

Medical therapy for pituitary disorders

Medical treatment for pituitary disorders can be complex. The OHSU Northwest Pituitary Center has experienced neuroendocrine specialists who prescribe and consult on appropriate drugs, dosing and duration of medical therapy.

Medical treatment for pituitary hormone excess

Pituitary disease can be caused by pituitary hormone overproduction. For example, GH overproduction can cause acromegaly. ACTH overproduction can cause Cushing's syndrome. Patients may need both medical therapy and surgery to control oversecretion. Today's drugs often provide permanent control of oversecretion and in some cases, can eventually be discontinued.

New drugs for pituitary hormone overproduction

Somatostatin analogues and growth hormone antagonists have revolutionized acromegaly treatment when surgery is contraindicated or noncurative. Newer drugs with fewer side effects have improved dopamine agonist therapy for excess prolactin secretion. Over the last two years, new drugs for Cushing's disease have also been introduced.

Pituitary hormone replacement

Hypopituitarism can require lifelong treatment with one or more hormones of pituitary origin, such as glucocortoids, thyroid or growth hormone. These are now available in oral, topical, nasal and injectable forms.

We can help you select the best delivery system for your patient and adjust therapy as needed. We also give endocrine therapy injections in our clinic at the OHSU Center for Health & Healing.



Patient support

Quality of life evaluation for patients with pituitary adenomas

Pituitary adenomas represent approximately 15 percent of all brain tumors. Until now, it has been unclear how treatment affects a patient’s quality of life and ability to function.

Quality of life tool developed at OHSU

Chris Yedinak, D.N.P., of the OHSU Northwest Pituitary Center has developed a reliable tool to measure quality of life in patients with all types of pituitary disorders. This is an aid to clinical decision making as well as ongoing research. The tool can:

- Help assess and individualize care needs and treatment strategies
- Develop goal-directed treatment, to improve treatment participation and maximize outcomes
- Allow further study of individual, multidisciplinary treatment regimes to improve future treatments and outcomes.

For an example of this tool in use, see Yedinak C.G., Fleseriu M., “Self-perception of cognitive function among patients with active acromegaly, controlled acromegaly, and non-functional pituitary adenoma: a pilot study.” *Endocrine* 2014;46(3):585-593.

Patient education and support group

Pituitary disorders are complex, affect quality of life and can require long-term management. For all these reasons, we offer education and support for patients, families and caregivers.

Resources include free educational sessions, online information and referrals to other support networks and sources. We can answer or help patients learn the following and more:

- What is the pituitary gland and what does it do?
- What are the functions of various pituitary hormones?
- What is acromegaly and how is it treated?
- What is the difference between Cushing’s syndrome and Cushing’s disease?

Chris Yedinak, D.N.P., and Jessica Williams, L.P.N., coordinate the group. For more information, contact pituitary@ohsu.edu. Our website, www.ohsubrain.com/pituitary, contains a wealth of resources for patients.



Our interdisciplinary team



Director and Neuroendocrinologist

Maria Fleseriu, M.D., F.A.C.E.
Academic and professional appointment: Professor; director, OHSU Northwest Pituitary Center
M.D.: The University of Medicine and Pharmacy of Timisoara, Romania
Residencies: Internal medicine, University Hospital Sibiu, Romania; Case Western Reserve University, Cleveland, Ohio
Fellowships: Endocrinology, University Hospital Sibiu and National Institute of Endocrinology, Romania; endocrinology, diabetes and metabolism, Cleveland Clinic Foundation, Cleveland, Ohio
Board certification: American Board of Internal Medicine
Patient care emphasis: Pituitary and adrenal disorders
Research interests: Diagnosis and medical treatment of pituitary abnormalities



Neurosurgeons

Justin Cetas, M.D., Ph.D.
Academic and professional appointment: Assistant professor; chief of neurosurgery, Portland Veterans Affairs Medical Center
M.D.: University of Arizona, Tucson, Ariz.
Ph.D.: University of Arizona, Tucson, Ariz.
Residency: Neurological surgery, Oregon Health & Science University, Portland, Ore.
Fellowship: Skull base surgery, Oregon Health & Science University, Portland, Ore.
Board certification: American Board of Neurological Surgery
Patient care emphasis: Pituitary, skull base and vascular disorders
Research interests: Pituitary tumors and effects of subarachnoid hemorrhage on the brainstem and central nervous system



Jeremy Ciporen, M.D.
Academic and professional appointment: Assistant professor, director, surgical neuro-oncology
M.D.: George Washington School of Medicine, Washington, D.C.
Residencies: Neurosurgery, Emory University School of Medicine, Atlanta, Ga.; otolaryngology, Mount Sinai School of Medicine, New York, N.Y.
Fellowship: Skull base/cerebrovascular surgery, The University of Washington Harborview Medical Center, Seattle, Wash.
Board certification: American Board of Neurological Surgery
Patient care emphasis: Primary brain tumors and metastatic disease, minimally invasive and open surgical techniques, intraventricular tumors and colloid cysts




Interventional Neuroradiology/Cerebrovascular

Aclan Dogan, M.D.
Academic and professional appointment: Associate professor; division head, skull base and cerebrovascular surgery
M.D.: Ankara University School of Medicine, Ankara, Turkey
Residencies: Neurological surgery, Ankara University School of Medicine, Ankara, Turkey and Oregon Health & Science University, Portland, Ore.
Fellowships: Cerebrovascular neurosurgery, Nagoya University School of Medicine, Nagoya, Japan; cerebrovascular neurosurgery, Louisiana State University Health Sciences Center, Shreveport, La.; skull base surgery, neurointerventional, Oregon Health & Science University, Portland, Ore.
Board certification: American Board of Neurological Surgery
Patient care emphasis: Cerebrovascular surgery, interventional neuroradiology, skull base neurological surgery




Gary Nesbit, M.D.
Academic appointment: Associate professor
Specialties: Interventional neuroradiology, neurology, neurological surgery
M.D.: University of Minnesota, Minneapolis, Minn.
Residency: Radiology, Mayo Graduate School of Medicine, Rochester, Minn.
Fellowships: Neuroradiology, Mayo Graduate School of Medicine, Rochester, Minn.; interventional neuroradiology, Oregon Health & Science University, Portland, Ore.
Board certification: American Board of Radiology
Patient care emphasis: Diagnostic radiology
Research interests: Innovative imaging, new therapeutic techniques in acute stroke, intracranial atheromatous disease, cerebral aneurysms and arteriovenous malformations, including diffusion/perfusion imaging and magnetic resonance angiography (MRA) of atherosclerosis and aneurysms

NEUROSCIENCE




Peter Andersen, M.D., F.A.C.E.
Academic appointment: Professor
M.D.: Washington University School of Medicine, St. Louis, Mo.
Residencies: Otolaryngology, head and neck surgery, Oregon Health & Science University, Portland, Ore.
Fellowships: Head and neck surgery, oncology, Memorial Sloan-Kettering Cancer Center, New York, N.Y.
Board certification: American Board of Otolaryngology
Patient care emphasis: Malignant and benign tumors of the head, neck, throat, mouth, larynx, thyroid gland and skin, salivary problems, minimally invasive treatments for salivary infections and stones, sialoendoscopy, endoscopic surgery for tumors of the nasal cavity, sinuses and pituitary gland, melanoma, transoral robotic surgery (TORS) for oropharyngeal tumors
Research interests: Patient outcomes



Timothy L. Smith, M.D., M.P.H., F.A.C.S.
Academic and professional appointment: Professor; director, Oregon Sinus Center at OHSU
M.D.: University of Cincinnati, Cincinnati, Ohio
Residency: University of North Carolina Hospitals, Chapel Hill, N.C.
Fellowship: Rhinology and Sinus Surgery, Medical College of Wisconsin, Milwaukee, Wis.
Board certification: American Board of Otolaryngology
Research interests: Outcomes of treatment of sinus disorders

Neuro-Ophthalmology




Julie Falardeau, M.D.
Academic appointment: Associate professor
M.D.: University of Montreal, Montreal, Canada
Residency: Ophthalmology, University of Montreal, Montreal, Canada
Fellowship: Neuro-ophthalmology, University of Iowa Hospitals and Clinics, Iowa City, Iowa
Board certification: American Board of Ophthalmology; Royal College of Physicians and Surgeons of Canada; College of Physicians of Quebec; Medical Council of Canada
Patient care emphasis: Optic neuritis, ischemic optic neuropathy, compressive optic neuropathy, idiopathic intracranial hypertension, ocular myasthenia gravis
Research interests: Optic nerve imaging techniques, idiopathic intracranial hypertension treatment of optic neuritis

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To refer a patient for a consult, call:

503 494-4567 or 800 245-6478 toll-free, or fax 503 346-6854




William Hills, M.D., O.D.
Academic appointment: Professor
M.D.: University of Nevada, Reno, Nev.
O.D.: Pacific University, Forest Grove, Ore.
Residency: Neurology, Oregon Health & Science University
Fellowship: Neuro-ophthalmology, Moran Eye Center, University of Utah, Salt Lake City, Utah
Board certification: American Board of Psychiatry and Neurology
Patient care emphasis: Neuro-ophthalmology
Research interests: Using neuro-ophthalmic findings to differentiate between Parkinson's disease and progressive supranuclear palsy; detecting neuro-ophthalmic visual field defects in patients with Alzheimer-type dementia

Neuropathology



S. Humayun Gultekin, M.D.
M.D.: Hacettepe University Medical School, Ankara, Turkey
Residencies: Neurology, Istanbul University, Istanbul, Turkey; anatomic pathology, New York Hospital Cornell Medical Center
Fellowships: Neuropathology, University of Massachusetts and Brigham and Women's Hospitals, Boston, Mass.; experimental pathology and oncologic surgical pathology, Memorial Sloan Kettering Cancer Center, New York, N.Y.
Board certification: American Board of Pathology
Patient care emphasis: Diagnostic and general surgical pathology
Research interests: Brain tumors, paraneoplastic diseases and muscle diseases

Diagnostic Neuroradiology



Jim Anderson, M.D.
Academic and professional appointment: Associate professor; chief of neuroradiology; director, diagnostic radiology residency
M.D.: University of Nebraska School of Medicine, Omaha, Neb.
Residency: Diagnostic radiology, University of Kansas-Wesley Medical Center, Wichita, Kan.
Fellowship: Neuroradiology, Vanderbilt University, Nashville, Tenn.
Board certification: American Board of Radiology
Patient care emphasis: Diagnostic radiology

www.ohsubrain.com/pituitary

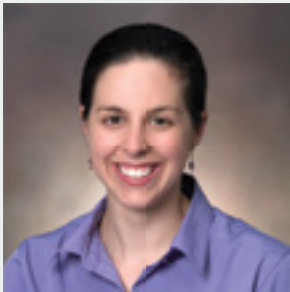
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Nurse Practitioner



Chris Yedinak, D.N.P., F.N.P.-B.C., M.N.
Academic and professional appointment: Assistant professor;
patient care coordinator, OHSU Northwest Pituitary Center
F.N.P., D.N.P.: Oregon Health & Science University, Portland, Ore.
Board certification: American Association of Colleges of Nursing
(family nurse practitioner)
Patient care emphasis: Pre and post -operative diagnosis and
management of pituitary dysfunction, neuro-endocrine dynamic
testing, patient education
Research interests: Outcome measurement in pituitary dysfunction

Physician Assistants



Christine M. Li, P.A.-C., M.P.A.P
Patient care emphasis: Skull base surgery
Specialty: Neurological surgery
P.A.-C.: Keck School of Medicine, University of Southern California,
Los Angeles, Calif.



Dara Ono, P.A.-C.
Patient care emphasis: Skull base surgery
Specialty: Neurological surgery
P.A.-C.: George Washington University, Washington, D.C.
Residency: Surgical, Montefiore Medical Center, Bronx, N.Y.



Janette Remling, P.A.-C.
Patient care emphasis: Skull base surgery
Specialty: Neurological surgery
P.A.-C.: Pacific University, Forest Grove, Ore.

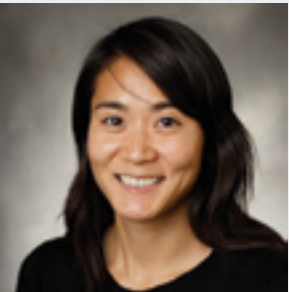
Clinical Trials Research Team



Shirley McCartney, Ph.D.
Clinical research director
Ph.D.: University of St. Andrews, St. Andrews, Scotland



Obi Obayashi, B.S.
Study coordinator
B.S.: University of California San Diego, San Diego, Calif.



Dara Ono, P.A.-C.
Physician assistant
P.A.-C.: George Washington University, Washington, D.C.



Jessica Williams, L.P.N., B.S.
Study coordinator
L.P.N.: University of Oregon, Eugene, Ore.



Chris Yedinak, M.N., F.N.P., D.N.P.
Nurse practitioner
F.N.P., D.N.P.: Oregon Health & Science University, Portland, Ore.



Partnering with us

Our interdisciplinary approach ensures your patients receive the best possible care with a coordinated team of OHSU specialists.

How to make a referral

At the OHSU Northwest Pituitary Center, we value our partnerships with community physicians and other health care providers. We work closely with you to make decisions and create care plans for your patients.

If you would like to refer a patient please call our patient and consult referral line at 503 494-4567 or 800 245-6478 (toll-free) or fax 503 346-6854. Our staff is available to answer any questions you may have. Additional information and referral forms can be found at www.ohsubrain.com/pituitaryreferral.

Your patient's first visit

At the first visit, your patient will meet with an endocrinologist and, if appropriate, a neurosurgeon. Any required dynamic testing will happen the same day. If your patient needs more extensive evaluation, this will be scheduled in advance. Your patient will leave with contact information for any questions.

The OHSU Northwest Pituitary Center is conveniently located at the OHSU Center for Health & Healing in the South Waterfront district, at the foot of the Portland Aerial Tram. There is plenty of free covered parking and a comfortable and welcoming environment for your patient.

Interdisciplinary team review

After the initial visit, our endocrinologist and neurosurgeon will review the results of laboratory and imaging tests and contact you to discuss treatment options. We may also discuss the possibility of clinical trials with you and your patient.

During treatment

We will coordinate any follow-up visits so your patient's appointments occur on a single day. We will keep you updated on recommended next steps, give you and your patient a written treatment plan and follow up with your patient weekly for six weeks after initial treatment. We will also arrange additional laboratory tests if necessary.

Contact us

We appreciate your trust in consulting us for pituitary care.

Clinical trials

To learn more about available clinical trials contact our clinical trials coordinator at 503 494-9546 or visit www.ohsubrain.com/pituitary.

Consults and referrals

The OHSU Physician Consult and Referral Service, staffed by professional and friendly referral specialists is available 24/7. To refer a patient for a consult call 503 494-4567 or toll-free at 800 245-6478 or fax 503 346-6854.

OHSU Northwest Pituitary Center

The OHSU Northwest Pituitary Center offers decades of combined expertise in researching and treating pituitary disorders. Please feel free to contact Maria Fleseriu, M.D., F.A.C.E., at 503 494-4314 or email pituitary@ohsu.edu at any time to discuss your patient’s care.

Our mailing address is:

OHSU Northwest Pituitary Center
Oregon Health & Science University
Mail code: CH8N
3303 S.W. Bond Ave.
Portland, Oregon 97239-3098





To refer a patient or consult with our team,
please call **503 494-4567**
or toll-free **800 245-6478**
fax **503 346-6854**

OHSU Northwest Pituitary Center

Oregon Health & Science University

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www.ohsubrain.com/pituitary

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