

Stereotactic Radiosurgery for Brain Metastases (Tumours)

What is Stereotactic Radiosurgery (SRS) Treatment?

SRS:

- is a way of delivering radiotherapy,
- does not involve surgery,
- accurately and precisely focuses high dose radiotherapy on a small area of your brain,
- can be delivered in single session or over multiple sessions depending on the number, shape, size and location of tumour(s).

Why is SRS used?

This treatment is used to:

- control the tumour in the location of the brain where SRS is given,
- give relief from your symptoms,
- avoid or delay the need for radiotherapy to your whole brain that may cause more side effects.

Precautions

- Before you consent to this treatment, please tell your radiation oncologist about any medicines you are taking or other treatments you are having.
- Before receiving this treatment, please tell your radiation oncologist about any changes in your medicines and treatments since your last appointment.

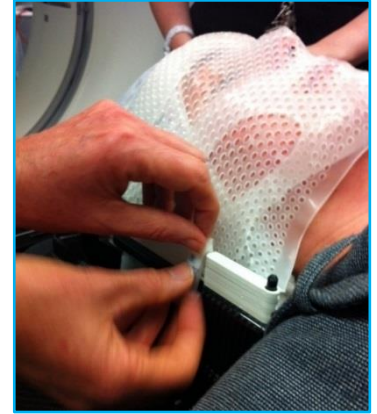
Planning and treatment process

Planning steps

(All of these steps will happen on the same day.)

1. A magnetic resonance imaging (MRI) scan of your brain is taken in the Medical Imaging Department
 - We do this to:
 - check that SRS is the right treatment for you
 - accurately identify the area for treatment.
 - Before we start the scan we will give you an intravenous injection of a contrast “dye” (gadolinium) which will help us see a clear image of the tumour.

- The MRI scan will take around 30 minutes.
2. A personalised head mask is made in the Radiation Oncology Department.
 - This mask helps to keep you very still during your treatment to make sure we can give you your treatment in the most precise way.
 - It will take around 40 minutes to make your head mask.
 3. A computed tomography (CT) scan of your brain is taken in the Radiation Oncology Department.
 - This helps us accurately calculate the dose of your treatment.
 - You will wear your mask during this scan.
 - This scan will take around 30 minutes.
 4. We develop your radiotherapy plan.
 - Your MRI and CT images are overlaid to give us a combined picture.
 - Your radiation oncologist, together with radiation therapists and medical physicists, will carefully develop a tailor-made treatment plan.



Treatment steps

1. Positioning for SRS delivery once you arrive for your treatment:
 - Just like the earlier CT scan, you will lie down on the couch (treatment bed) and your mask will be clipped to the couch to keep your head still.
 - We will check your position by taking x-rays and make small adjustments to your position by moving the couch.
2. Radiation treatment delivery
 - Once you are in the correct position, we will start your treatment.
 - Your treatment may include several beams, and we may need to move the couch to several different angles.
 - The time this takes can vary, from around 30 minutes to around 90 minutes. The beam is on for a small part of this time.

Your medicine before your treatment

Before giving you this treatment, we may give you these medicines if you need them:

1. Dexamethasone (steroid)
 - This can help prevent or reduce brain swelling after your treatment.
 - If you are not taking this medicine we will give you a single dose before your treatment.
 - If you are taking this medicine we will tell you what dose you should take before your treatment and what dose you should continue to take after your treatment.
2. Anti-anxiety medication
 - We may give you a medicine to help you feel relaxed if you feel anxious wearing the comfortably fitted mask.

What are the side effects of this treatment?

- Side effects may occur in areas where radiotherapy is delivered.
- Most patients tolerate this treatment very well. The chance of developing side-effects is different from person to person.
- Overall, the risk of developing side effects is much smaller than the risk of problems caused by uncontrolled brain tumours.

Side effects of this treatment are divided into two categories – early and late.

1. Early side effects
 - may develop during and/or within a few weeks after radiotherapy,
 - nearly always go away completely a few weeks after they start.

Early Side Effects		
Relatively Common	Rare	Very Rare
Mild tiredness	Headache, nausea, vomiting and worsening of pre-existing neurological symptoms (your risk is reduced by taking dexamethasone tablets at the time of your treatment)	Seizures
Mild patchy reaction over the scalp like sunburn		Stroke
Patchy hair loss on your scalp (this can be temporary or permanent)		

2. Late side effects

- may develop months and years after radiotherapy,
- may be permanent,
- are rare but can be potentially serious in nature.

Late Side Effects	
Rare	Very Rare
Temporary drowsiness (somnolence syndrome)	Cataract development
	Nerve damage resulting in muscle weakness, numbness, pain, pins and needle sensation, hearing or visual loss
Decline in memory and concentration (neurocognitive impairment) depending on where in the brain the treatment happened.	Pituitary dysfunction which can lead to changes of vital hormones in the body (depending on where in the brain the treatment happened)
	Seizures
Destruction of brain tissue (radiation necrosis)	Stroke
	Radiation induced second cancer

After your treatment

It is important to follow these instructions:

- If you have headaches, nausea or vomiting after receiving your treatment:
 - please contact your radiation oncologist/radiation oncology registrar on (02) 6174 8444 **during standard working hours**, or,
 - the on-call radiation oncologist/radiation oncology registrar via the hospital switchboard on (02) 6244 2222 **after hours**.
- If you have any of the symptoms listed above and they are very severe or you develop any other new neurological symptoms (for example: weakness, numbness, seizure, etc.), go immediately to your local Emergency Department for medical assessment.

Planning your appointments

1. Treatment and planning appointments

- After you consent to the treatment, we contact you within the next week regarding your planning and radiotherapy appointment dates and time.

2. Follow up appointment

- When you have completed your treatment, we will:
 - tell you the date and time for your follow up appointment,
 - give you a referral for an MRI scan or make an appointment for an MRI scan. This helps us to monitor the response of your tumour,
 - make sure that, if you were taking dexamethasone before you received this treatment, the dose you keep taking is right for you.

If you have any questions or concerns you can contact us.

Please call the Radiation Oncology Department on **(02) 6174 8444**

- **To make your planning appointment:** ask to be put through to the stereotactic radiation therapist. If this person is unavailable, your call should be put through to the patient liaison officer who will take a message and we will call you back.
- **For after-treatment care information:** ask to be put through your radiation oncologist or their registrar.
- **To make your follow up appointment:** talk with our reception staff.

Accessibility

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