RADIATION THERAPY TO THE BRAIN USING CYBERKNIFE
Disclaimer

This is general information developed by The Ottawa Hospital Cancer Centre. It is not intended to replace the advice of a qualified health-care provider. Please consult your health-care provider who will be able to determine the appropriateness of the information for your specific situation.
What is CyberKnife?

The CyberKnife Robotic Radio surgery System uses precise radiation doses to treat cancerous and non-cancerous tumours.

Each treatment session can take from 30-90 minutes to complete, depending on the type of tumour being treated. Your treatment can be delivered in one to five sessions. The number of treatments depends on many factors including tumour location, tumour size and tumour type.

Even though the CyberKnife System has the ability to treat with pin-point accuracy, there can still be some side effects. The side effects associated with your treatment are specific to the area being treated. Side effects you may experience will be explained by your Radiation Oncologist. Listed in this booklet are general side effects that can be seen in patients receiving CyberKnife brain treatments.

Even though your Radiation Oncologist will prescribe your treatment, a team of Radiation Therapists will be administering your treatment. You may also see the Radiation Oncology Nurse during your treatment.

If you have concerns or questions, please discuss them with your Radiation Therapy Team. They are here to help you during your treatments.

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<th>Smoking</th>
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<td>Patients are encouraged to stop smoking or at least not to smoke during treatment. Smoking increases side effects and decreases the effectiveness of your treatment. If you are having difficulties stopping smoking please talk to your health care team.</td>
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Please note that the following is a list of acute, or short-term, temporary reactions to your radiation treatment. Please discuss possible long-term effects of your treatment with your radiation oncologist.

For further information on the CyberKnife Robotic Radiosurgery System, please refer to their website: www.cyberknife.com

Possible Side-Effects

**EDEMA**
(SWELLING IN THE BRAIN)

Swelling of the tissues in the brain can cause a number of side effects. It is very important that you notify your radiation therapy team of any of the following symptoms or of any changes in your condition. In most instances medications can be prescribed to reduce this swelling.

**Notify your radiation therapy team immediately if you develop any of the following:**

- Headaches
- Nausea and Vomiting
- Earaches
- A change in vision, hearing or speech
- A change in feeling in your face, arms or legs
- A sudden change in your bowel or bladder function
- Weakness in your legs or arms
- Unsteady feeling when walking
- Seizures or ‘blackouts’
If you develop a severe headache or a significant change in your condition and the Cancer Centre is CLOSED, please phone 613-247-3500 and ask for the on-call Doctor for Radiation Oncology or go to the nearest emergency department.

**SCALP SKIN REACTIONS**

Most patients treated with the CyberKnife System have very little to no side effects on the scalp and hair. A small percentage of patients will develop a scalp skin reaction in the area being treated with radiation. This may occur 2-3 weeks after your first treatment. You may experience discomfort, itchiness, tenderness, swelling, and reddening of the scalp. The severity of the reaction is dependent upon your skin type (sensitivity to radiation), the area being treated and the dose and number of treatments prescribed. Use the following guidelines to minimize any skin reaction you may experience.

**Management**
(Applies to treatment area only)

The guidelines below are to be used beginning on the first day of your radiation treatment and are to be continued for a minimum of two weeks after finishing all of your radiation treatments or until your scalp has healed completely. Further scalp care will be provided on your last day of treatment.

**Washing instructions**

Wash scalp gently with a gentle baby shampoo containing no scents or perfumes

- Use only lukewarm water when bathing or showering.
- If possible, the shower setting should be adjusted to low pressure.
• Do not scrub the scalp.
• Air dry or gently pat hair dry with a soft cotton towel after bathing. You may also use a hair dryer on the cool setting. Avoid rubbing your scalp.

Other General Guidelines
• No moisturizing: Do not apply a moisturizer to the scalp. Ask the nurse or your doctor about using a cream if your scalp becomes dry or itchy.
• Scratching: Do not scratch your scalp if it becomes itchy.
• Irritants: Avoid the use of hair care or styling products such as gels, hairsprays and mousses. Avoid also chemical treatments such as hair colouring, perms and straightening.
• Temperatures: Avoid curling irons and flat irons and avoid exposing your scalp to temperature extremes (ice packs, heating pads, hot/cold/wet compresses, saunas and hot tubs, etc.).
• Sun and wind exposure: Wear a hat, scarf or wig to protect your head from the sun, wind and cold.
• Bandages: Avoid Band Aid® type bandages and adhesive tapes on treated skin.
• Swimming: Swimming may be allowed ONLY if the skin in the treatment area is intact. Please discuss with your Radiation Therapist whether or not swimming is advisable for you. After swimming rinse your head using the washing instructions mentioned above. Avoid swimming if you start to develop a skin reaction.

Your scalp reaction will be monitored by your radiation therapy team. Should your scalp become dry or itchy or begin to breakdown, please inform your radiation therapist. Your scalp reaction may also increase in severity 1-2 weeks following treatment. You are advised to follow all scalp care guidelines listed above for 2 weeks following the end of your radiation treatments or until your scalp has healed completely.
You can contact your radiation oncology nurse (613-737-7700 ext. ) in the first two weeks after treatment if you are concerned with the condition of your scalp. Following this two weeks period after the end of treatment, you are to contact your patient designated nurse with any questions related to side effects. Contact information will be provided on your last day of treatment.

HAIR LOSS

Hair loss is not common with the Cyberknife System but can still occur 2-3 weeks after the start of the treatments. You may experience the loss of small patches of hair. Please ask your Radiation Oncologist if hair loss applies to you.

NAUSEA AND VOMITING

You may develop nausea (a feeling of sickness in the stomach) and/or vomiting (throwing up) during your radiation therapy treatment. This may occur within 1-6 hours after treatment and usually lasts 24-48 hours after treatment. Please advise your Radiation Therapy Team if you experience nausea and/or vomiting.

MANAGEMENT of NAUSEA and VOMITING

If you have anti-nausea medication, take it as directed. If you experience nausea and/or vomiting please notify your Radiation Therapy Team. A change in you medications may be needed to control these symptoms.
RADIATION INDUCED FATIGUE

You may experience some level of fatigue during the course of your treatment. Fatigue is the feeling of being mentally and/or physically tired. You may already be feeling tired as it is one of the most common symptoms associated with cancer. This lack of energy can get in the way of your normal functioning making it harder to concentrate and bringing down your mood. Some patients may feel even more tired in the first two weeks following their radiation treatments. It may take a few weeks to return to how you felt before the treatments.

MANAGEMENT

• **Eating:** Eat a balanced diet and drink plenty of fluids.

• **Set priorities:** Continue with regular daily activities, however, only perform most important tasks if fatigue increases.

• **Rest:** Take short naps during the day if required. Aim to get the majority of your sleep at night.

• **Stay active:** Physical activity and exercise can help to minimize the effects of fatigue. Take a brisk 20-30min walk daily if you are able.

Let your Radiation Therapy Team know if you are feeling very fatigued, sleepy, depressed or are having difficulty performing everyday tasks. Your Radiation Therapy Team can direct you to other resources as required.

OTHER SIDE EFFECTS

If you experience side effects other than those listed in this pamphlet, please notify your Radiation Therapy Team and you will be referred to the appropriate health professional.