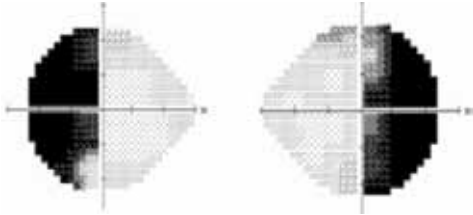




Skull Base/Pituitary and Neuro-Ophthalmology

Neuro-Ophthalmology

Visual problems of neurologic origin can lead to significant functional impairment and may be the first sign of serious underlying disease. Tumors of the anterior skull base, in particular, are frequently associated with compression of the optic nerves, chiasm or tract or may cause diplopia through compression of ocular motor cranial nerves or the brainstem. Our neuro-ophthalmology service is committed to the diagnosis of these visual problems through careful examination and testing, and to treatments aimed at restoring normal visual function whenever possible. A detailed neuro-ophthalmic assessment includes acuity testing, color vision, ocular pressure, motility, and dilated stereoscopic examination of the retina and optic nerve. Automated visual field mapping helps identify the location of lesions affecting the afferent visual pathways. Altitudinal arcuate and central defects point to optic nerve disease while bitemporal hemianopsia identifies compression of the optic chiasm. Optic nerve morphology and an assessment for spontaneous venous pulsations helps determine whether intracranial pressure is normal.



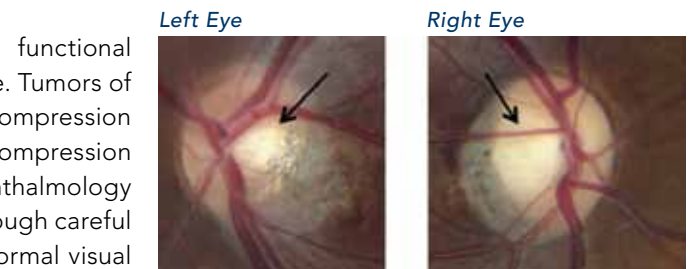
Humphrey visual fields revealed a bitemporal hemianopsia.

Tumors of the anterior skull base, for example, may compress the cranial nerves that move the eyes, either along the skull base, or within the cavernous sinus which sits on either side of the pituitary gland. In some cases, prisms may be added to a patient's glasses to bend incoming light and treat double vision.

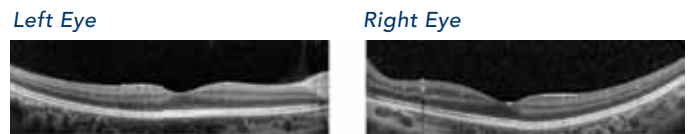
OCT (Optical Coherence Tomography) may be used to quantify thinning of the retinal nerve fiber layer, which is the origin of the optic nerves, chiasm and tract. This helps determine severity of the injury and helps identify field loss that is more likely to improve with surgery.

In cases of double vision or ocular misalignment, a detailed assessment of eye movements helps determine which pathways involved in coordinating eye position have been affected.

Tumors of the anterior



Examination of a patient with blurry vision revealed temporal optic nerve pallor in both eyes (arrows).



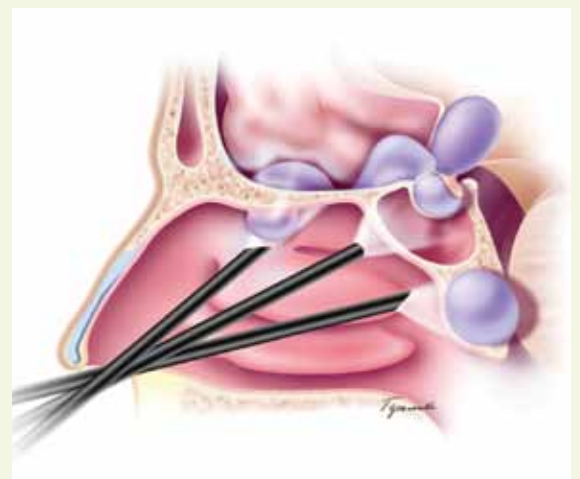
Optical coherence tomography demonstrated corresponding thinning of the retinal nerve fiber layer. MRI showed a pituitary adenoma with chiasmatal compression.

Neurosurgery

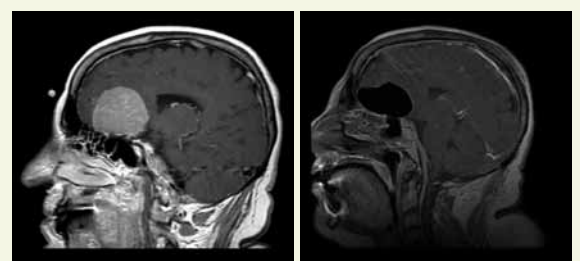
The endonasal, endoscopic approach to the anterior skull base provides a minimally invasive way to remove tumors that would otherwise require either a large cranial opening and brain retraction or disfiguring facial scars. Instead, an endoscope is advanced through a natural opening in the face, namely the nostrils. A variety of tumors can be removed in this fashion, including pituitary adenomas, meningiomas, craniopharyngiomas, chordomas and esthesioneuroblastomas. These techniques can also be used to close cerebrospinal fluid leaks of the skull base. Although the approach is minimally invasive, the surgery is no less aggressive than more traditional transcranial or transfacial approaches. Our Center for Minimally Invasive Skull Base and Pituitary Surgery is one of the leading centers in the world for this type of surgery. Our doctors teach courses in these novel techniques, both at Weill Cornell and around the world, and have authored several textbooks on the subject. Many of these tumors push on the optic nerves and cause visual loss while others involve the pituitary gland and elicit endocrinological symptoms. For this reason, we work closely in a multidisciplinary team with neuro-ophthalmologists and endocrinologists in the management of these complex cases.

THE EYEBROW APPROACH

In addition to the endonasal endoscopic approach to the anterior skull base, we utilize a minimally invasive technique called a supraciliary approach through an eye brow incision. This involves a small supraorbital craniotomy and allows for a plastic surgery incision with better cosmetic healing and lower complications than a larger craniotomy. Through this incision, we have treated tumors of the anterior cranial base, the sella and parasellar region, aneurysms and mucoceles. We have also published extensively on this technique and have showed that you can combine this approach with the endoscope to assist in tumor resection.



The endonasal endoscopic approach to the anterior skull base is appropriate for the removal of tumors reaching from the clivus up to the pituitary gland as well as the suprasellar and subfrontal areas.



Before and after eyebrow approach to large skull base meningioma.



Weill Cornell Medical College

Brain and Spine Center

September 2010

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Upcoming CME Activities and Other Events

MONTHLY COMPLIMENTARY CME LECTURE SERIES ON MULTIPLE SCLEROSIS HOSTED BY THE JUDITH JAFFE MULTIPLE SCLEROSIS CENTER

6:00pm – 8:30pm

September 29, 2010: The State of MS 2010

October 20, 2010: What Can We Learn From Studying MS in Extreme Phenotypes?

November 17, 2010: Estrogen Receptor Ligands: A novel treatment for MS

December 15, 2010: Hippocampal Atrophy in MS

For more information and to register, visit our website at www.cornellneurology.org

SAVE THE DATE - 2ND ANNUAL NEW YORK SYMPOSIUM ON PARKINSON'S DISEASE

Saturday, October 23, 2010 - Weill Cornell Medical College – Uris Auditorium

A comprehensive update on management of Parkinson's Disease.

For more information and to register, visit www.cornellneurology.org

INDICATIONS AND CONTROVERSIES OF MINIMALLY INVASIVE SPINE SURGERY AND NAVIGATION: *HANDS-ON SYMPOSIUM*

Dec. 2, 2010; 12:00pm – 5:30pm

Dec. 3, 2010; 7:30am – 5:30pm

Dec. 4, 2010; 7:30am – 12:00pm

This symposium will provide a comprehensive overview on new and less invasive techniques with and without stereotactic navigation for the operative treatment of spinal disorders. *CME pending.*

For more information, please contact Jessica Grajales at jeg9059@nyp.org

RECOGNITION AND MANAGEMENT OF COMMON NEUROSURGICAL CONDITIONS IN THE PEDIATRIC PRACTICE

Wednesday, December 8, 2010, 9:00am - 3:30pm - Caspary Auditorium at Rockefeller University, New York, NY

A one day CME course designed to educate physicians and nurse practitioners about the common signs and symptoms of disorders that may need further evaluation by a pediatric neurosurgeon.

[A ground-up level educational seminar on how to first recognize these infrequent occurrences in the midst of a busy pediatric practice, how best to triage, when to image and when to send the child to an emergency room.] For more information, please contact Nicole Savage at njs2004@med.cornell.edu

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OUTCOME OF ENDOSCOPIC SKULL BASE SURGERY
This study examines the outcomes, complications and results from endoscopic skull base surgery.

USE OF A NOVEL 3D ENDOSCOPE IN MINIMALLY INVASIVE SURGERY
This study examines the utility and added benefits of using a 3D endoscope for resecting brain tumors.

ACTIVE CLINICAL TRIALS

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