

To our prostate radiotherapy patients:

Radiation Medical Group, in collaboration with our local urologists, has developed a clinical trial to evaluate a new method of delivering therapeutic radiation to patients with prostate cancer. This radiation treatment technique is known as radiosurgery and is delivered by a device known as CyberKnife®. There are some important differences between this method and traditional external beam radiotherapy.

Primarily, CyberKnife® radiosurgery delivers a more precisely targeted form of radiation, enabled by a method known as “tracking,” which constantly updates the position of the prostate throughout each treatment, and transmits this positional feedback to the robotic radiosurgical delivery system, which continually compensates, maintaining millimeter accuracy. The therapeutic radiation source (linear accelerator) is attached to the robotic arm, which uses more targeting angles than traditional radiation systems, which in turn creates extreme dose sculpting capability, translating to a very tight molding of the high radiation dose around the prostate.

The end result of prostate tracking and tight radiation dose molding is a more “surgical” radiation margin around the prostate compared with other radiation techniques, exposing less normal tissue to radiation, allowing the entire treatment to be delivered in 4-5 large treatments over a week, instead of the traditional two month external radiotherapy course.

There are benefits and drawbacks to this new treatment method. Briefly, these include:

Benefits:

- Short course of treatment and rapid resumption of normal activities
- Biologically potent radiation dose within the prostate target volume
- Dosing resembles HDR brachytherapy – a published effective technique
- Less invasive than HDR brachytherapy – No hospital stay
- Sharp treatment margin reduces radiation exposure to surrounding tissues

Drawbacks:

- Minimal published outcome data specific to CyberKnife – It is new
 - Long-term effectiveness has not been confirmed
- Sharp margin could miss cancer cells if they spread outside the prostate
 - To minimize this risk, only selected early stage patients are eligible
- As with any radiation or surgical method, complications may occur

Because of the novelty and limited experience with this treatment technique, at this time, we are only performing it on eligible (early stage) patients who enroll in our approved clinical trial, so that we may confirm the effectiveness, evaluate the side effects in detail, and share our findings with others, through publication of results in peer-reviewed medical literature. Patients who are interested in this method of treatment under our CyberKnife radiosurgery clinical trial are encouraged to read the consent form and discuss the procedure with the undersigned or his staff.



*** Electronically Approved ***

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