



YOUR GUIDE TO

# Selective Internal Radiation Therapy (SIRT)



**IntraCare**

Interventional  
Radiology



IntraCare's interventional radiology suite

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# About this procedure

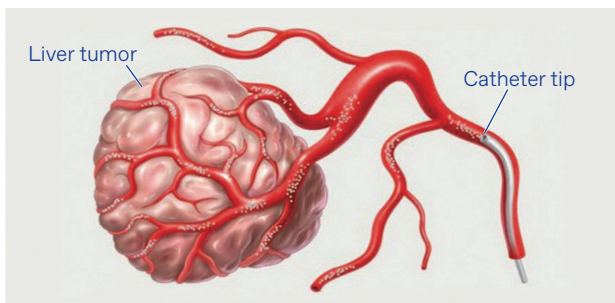
This guide provides information about a Selective Internal Radiation Therapy (SIRT) procedure. It includes details about what is involved, how to prepare and what to expect during and after the procedure. Please use this in addition to information from your doctor and nurse.

A SIRT is performed in an interventional radiology suite at IntraCare Epsom. Your interventional radiologist or vascular surgeon will be assisted by our nurses, and other highly skilled personnel.

Both IntraCare and Allevia Hospital will be involved with your care for this procedure. Allevia Hospital are responsible for your admission, preparation and aftercare.

## What is SIRT?

Selective Internal Radiation Therapy is a powerful form of radiation therapy used to treat liver cancer. This technique uses millions of tiny resin microspheres which contain a radioactive element called Yttrium-90. These particles are administered to the site of the liver tumours where they deliver internal radiation therapy directly to the tumour. The SIRT procedure allows the administration of a much higher dose of radiation than conventional radiotherapy can provide while minimising harmful side effects to surrounding tissue. This technique offers an alternative form of treatment for patients who are unable to have surgery to remove their cancer.



The liver is a unique organ that has two separate blood supplies. The major artery to the liver, the hepatic artery, provides 20% of the blood supply to the liver while a large vein, the portal vein, supplies the remaining 80% of the blood to the liver. Cancer involving the liver receives 80% of its blood supply from the hepatic artery. This difference in blood supply between the normal liver and the cancer allows high intensity radiation doses to be delivered to the tumour while limiting side effects of the radiation to normal healthy liver tissue.

A SIRT procedure is divided into stage 1 and stage 2 (further details on page 3)

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# Before your procedure

## Pre procedure phone call

A nurse from IntraCare will call you 24–48 hours prior to your procedure to discuss the following information:

- Your admission time.
- When you should stop eating and drinking.
- Medication instructions.
- Allergies (including medications, contrast dye, dressings/plasters and food).
- Answer any further questions.

## Anticoagulation (blood thinner)

If you are taking any blood thinners (e.g. Warfarin, Clexane, Pradaxa, Rivaroxaban), please make this known to IntraCare staff at the time of booking. Your interventional radiologist will advise you if you need to stop this medication temporarily for a few days before the procedure.

## Other regular medications

Please continue to take these unless advised otherwise by your interventional radiologist. If you are taking a diuretic or water pills (e.g. frusemide, spironolactone), you may need to withhold this on the morning of the procedure.

## Reminders for the day of your procedure

- If you are on regular medication, please bring this with you in its original packaging.
- Please leave all your jewellery and valuables at home. You are welcome to bring your mobile phone in with you.
- We recommend wearing loose-fitting clothing and shoes that are easy to slip on/off.
- You are encouraged to bring a friend or a family member as a support person before and after your procedure.
- For SIRT stage 1 – This is commonly a **day stay** procedure, but please bring an overnight bag with you in case you are required to stay overnight.
- For SIRT stage 2 – This is an **overnight stay** procedure, please bring an overnight bag.
- The planned procedure time is an estimate only and may vary. We will keep you informed of any unexpected delays on the day.

## Informed consent

As with any procedure, there are potential risks involved. Your interventional radiologist and anaesthetist will explain the procedure, discuss possible risks and answer any questions you may have. Your whānau or support person are welcome to be part of this discussion. You will then be asked to sign the consent form. This will occur either at an earlier appointment, or on the day of your procedure.

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## Your procedure

SIRT procedure is performed in 2 stages. Stage 1 is performed under conscious sedation and usually takes 45-60 minutes. Stage 2 is performed 7-14 days after the first stage under conscious sedation and usually takes 45-60 minutes.

### Preparation

You will be collected by an IntraCare nurse from Stella Maris ward, Allevia Hospital to IntraCare for your procedure. A small intravenous (IV) line will be inserted into a vein in your arm for medication to be injected. We may need to remove hair with clippers at the access site for sterile preparation. Please avoid shaving the area yourself as this may cause minor abrasions to the skin, increasing the risk of infection

Other devices for monitoring blood pressure, heart rate and oxygen levels will be fitted to ensure your safety during the procedure.

### Stage 1

The **first stage** of the procedure is **treatment planning**. Local anaesthetic will be injected around the artery in your groin. This will sting for approximately 30 seconds. If at any time you feel pain or discomfort, please inform the doctor immediately, and more pain relief can be given via your IV line, as well as more local anaesthetic.

Using ultrasound guidance, the artery in the groin will be accessed, and a small tube (sheath) will be inserted into the artery. Using contrast dye and fluoroscopy, hepatic arteriograms will take place to map the blood supply to this area, to identify any arteries that carry blood outside of the liver. If present, these are blocked so that none of the powerful radiation will damage organs outside the liver. At the end of the procedure the sheath is removed, and a closure device will be used to close the hole made in your artery.

## Stage 2

The **second stage** of the procedure is **treatment delivery**. This stage is carried out in the same way as the first stage, using a sheath inserted into the artery in your groin. Using a catheter, the radioactive particles (Yttrium-90) are infused into the artery feeding the tumour(s). The particles lodge in the arteries surrounding the tumour where they reduce its blood supply and deliver localised radiation to the tumour cells. At the end of the procedure, the sheath is removed, and a closure device will be used to close the hole in your artery.

## Types of arterial closure devices

An arterial closure device is used to mechanically seal the artery. There are 3 main types of closure devices used at IntraCare:

- **Mynx** – A soft bioabsorbable polyethylene glycol plug sealant to seal the blood vessel. The sealant is dissolved within 30 days.
- **Perclose/Proglides** – A Suture mediated closure system designed to seal blood vessel and prevent bleeding.
- **Starclose** – A small nitinol clip place on top of the artery to seal and prevent bleeding.

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# After your procedure

## After stage 1

After your first procedure, you will be transferred by ambulance to MSK Radiology (Greenlane) for a scan. A nurse from IntraCare will accompany and monitor you throughout the transfer. After the scan you are transferred back to Stella Maris ward where the ward nurse will monitor your recovery and if appropriate, you will be discharged after 4 hours.

Due to a small puncture being made in the artery, there is a risk of bleeding after the procedure, therefore:

- If a closure device was utilised to close the hole, you will need to remain flat for 1 hour.
- If a closure device was not utilised, and manual pressure was applied to the groin after the sheath was removed, you will need to remain flat for 2 hours.
- You will be on full bed rest for 4 hours.

## After stage 2

After your second procedure, you are taken back to the ward straight after the procedure where nursing staff will monitor your recovery. As with stage 1, similar aftercare instructions will be followed during stage 2.

If you have any visitors after this procedure, it is advised that they sit to your left as a precaution against minor radiation exposure. You will remain in hospital overnight and be discharged the following morning, to MSK Radiology (Greenlane) for a post stage 2 scan. The nurse will explain the discharge information before going home.

## Recovery and discharge

The most **common** side effects that occur following this procedure are:

- Fever – can last for a few days to a week and usually occurs at night.
- Pain – abdominal pain may last for several days, usually responding well to regular pain medication.
- Nausea – can last several weeks and may require anti-nausea medication.
- Lethargy – can last for several days.
- Reduced appetite.

### For the first three days

SIRT does use radioactive particles, but you should not be concerned about exposure to this radiation harming yourself or others. However, it is advised that you:

- Limit exposure to children and pregnant woman for 2 days.
- Wash hands thoroughly after handling any type of body fluid, or clothing/linen soiled by body fluid.
- Wash soiled clothing/linen separately to other washing.
- Double flush the toilet for a few days post procedure.
- Use a condom during sexual activity.

Following your procedure, it is important that you **do not drive for 24 hours**.

Please ensure you have a family member or friend to drive you home from the hospital, as you may still be under the effects of anaesthesia or sedation.

- You will need to arrange someone to be at home with you on the day of your discharge and overnight to support you in your recovery.
- Due to the sedation, you may feel lethargic afterwards with reduced concentration. For this reason, for 24 hours after your procedure:
  - Do not do any activity requiring strength, concentration, or full alertness.
  - Do not make any legal decisions or sign legal documents.

## Resuming activities

- You will be able to return to work within a week of having the procedure unless your job involves heavy lifting (>5kg).
- You can begin light exercise after 1 week.

## Medication

Your interventional radiologist will give you a prescription for pain relief (analgesic) to take home. Please use this should you experience any dull aching pain for the following few days.

## Femoral (groin) site care

It is normal to experience some bruising at the puncture site. During the first few days after your procedure:

- Do not do any heavy lifting (>5kg) or strenuous exercise.
- Try not to excessively cough, sneeze, or strain as this puts pressure on the puncture site which may cause it to bleed.
- Do not sit in a bath, hot tub or spa. This reduces the possibility of bleeding or infection.
- Do not cross your legs while sitting.
- You may resume walking if your puncture site is not painful.
- Remove the dressing on your groin once the skin has healed (approximately 3 days).

## Haematoma

It is common for a haematoma to develop after this procedure. A haematoma is a collection of blood under the skin that is sometimes painful. A small hard lump (similar in size to a pea) may also be felt under the skin and remain for several weeks:

- If a large lump (haematoma) occurs, lie down, and get another person to press down firmly on the centre of the haematoma for approximately 10 minutes.
- If after releasing pressure, the haematoma reoccurs, keep applying the pressure and go to your local accident and emergency department.

## Bleeding

- It is common for there to be a small amount of ooze. If this occurs, re-apply a sticking plaster and lightly press for a few minutes.
- If there is significant bleeding, you should lie flat, and another person will need to apply firm pressure for 10 minutes. If this does not stop the bleeding, call an ambulance.

**Seek immediate medical attention (dial 111 for an ambulance) if there is excessive bleeding from the puncture site.**

Please take this booklet and your discharge summary with you if visiting the GP, afterhours or hospital.

**If you have any concerns after your procedure, please contact IntraCare:  
Monday to Friday: 09 630 1961 (between 6:30am and 6:00pm).  
For after-hours, weekends, and public holidays, contact 027 482 0763.**

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## How to find us

### IntraCare Epsom

Both IntraCare and Allevia Hospital will be involved with your care for this procedure.

**When you arrive, please report to the Allevia Hospital reception desk (number 1 on the map).**

First Floor, Allevia Hospital Reception  
98 Mountain Rd, Epsom, Auckland 1023

P: +64 9 630 1961 (Monday to Friday 6:30am–6:00pm)

P: +64 27 482 0763 (after hours, weekends and public holidays)

E: [admin@intracare.co.nz](mailto:admin@intracare.co.nz)

W: [intracare.co.nz](http://intracare.co.nz)

### Where to park

A 10 minute patient 'drop off zone' is available on the level 1 carpark. Head up the ramp as you enter into the carpark from the Main Entrance on Mountain Road.

The first 30 minutes are free and apply only once the vehicle licence plate number has been entered into a payment terminal. Patient parking is available on all levels of the car park. Parking limits apply, and parking spaces are marked (P90, P180, and All Day Parking).

The Allevia Hospital parking is managed by a separate company, and a fine may be issued if your vehicle breaches any of the parking terms and conditions.

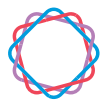
There is free 120 minute parking available nearby on Mountain Road, Gilgit Road and Almorah Road after 9am.



**Main entrance to patient and visitor car park**  
- 250 spaces

**Walkway to main reception**  
Pedestrian access to main reception from car park

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|--|--|
| 1 Allevia Hospital reception and Allevia Radiology 1 reception | 8 Allevia Radiology 2 (CT, ultrasound)         |
| 2 Canopy Cancer Care   | 9 The Heart Group                              |
| 3 ARO (Auckland Radiation Oncology)                            | 10 Allevia Radiology PET-CT Canopy Cancer Care |
| 4 Allevia Café and outdoor dining courtyard                    | 11 Allevia Specialist Centre                   |
| 5 Allevia Pharmacy   | 12 Allevia Radiology 1 (MRI/X-ray)             |
| 6 IntraCare  | A B C D E Allevia Specialist Centre entrances  |
| 7 Awanui Labs (blood tests)                                    |  |



# IntraCare

Intra Limited

E: [admin@intracare.co.nz](mailto:admin@intracare.co.nz)

W: [intracare.co.nz](http://intracare.co.nz)

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