



Having a sentinel lymph node injection

A sentinel lymph node (SLN) injection is performed prior to breast surgery. It is an injection of a radioactive tracer in order to detect your lymph nodes during surgery. A biopsy of the SLN will determine if cancer has spread from the tumour.

For female patients

If you know that you are pregnant, or there is any chance that you may be pregnant, please contact the Medical Physics Department.

Preparation for your injection

There are no extra preparations for a sentinel lymph node injection; please follow the advice given to you to prepare for your surgery.

Your injection

A small amount of radioactive tracer will be injected into the breast which is being operated on or both breasts if you are having a bilateral surgery. The injection is given around the edge of the areola using a fine needle. It takes a few seconds to do this. You may feel the 'pinprick' of the needle and/or you may feel a slight sting. There are no lasting side-effects from this injection. This injection is a separate procedure to the 'blue dye', which you may also receive during surgery; both are used to detect your lymph nodes. Your injection will either be performed the morning of your surgery or the afternoon before your surgery.

How does it work?

The injection will be taken up by your lymph glands over the next few hours. During your surgery, the surgeon will use a piece of equipment to detect the nodes and remove the node nearest the tumour called the sentinel lymph node. A biopsy is taken of the sentinel lymph node to check for abnormal cells. If there are abnormal cells present, additional lymph nodes may need to be removed which may be done during the surgery or a follow-up surgical procedure.

What are the benefits and risks?

The injection contains a small amount of radioactive tracer, called a radiopharmaceutical. The small risk from the radiation dose is outweighed by the information that will be gained by having the injection. The table on the following page gives radiation dose information. Please ask the Medical Physics Team if you have any concerns about radiation dose.

Sentinel lymph node biopsies help doctors to stage cancers by understanding if the cancer has spread. Any surgery which removes lymph nodes can cause complications, such as lymphedema. The risk of complications increases with the number of lymph nodes removed.

SLN injections can reduce the amount of lymph nodes that may need to be removed, which can reduce the associated complications. Please ask the surgical team looking after you if you have any concerns about risks associated with lymph node removal.

Contacting us

Medical Physics Department, Level 1 North Block, Monday to Friday, 9.00 am to 5.00pm.

If you have any questions about your child's treatment, please ask the staff looking after you or telephone 0118 322 7355 or email: rbb-tr.physics@nhs.net

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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Next review due: March 2028

The table below is a simple guide to the levels of radiation risks for various examinations. These are measured in millisieverts (mSv).

Source of exposure (using RBFT local diagnostic reference levels (DRLs) for Nuclear Medicine)	Dose
Having a chest x-ray	0.014 mSv
Taking a transatlantic flight	0.08 mSv
Sentinel Lymph Node injection	0.02-0.08 mSv
Having a dental x-ray	0.005 mSv
Average annual radon dose to people in Cornwall	6.9 mSv