
DEPARTMENT OF NUCLEAR MEDICINE & PET

INFORMATION TO PATIENTS RECEIVING SIR-SPHERES THERAPY

What is SIRsphere treatment (SIRT)?

SIR-spheres are micro-spheres containing the radioactive element yttrium-90, which emits beta radiation, which travel only a few millimetres in the soft tissues. The external radiation exposure to others from the patient is minimal. SIR-Spheres are implanted through the arterial blood stream to lodge in the liver, where they are targeted to kill the tumour cells. Whilst lodged in the liver the spheres irradiate through the process known as Selective Internal Radiation Therapy (SIRT).

Are there any radiation side effects from this procedure?

Any radiation treatment procedure carries some risk. Your doctor recommends this procedure since the treatment benefits are thought to outweigh the risks. This treatment involves killing the cancer cells selectively and damage to the other cells in the liver is minimal. There can be damage to other organs if some of the SIR-spheres are carried in the blood stream to other organs than the liver. SIR-spheres are injected under x-ray control to visualize the blood vessels, to avoid any radiation damage due to movement across the part of gastrointestinal tract.

In a few patients, a significant part of the blood flow from the hepatic artery bypasses the liver and is shunted via the venous system to lodge in the lungs. Treatment with SIR-spheres in such cases could result in irreversible damage to the lungs known as radiation pneumonitis. To determine if this treatment is safe for you, your physician will assess this condition prior to the treatment by performing a nuclear medicine scan.

Are there any risks for pregnant women?

There is no evidence on the safety and effectiveness of SIR-Spheres in pregnant women, nursing mother and children. Therefore, this treatment should not be given to pregnant women, nursing mothers or children. If you are a female and still able to have children you should ensure that you do not become pregnant for at least one month following the treatment.

If there is a possibility you might become pregnant at any time after the treatment, there may be other important health issues to consider and you should discuss further with your doctor.

What happens on the treatment day?

On the treatment day, you will be taken to the Department of Radiology, Liverpool Hospital. You will be taken to the angiogram suite for treatment procedures. An experienced surgical team supervised by the nuclear medicine physician and radiation safety officer will carry out the administration of the SIR-spheres. After the completion of the administration, you will be brought to the department of Nuclear Medicine for imaging to assess the placement of micro-spheres. A small number of patients may experience pain or nausea after the treatment. The physician may prescribe medication to overcome these side effects.

Can pregnant and small children visit during your stay in the hospital?

Children and pregnant women should not visit you during your stay in the hospital.

Precautions to be taken once discharged?

1. Avoid prolonged, close contact with young children and pregnant women for a week following the treatment.

2. It is recommended to sleep in a separate bed with your partner or children for few days (3 to 4 days after you return home).
3. Yttrium-90 is bound to the SIR-spheres and is not generally excreted in the urine. However it is important to use good hygiene and hand-washing for all visits to the toilet.