



THE MICHIGAN DIFFERENCE

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NEWS AND NOTES

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METRO HEALTH JOINS U-M RADIATION ONCOLOGY NETWORK

Partnership provides world-class cancer care in the Grand Rapids-area

Metro Health and the University of Michigan Health System have entered a joint venture to offer quality radiation oncology services at Metro Health’s new 21,500-square-foot Cancer Center at Metro Health Village in Wyoming, MI. The Cancer Center operates under the direction of Michael Zakem, D.O., a partner with the Cancer and Hematology Centers of Western Michigan, and the Director of Medical Oncology.

“This partnership with the University of Michigan Health System is about raising the level of quality patient care, collaboration and community access,” said Michael Faas, president of Metro Health. “Physicians throughout our region can now refer their patients to the University of Michigan for radiation therapy without leaving the area. It’s a win-win for the entire community.”

In addition to Metro’s existing primary cancer care, including medical oncology and chemotherapy, the Cancer Center at Metro Health Village also features a dedicated pharmacy and cancer information resource center. In the fall of 2008, the University of Michigan Health System began offering cancer patients radiation therapy using the most modern technology.

“This is a historic milestone for the University of Michigan Health System,” said Theodore S. Lawrence, M.D, Ph.D., Chair of U-M’s Department of Radiation Oncology. “It was evident in the beginning of our discussions that Metro Health shared a common vision of quality cancer care in a



The Cancer Center at Metro Health Village

setting that is welcoming to patients. We are impressed with the new Cancer Center and look forward to collaborating with Dr. Zakem for the benefit of cancer patients throughout the region.”

Metro joins seven other hospitals throughout the state that make up the U-M’s Radiation Oncology Network (see page 4). By fostering interregional and inter-institutional collaboration, the network permits the U-M to run radiation oncology centers throughout Michigan, offering state of the art patient care and access to cutting edge research close to home.

“We are delivering on a promise to our patients and the physician community,” said Dr. Zakem. “Our new and

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existing patients will now have access to the highest quality of cancer care available while our physician community can collaborate with some of the best minds in cancer treatment and research today. Combine this with our state of the art Cancer Center and we have a streamlined outpatient experience that is truly patient centric.”



The Paulette Israels Lobby at The Cancer Center features comfortable seating and resources for cancer patients.

KUDOS



Felix Feng, MD, was recently awarded the Resident Clinical Research Award at the 2008 ASTRO annual meeting, for the best clinical abstract submitted by a resident. It was entitled “IMRT for Head and Neck Cancer Aimed at Reducing Dysphagia: Long-Term Clinical Outcomes and Dose-Response Relationships.”

Under the mentorship of Dr. Avraham Eisbruch, Dr. Feng has investigated the results of a new treatment approach which utilizes IMRT to minimize radiation dose to the pharyngeal constrictors and other structures responsible for normal swallowing, in patients with head and neck cancer. In a prospective clinical trial with 79 patients, Drs. Feng and Eisbruch showed that this approach results in very low rates of long-term dysphagia (difficulty in swallowing) and feeding tube dependence, without any compromise in local disease control. This treatment is very promising, and is now being used across the country, based on the research of Drs. Eisbruch and Feng.

FACULTY FAREWELL

After nearly 20 years of service at U-M, Dr. **Howard Sandler** has left to become Chair of Radiation Oncology at Cedars-Sinai in Los Angeles, CA. He served as a professor of radiation oncology and urology, and Senior Associate Chair of Radiation Oncology. We know he will be a great success in his new role.



Using PET and V/Q SPECT Scans to Improve Lung Cancer Treatment

Lung cancer is the leading cause of cancer deaths in the United States. Although surgery provides the best chance of cure, the majority of patients require radiation treatment. The current techniques generate an overall cure rate of less than 10 to 15% and result in moderate lung damage in 10 to 30% of treated patients. Just who can be cured and who will develop side effects?



U-M Associate Professor of Radiation Oncology **Feng-Ming (Spring) Kong, MD, PhD**, has found that changes in tumor activity and regional lung function during the course of radiation therapy can be closely monitored using PET, using PET (positron emission tomograph) and V/Q SPECT (ventilation/perfusion single photon emission computerized tomograph) scans.

Traditionally, PET scans have been used after radiation treatment for lung cancer to assess whether the tumor responded to treatment and whether the patient will have a chance of being cured. Using PET several weeks into treatment, Dr. Kong's group found a strong correlation between tumor responses during treatment and response three months after its completion. This approach could potentially allow doctors to change the radiation treatment plan before treatment ends to improve the outcome.

A concern in the past has been that radiation might stimulate the normal lung tissue surrounding the tumor to take up glucose, which could obscure the PET image of the tumor. Dr. Kong's study found the confounding effect on normal tissue was actually less of an issue during treatment than it was after treatment.

Dr. Kong's PET scan research has been published in the *Journal of Clinical Oncology*, and her SPECT work will be presented at the 2009 Annual Meeting of American Society of Clinical Oncology. Recent analysis of this study has demonstrated a significant correlation between the PET changes mid-treatment and long term survival. Currently, there is an ongoing clinical trial at U-M to individualize the radiation dose regimen based on mid-treatment PET scans findings. Dr. Kong's team is also exploring the use of V/Q SPECT to guide individualized adaptive radiation beam arrangement. Dr. Kong is hopeful that this exciting work will lead to better tumor control and survival rates, and will lead to changes in the use of PET and V/Q SPECT scans for lung cancer patients.

Improving Outcomes for Head and Neck Cancer

U-M researchers **Christina Tsien, MD** and **Mukesh K Nyati, PhD**, Assistant Professors, Department of Radiation Oncology, have been investigating how epidermal growth factor receptor (EGFR) targeting therapies can increase the effectiveness of treatments for head and neck cancer.



EGFR is involved in tumor cell growth, proliferation, migration, and survival of cancer cells. EGFR over-expression is frequently seen in head and neck carcinomas. Currently, there are therapies available that improve local control and patient survival.

However, not all patients respond to treatment with EGFR inhibitors and pretreatment EGFR levels have not been shown to predict tumor response. Dr. Tsien and Dr. Nyati's research is working toward the identification of biomarker(s) that can identify patients that are likely to respond to such a highly-specific, molecularly-targeting agent. Based on their preclinical studies in both cell culture and animal models, treatment-induced changes in downstream signaling molecules, especially EGFR degradation, were predictive of tumor radiosensitization and response.



Drs. Nyati and Tsien tested whether such changes may also occur in patients and therefore act as potential biomarkers of treatment response. They designed a clinical study where both tumor and normal tissue were biopsied before and after treatment to see whether the primary target (EGFR) is selectively affected in patients who would be likely to respond to such therapies.

This study involved patients with surgically resectable oral cavity head and neck tumors. Patients received erlotinib, an oral EGFR inhibitor for seven days prior to surgical resection. Both pre- and post-treatment biopsies of the tumor as well as the normal mucosa were obtained. They found that erlotinib caused a marked decrease in EGFR protein levels, consistent with their preclinical studies. As EGFR degradation correlated with response in preclinical studies, their data supports a prospective trial to test if EGFR degradation is an early biomarker for response in patients. They also found a much greater effect in tumors compared to the normal mucosa tissue.

These exciting findings suggest that it may be possible to identify patients who will benefit from these targeted therapies early in the course of treatment. Furthermore, these therapies may improve patient outcomes without the significant toxicity that can be seen with the combination of chemo-radiation.

NEW FACULTY



Terri Bott-Kothari, MD
Metro Health
Instructor



Julie Forstner, MD
Metro Health
Instructor



Jeffrey G. Richmond, MD
Ingham Regional
Medical Center
Assistant Professor



Tim Ritter, PhD
VA Ann Arbor
Instructor

The Allen S. Lichter, M.D., Professorship in Radiation Oncology



A named professorship is the highest honor that U-M bestows upon an outstanding faculty member.

The Department of Radiation Oncology felt that this was the ideal way to pay tribute to Allen S. Lichter's work as physician, researcher, faculty member,

department chair, and dean of the U-M Medical School. Due to the overwhelming and generous support of grateful patients, current and former faculty and residents and professional colleagues, the Allen S. Lichter, M.D., Professorship in Radiation Oncology will now be able to provide

ongoing support for an outstanding medical academician who can carry forth his legacy of translating medical physics into better treatments. A faculty member will be named later this year.

Today, physicians and scientists can individualize and adjust radiation therapy based on how a patient's tumor and normal tissues are responding to treatment. These advances can continue as new methods of dose calculation, treatment planning, treatment delivery, and functional imaging are developed. The generous support provided for the Allen S. Lichter, M.D., Professorship in Radiation Oncology will help build upon the momentum started by his career — helping to improve patient care and save lives well into the future.

U-M RADIATION ONCOLOGY NETWORK

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**Central Michigan
Community Hospital**
Norval K. Morey Cancer Center
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**The Radiation Oncology Center
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Center**
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WE NEED YOUR CONTINUED SUPPORT

A financial donation to the Department of Radiation Oncology can be made in a variety of methods — direct gifts, bequests, annuities, stocks, trusts and more. Your gift can be in your name, your family's name or in honor or memory of someone special to you. There are many donation options that offer tax deductions. We can assist you in exploring what option of giving works best for you.

However you choose to give, your contribution is a commitment to furthering the research and patient care goals of the U-M Department of Radiation Oncology.

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