

Physician's Bulletin



Transoral Robotic Surgery: New Advancements in Treating Head and Neck Cancers

The application of minimally invasive transoral robotic surgery (TORS) for treating tumors of the head and neck provides a promising new addition to the physician's toolbox. Otolaryngologists, oral surgeons, dental practitioners, radiation oncologists, medical

oncologists and surgical oncologists should all be aware of this revolutionary technology, which is now available at City of Hope.

TORS combines two recent advances: the robotic component, proven highly successful in minimally invasive surgeries of all kinds, and the transoral approach, which is also being used for transoral laser microsurgery (TLM).

The complex structures in the head and neck, and their importance with respect to function and appearance, are critical to a patient's quality of life. This region is also subject to diverse pathologies, both benign and cancerous, such as squamous cell carcinomas, salivary gland tumors, melanomas, lymphomas and sarcomas.

The American Cancer Society estimates there will be 36,540 new cases of cancer of the oral cavity and pharynx in 2010. Incidence rates in men are more than twice than in women. While rates have been declining overall, data indicate that cancers in the oropharynx, possibly related to human papillomavirus infection have been increasing.

Evolving Modalities

Until recently, treatments for head and neck cancers have had inherent advantages as well as limitations. Classically trained surgeons may be most comfortable and most experienced with open approaches involving long incisions, large exposures and wide margins. While open surgery is often the best option, it poses risks to the patient including significant pain, trauma, damage to surrounding organs and nerves, scarring, deficits and disfigurement. Tracheotomy tubes and feeding tubes are frequently required, as is mandibulotomy, requiring extensive recovery and rehabilitation. Understandably, patients may resist these radical procedures.

Alternatively, chemoradiation is indicated for many head and neck cancers. This is an important and useful modality, however, even in the most carefully selected patients treated by an experienced team, there are risks of potential complications. These include dysphagia, pain, mucositis, nephrotoxicity, ototoxicity, xerostomia and osteonecrosis of the jaw, and others

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DIRECTOR'S NOTE

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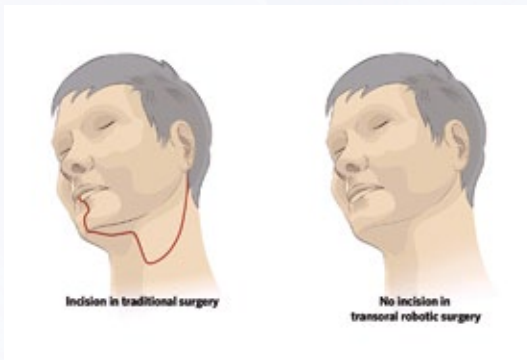
City of Hope is excited to be among the first in the West to offer transoral robotic surgery.



Head and neck cancers present unique and sometimes extreme challenges for surgical oncologists as well as patients. Removing tumors completely often requires procedures that can severely disfigure a patient, increasing risk of postsurgical morbidities and impinging on quality of life.

City of Hope's emphasis both on innovation and on treating the whole patient compels us to find procedures that offer not only the best chance at cure, but also an improved quality of life following treatment. This spirit has led us to build on our rapidly expanding expertise in robotic-assisted minimally invasive surgery to offer transoral robotic surgery.

With discrete incisions and more precise surgical control, the technique allows faster recovery with less pain, little or no scarring and fewer impediments to normal oral function than open procedures. We're excited to be able to offer patients battling head and neck cancers this highly advanced modality.



depending on dosages, areas treated and specific drugs used. In some cases, a tracheostomy and feeding tube may be necessary. Secondary cancers are an additional concern, particularly in younger patients who face a greater likelihood of experiencing late effects.

The development of TLM provided an alternative to open surgery. TLM involves an incisional resection technique. While some surgeons may be wary of TLM — especially as it involves cutting tumors into pieces — data show TLM provides good cancer control as well as other benefits such as the elimination of visible scarring, faster recovery time with less pain, and improved functional outcomes including reduced problems with speech, swallowing and aspiration.

Applications of TORS

With TORS, physicians have a new minimally invasive strategy for treating tumors and other diseases of the head and neck while abiding by standard oncologic principles. Currently, the technique is indicated for all T1 and T2 tumors of the oropharynx that are 4 cm or less in diameter. Regardless of tumor histology, TORS can potentially be applied to any type of tumor, benign or malignant, as long as exposure is adequate, patient morphology is suitable and the instrumentation available allows the safe removal of the tumor transorally.

Currently, TORS excisions are performed en bloc. Desirable laser capabilities have yet to be added; manufacturers are now working to develop optical fibers that can meet the structural demands of the robotic system. Laser instrumentation will broaden the applications of TORS to the larynx and other sensitive structures. TORS is also being applied to neurosurgical cases, such as removing chordomas of the cervical spine. Skull base applications are also being developed at City of Hope.

Surgical robotics continues to gain acceptance by both physicians and patients. The robot extends even the most skilled surgeon's abilities by providing better visualization and greater accuracy. The surgical site is viewed in magnified 3D, in real time, with a well-illuminated field. Procedures are carried out using precision instruments maneuvered remotely by the surgeon's hands in a more natural way than standard manual laparoscopy.

City of Hope is a longtime leader in robotic surgery. Currently, we possess four of the most sophisticated da Vinci surgical robots (the most of any facility in Southern California) as well as other advanced equipment. City of Hope surgeons are highly experienced in a range of robotic procedures, and are among nation's leading experts in the volume of operations performed. Additionally, operating room nurses and other staff are well trained in executing robotic surgical cases.

Assessing Patients

It should be noted that not all patients who meet the basic criteria for eligibility may be good candidates for TORS. Each must be evaluated on a case-by-case basis. For example, a 300-lb patient with sleep apnea and a low-lying hyoid may not be optimal, even if the tumor is small. Additionally, tumor location must be considered: a small tumor that is impinging on a carotid artery may not be feasible for TORS due to the risk associated with vascular injury. The likelihood of a positive functional outcome also factors in: If a tumor involves the base of the tongue bilaterally, resection using a TORS technique still will not provide good function post-operatively, as the neurovascular supply of tongue may become compromised bilaterally. In this instance, initial surgical treatment with TORS would offer little functional advantage over the open surgical approach.

City of Hope surgeons are available to assess patients in conjunction with the primary treating physician to ensure that each case receives the optimal treatment strategy. Those who are caring for head and neck patients are urged to contact our surgeons by telephone or e-mail so that we can discuss the case and evaluate the best option for the individual. Moreover, every case is presented to the City of Hope Tumor Board. This is a multidisciplinary conference whereby radiation oncologists, medical oncologists, radiologists, pathologists, head and neck surgeons, psychiatrists, speech and language pathologists and nursing staff may offer input and perspectives from their respective fields.

Our comprehensive approach also helps head and neck cancer patients cope with the various functional issues that may be encountered. Rehabilitation services, clinical nutrition services, physical therapy, occupational therapy, social services, and swallowing, speech and language services are all available for our patients. Furthermore, the Sheri & Les Biller Patient and Family Resource Center offers head and

staff news and notes



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Chief, Plastic and Reconstructive Surgery



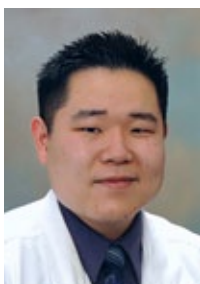
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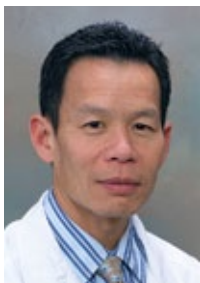
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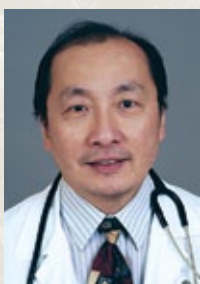
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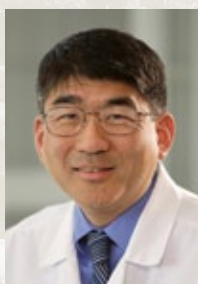
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Stephen I. Shibata, M.D.

Clinical Professor of Medical Oncology

NOT PICTURED: **Sheila Hammer, M.S.W.**
Dietitian, Clinical Social Work

clinical trials

IRB#	Title
09206	Outcomes in Transoral Robotic Microsurgery for Head and Neck Tumors Principal Investigators: Ellie Maghami, M.D., F.A.C.S., and Renee Penn, M.D.
10031	RTOG 0920: A Phase III Study of Postoperative Radiation Therapy +/- Cetuximab for Locally Advanced Resected Head and Neck Cancer Principal Investigator: Nayana L. Vora, M.D.
08138	City of Hope Head and Neck Database Using the American Head and Neck Society Otobase Principal Investigator: Ellie Maghami, M.D., F.A.C.S.
07002	A Randomized, Open Label, Controlled, Phase II Trial of Combination Chemotherapy with or without Panitumumab as First-line Treatment of Subjects with Metastatic or Recurrent Head and Neck Cancer, and Cross-over Second-line Panitumumab Monotherapy of Subjects who Fail the Combination Chemotherapy Only Arm Principal Investigator: Dean W. Lim, M.D.

If you are interested in learning more about these clinical trials or are interested in referring a patient for enrollment, contact Ellie Maghami, M.D., F.A.C.S., at 626-471-7100 or via e-mail at emaghami@coh.org. You may also visit <http://clinicaltrials.coh.org> and enter the IRB number for more details.

Sign up to receive information by e-mail. It is a convenient way to keep up with the latest advances from City of Hope. You will receive periodic updates on:

- new treatment options
- research and clinical trials
- continuing medical education



You have two ways to sign up:

1. Visit our website at www.cityofhope.org/mdinfo and register your e-mail address online to receive future mailings electronically
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(to return, fold so that your information is on the inside, moisten, seal and drop in the mail)

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Transoral Robotic Surgery continued from page 2

neck patients — including those not treated at City of Hope — access to pain management specialists, psychiatrists, psychologists, social workers, spiritual care providers, healing arts workshops, peer support groups, health information, complementary medicine and nutrition education.

In addition to significant expertise in treating head and neck cancers by the most current of modalities, City of Hope also runs multiple clinical trials of advanced therapies not generally available.

Referring Patients

For physicians with head and neck cancer patients, City of Hope serves as a partner in care. Please contact Ellie Maghami, M.D., F.A.C.S., division chief and clinical associate professor of otolaryngology, head and neck surgery, or Renee Penn, M.D., clinical assistant professor of surgery at 626-471-7100 to discuss your patient's needs. You can also search our Clinical Trials Online database for appropriate studies. Visit www.cityofhope.org and click Clinical Trials on the left-hand navigation bar.

New Patient Services
800-826-Hope (4673)

Physician Relations Office
800-444-Phys (7497)

To reach any program at City of Hope, please call 626-256-HOPE (4673) and enter the extension indicated below.

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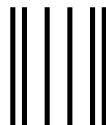
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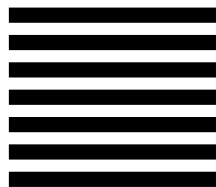
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C M E C O R N E R

CME Dinner Meeting Series — "Testis Cancer: The Paradigm for Curative Therapy in Solid Tumor Oncology"

Date: Oct. 7, 2010
Location: Visitor Center at City of Hope
Speakers: Joseph C. Alvarnas, M.D. and Sumanta Kumar Pal, M.D.
1.5 AMA PRA Category 1 Credits™ will be offered.

Sixth Annual Oncology Congress

Date: Oct. 15 to 17, 2010
Location: The Palace Hotel, San Francisco
This activity has been planned and implemented through the joint sponsorship of the New York Medical College and Reed Medical Education.
12.5 AMA PRA Category 1 Credits™ will be offered.
To register, visit www.oncologycongress.com and use priority code COH.

CME Dinner Meeting Series — "Secondary Cancers and Other Survivorship Issues"

Date: Nov. 4, 2010
Location: Visitor Center at City of Hope, Duarte, Calif.
Speakers: Smita Bhatia, M.D., M.P.H. and Wendy Landier, N.P.
1.5 AMA PRA Category 1 Credits™ will be offered.

10th Annual Women's Cancers Conference — "Spectrum of Care from Primary Medicine to Oncology"

Date: Nov. 11 to 13, 2010
Location: Wynn Las Vegas
Course Directors: Robert Morgan, M.D., F.A.C.P., and Lucille Leong, M.D.
17 AMA PRA Category 1 Credits™ will be offered.
Visit www.cityofhope.org/womensconference2010 for more information.

For additional information or to register for any of these educational events, contact the Department of Continuing Medical Education at 626-256-HOPE (4673), ext. 65622, or e-mail cme_registration@coh.org.