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**New Study Finds Endonasal Surgery Offers Hormonal Benefits  
For Pituitary Gland Tumor Patients**

**Santa Monica, CA – December 4, 2008** – Patients diagnosed with a brain tumor affecting the body's "master gland" have encouraging news. When the tumor is removed using minimally invasive surgery, patients can enjoy a good chance of restoring normal hormonal function and recovering their health.

A landmark study published in the October 2008 issue of *Neurosurgery*, reported on 444 patients undergoing surgery to remove a tumor of the pituitary gland, called a pituitary adenoma, all of whom were operated on by the same neurosurgeon, Daniel F. Kelly, M.D., Director of the Brain Tumor Center at Saint John's Health Center.

Dr. Kelly, the senior author of the study, specializes in endonasal transsphenoidal surgery, a minimally invasive procedure that allows doctors to reach the pituitary tumors and brain tumors directly through a nostril without incisions on the face. The surgery is performed with an operating microscope which provides brilliant light and magnification, and frequently with an endoscope, a thin, lighted tube directly inserted into the nostril, that provides a more panoramic view than the microscope. Miniaturized surgical instruments are inserted via a nostril, passing through the butterfly-shaped sphenoid bone at the base of the skull to reach the tumor. In recent years, this high-tech approach has replaced a more traditional and more painful approach under the lip called sublabial transsphenoidal surgery.

The new study found that only 5% of Dr. Kelly's patients lost pituitary hormonal function after the tumor mass was removed by endonasal surgery, while 50% showed improvement in hormonal function. The most favorable outcomes involved cases when tumors were relatively small, and in patients who were younger in age and did not suffer from hypertension. The highest rate of new pituitary gland damage (14%) occurred in the largest tumors measuring over 3 cm in size.

While the pituitary is very small, about the size of a pea (1 cm), this "master gland" secretes powerful hormones that help coordinate and control such basic functions as growth and development, metabolism, the stress response, sexual function, libido and water balance. Although pituitary adenomas are rarely malignant, they can trigger serious health problems if they damage the gland's ability to secrete hormones, grow large and compress the optic nerves leading to loss of vision or cause headaches. If hormonal loss does occur as a result of

a pituitary tumor or surgical removal of a tumor, hormone replacement such as thyroid, testosterone or estrogen therapy may be prescribed by an endocrinologist.

“Our study shows that the endonasal technique can be effectively used to remove the great majority of pituitary adenomas with a low risk of damage to the pituitary gland itself and that in half of patients, gland function actually improves.” Dr. Kelly said. “Even in the largest tumors (over 3 cm in size), over 85% of patients do not have worsening of hormonal function as a result of surgery.”

With results such as these, it is understandable why the endonasal technique is becoming the preferred approach for a variety of tumors in and around the pituitary gland and skull base. “With the endonasal approach, we’ve achieved a high success rate, a low chance of complications and a rapid and relatively pain-free recovery,” Dr. Kelly concluded. “Given the importance of pituitary hormonal function in virtually every aspect of one’s life, it is encouraging to see that such tumors can be removed with a very low risk of damaging pituitary gland function.”

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#### **Saint John’s Health Center**

Since its founding in 1942 by the Sisters of Charity of Leavenworth, Saint John’s Health Center has been providing the patients and families of Santa Monica, West Los Angeles and ocean communities with compassionate, advanced medical care. Saint John’s provides a spectrum of treatment and diagnostic services with distinguished areas of excellence in cancer care, cardiac care, orthopedics, women’s health and specialized programs such as the internationally acclaimed John Wayne Cancer Institute. Saint John’s Health Center is dedicated to bringing to the community the most innovative advances in medicine and technology.

#### **Brain Tumor Center**

The Brain Tumor Center at Saint John’s Health Center provides comprehensive care, minimally invasive surgery and support for patients with brain tumors, skull base tumors and pituitary adenomas. [www.brain-tumor.org](http://www.brain-tumor.org)

*Nasrin Fatemi, Joshua R Dusick, Carlos Mattozo, David McArthur, Pejman Cohan, John Boascardin, Dhristina Wang, Ronald Swerdloff and Daniel F. Kelly. Pituitary Hormonal Loss and Recovery after Transsphenoidal Adenoma Removal. Neurosurgery, Volume 63, Number 4, October 2008.*

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