

## Treating Head and Neck Cancers with the Helical TomoTherapy

**Helical TomoTherapy** uses the same proven type of radiation as conventional therapy, but allows the physician personally to customize your treatment delivery to target **your** tumor.

It combines Intensity Modulated Radiation Therapy, or IMRT, with a CT scanner. That means physicians can deliver beams of different doses to the body, under the guidance of advanced imaging.

**City of Hope's Division of Radiation Oncology** was one of the first facilities in the country to use TomoTherapy, and our physicians offer unmatched expertise with this advanced technology.

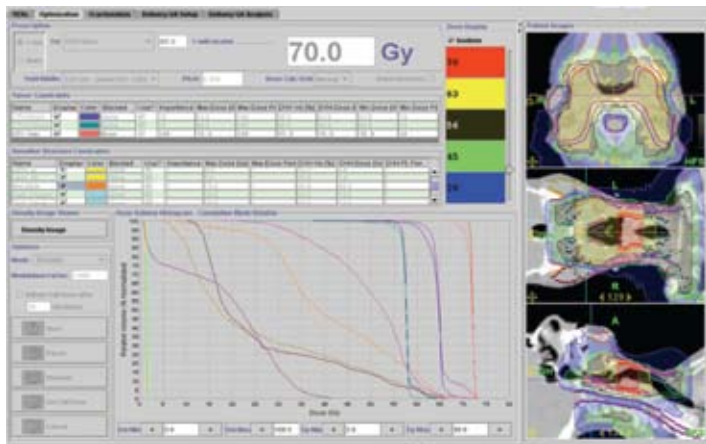
### HOW DOES RADIATION THERAPY WORK?

Radiation therapy is a localized treatment, which means it provides benefits — and side effects — in the exact area where it's delivered. By reducing the radiation dose to an area of normal, healthy tissue, a patient will experience potentially fewer side effects than they would in a more conventional treatment setting. This is especially important in the treatment of cancers of the head and neck region. If radiation dose can be spared to any portion of the oral cavity (mouth) or throat, the patient will experience significantly fewer problems in making their way through the course of treatment. This advanced technique makes it possible to reduce dose to the parotid gland, hence — saliva is preserved — lessening a patient's possibility of having a "dry mouth". In addition, TomoTherapy can assist in reducing dose to the normal swallowing muscles. This can improve a patient's ability to continue eating — directly impacting on a patient's quality of life.

### TREATMENT PLANNING

The ability to visualize the tumor with superior imaging technology is driving radiation therapy in a new direction. Radiation oncology now requires PET/CT or MRI imaging

modalities to be placed in the treatment planning process. With the use of these advanced imaging studies, the radiation oncologist relies on specialized 3-D planning software to establish the precise contours for each region of interest (tumor site) and any regions of avoidance (sensitive organs or structures). The physician decides how much radiation the tumor should receive, as well as limits to surrounding structures. The TomoTherapy system then calculates the appropriate pattern, position and intensity of radiation beams to be delivered in order to match the physician's prescription.



### PATIENT POSITIONING

External patient positioning has always been a key concern in providing radiation care, but now TomoTherapy provides the imaging technology to correct for internal movements that previously could not be seen. This same imaging can assist in correcting for any changes in the patient position from one day of treatment to the next. This feature allows the physician to view a special CT scan just prior to the treatment to verify the position of the target and adjust the patient as needed.

*Continued on back page*

# Treating Head and Neck Cancers with the Helical TomoTherapy

## WHAT MAJOR BENEFITS CAN TOMOTHERAPY OFFER?

- Potential reduction in short-term and long-term side effects such as –
  - ✓ xerostomia (dry mouth due to lack of saliva),
  - ✓ dysphagia (difficulty in swallowing);
  - ✓ less skin erythema (red — painful skin)
- Improved overall patient tolerance to treatment
- Clinical data to support the treatment delivery

## WHEN IS TOMOTHERAPY THE RIGHT TREATMENT CHOICE?

Only a qualified radiation oncologist can make the final recommendation on your care, but TomoTherapy offers potential benefits for many conditions

- Primary Head and Neck Tumors
- Recurrence of cancer in the head and neck area for previously treated patients

## FOR MORE INFORMATION, PLEASE CONTACT

City of Hope  
Division of Radiation Oncology  
800-341-HOPE (4673)

