

# Innovative Technology for Treating Cancer Faster and with Lower Doses of Radiation

by Brian Knab, MD, Medical Director, Radiation Oncology

In a promising development for cancer patients, the Elliot Regional Cancer Center now offers the new TrueBeam accelerator for cancer care. The technology is extremely versatile enabling us to treat a whole range of cancers, including breast, lung, and prostate cancers, as well tumors in difficult to reach locations in the brain or near the spinal cord.

The TrueBeam system improves our ability to localize the tumor as well as treat the tumor which much greater speed and accuracy. The TrueBeam will complement the full range of treatment capabilities currently available in our Manchester and Londonderry centers, and allows us to offer more personalized treatments for our patients.

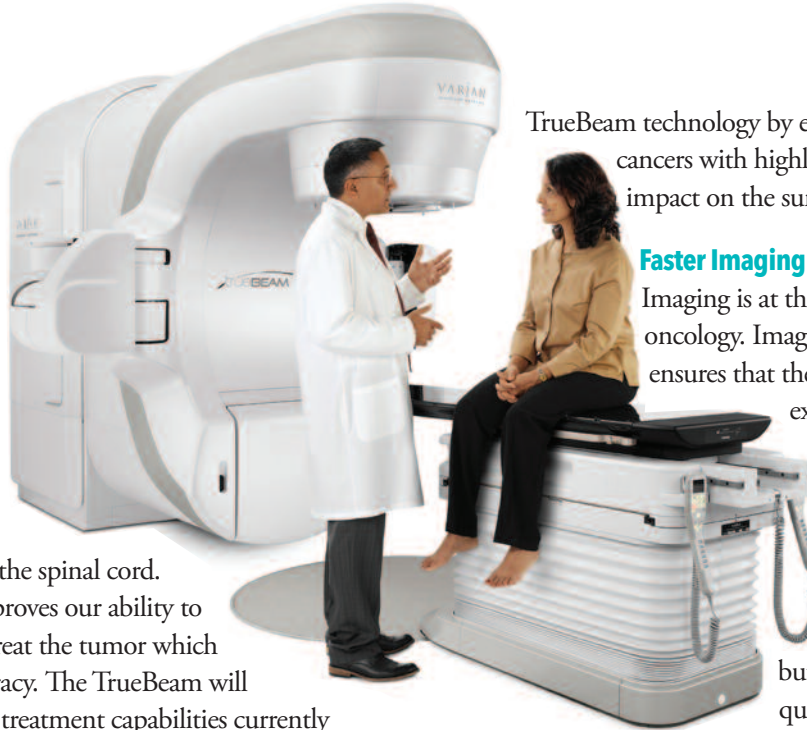
The TrueBeam also allows us to image tumors in real time, which is particularly important when we know that the tumor is moving during the course of treatment, for instance when treating lung cancers. The imaging capabilities built into the treatment machine ensures that the treatment is being delivered accurately and in some instances, allows physicians to assess the response to the radiation treatment over time.

## Faster Treatments

One of the unique features of the TrueBeam is the ability to deliver radiation treatment in a seamless, continuous rotation around the patient, referred to as a RapidArc™. For some cancers like prostate cancers, the treatment is delivered in just several minutes. Ultimately, this reduces the amount of time the patient spends in the department each day.

## Enhanced Treatments

During the past year, the Elliot Health System has introduced a lung cancer screening program to detect, diagnose and treat lung cancers at an earlier stage, when lung cancer is most treatable. Many of our lung cancer patients will benefit from the



TrueBeam technology by enabling physicians to treat lung cancers with highly targeted radiation, with less impact on the surrounding normal tissues.

## Faster Imaging at Lower Doses

Imaging is at the heart of modern radiation oncology. Imaging prior to treatment each day ensures that the treatment is being delivered exactly as planned. Improved imaging allows oncologists to more accurately target tumors and deliver higher, more effective doses of radiation. The TrueBeam not only provides better image quality, but the images are produced quickly and with much less radiation dose. We are able to identify and

localize the tumor just seconds before treatment, which means patients receive precise treatment in much less time.

## Summary

The TrueBeam greatly expands our treatment capabilities at the Elliot Regional Cancer Center. This is a tremendous advancement and we are thrilled to be able to offer this technology to our patients.



Brian Knab graduated from Duke University Medical School. While in medical school, he participated in a year-long lab research program at the University of California at San Francisco investigating new cancer treatments. Dr. Knab completed an internship in internal medicine at the University of Virginia, and served as chief resident in radiation oncology at the University of Chicago Medical Center. Dr. Knab received extensive training in the latest radiation therapy techniques including intensity modulated radiotherapy (IMRT), stereotactic radiotherapy, and brachytherapy, and also received additional clinical training at the Royal Marsden cancer hospital in London, England and the Seattle Prostate Institute. During residency, Dr. Knab participated in clinical research investigating the treatment of gastrointestinal and gynecologic cancers, brain tumors, and head and neck cancers. He also performed laboratory research in tumor immunotherapy and radiobiology. After finishing training, Dr. Knab joined Radiation Oncology Associates in 2007. Dr. Knab now serves as medical director for Elliot Regional Cancer Center in Manchester and Londonderry.