

## **Information Sheet: Radiation Therapy for Brain Metastases**

Kidney cancer may metastasize to the brain, and may cause neurological symptoms (for example, headaches, nausea, and difficulty with balance or walking). It is important to report any new symptoms immediately. If your physician suspects brain metastasis, you will be scheduled for a CT or an MRI scan. You will be referred to a Radiation Oncologist, who may recommend radiation treatment, either Whole Brain Radiation Therapy (WBRT) or Stereotactic Radiosurgery (SRS), to stop the growth of metastatic tumors and to treat any symptoms caused by the tumors.

**For WBRT:** Prior to starting WBRT, you will be scheduled for a planning session (“simulation“). During simulation you will have a mask made, and you will have a CT of the head without contrast. The mask will hold your head in the correct position every day. Treatment is short, about 5-10 minutes daily, usually for 10-15 days. You will not see or feel the beams, but you may hear the machine moving around you. The radiation beams pass from the machine through the skull, and treat the tumor(s), but also treat the rest of the brain, as there may be stray cancer cells present.

**For SRS:** Treatment may be delivered by:

Gamma Knife Radiosurgery (GKRS), using a Gamma Knife (cobalt) machine, either as a single treatment or over several treatments (“fractionated” SRS), or by

Linear Accelerator SRS.

Both types of treatment machines aim multiple beams of radiation at a tumor. These beams intersect at the tumor target and deliver a very high dose of radiation to the tumor itself.

SRS treatment is a minimally invasive, outpatient radiation procedure, most often with a Radiation Oncologist and Neurosurgeon working together for the treatment. For single-treatment GKRS procedures, the Neurosurgeon will place a frame on your head, with local anesthesia and IV sedation. The frame is secured with 4 pins that go through the skin to touch the surface of the skull bones but do not go through the bone. You will have CT and MRI scans done for treatment planning. The frame helps to accurately target the tumor, and keeps your head completely still during treatment. For fractionated SRS, you will instead be fitted with a mask that will immobilize your head for the procedure. When treatment planning is complete, you will lie on the table for the treatment. When it is finished, the head frame or mask is removed, and after a short observation period, you may leave.

### **With ALL forms of radiation treatment to the brain:**

You may be prescribed a short course of steroids. It is important to take steroids exactly as directed, and to report any change in symptoms to your team. Side effects may include headaches, nausea, fatigue, and memory changes. If you had a head frame for GKRS, you will be instructed in care of the pin sites, and should call your team if you have a fever.

Your physician may prescribe a 6 month course of memantine (name brand Namenda, a medication used with Alzheimer’s patients) which has been shown to delay memory changes after treatment.

You are *not* radioactive. It is safe for you to be around others, including pregnant women and babies.

Following treatment you will be scheduled for periodic follow-up scans of the brain and to see your physicians.