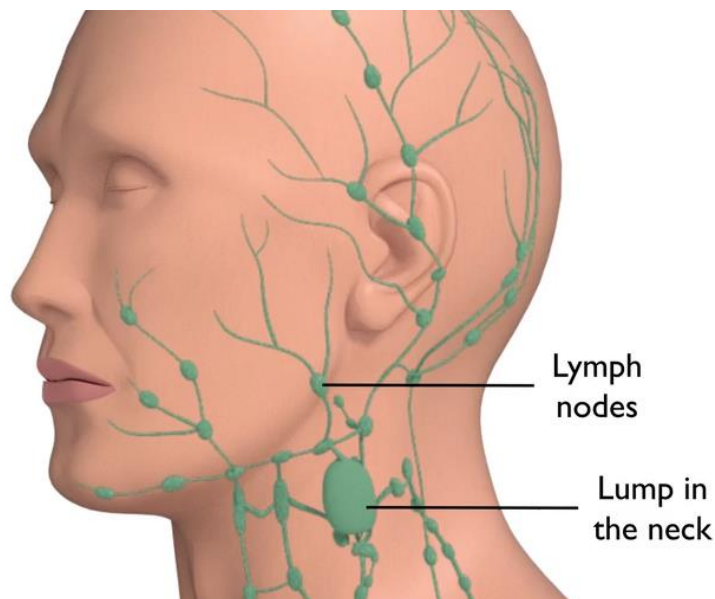


SENTINEL NODE BIOPSY AND LYMPH NODE EXCISION

This information aims to help you understand the operation, what is involved and some common complications that may occur. It may help answer some of your questions and help you think of other questions that you may want to ask your cancer care team; it is not intended to replace advice or discussion between you and your [cancer care team](#).

AN OVERVIEW TO SENTINEL NODE BIOPSY AND LYMPH NODE EXCISION

- Lymph nodes are bean shaped glands in the neck that are part of the immune system's defence against infection. There are hundreds of lymph nodes in the head and neck area and the majority of these run down the sides of the neck and under the jaw (see diagram below).



- Lymph nodes are normally difficult to feel because they are soft and small (less than 1 cm) but may become swollen during infection. They may be involved in the spread of some cancers and one of the first places these cancers spread can be the nearby lymph nodes.

- Sentinel node biopsy is a procedure done to help determine if cancer has spread to the lymph nodes. It is commonly done for breast cancers and melanomas. It is also suitable for certain cancers in the head and neck, and can help determine whether the lymph nodes should be treated more thoroughly. Sentinel node biopsy identifies the first lymph node (the sentinel node) that is most likely to have cancer cells spread to it. Some patients have one sentinel node, whereas others have two or three sentinel nodes.
- If no cancer cells are found in the sentinel node(s) (a negative sentinel node biopsy) then the cancer has most likely not developed the ability to spread to nearby lymph nodes and no further neck dissection will likely be needed.
- If cancer cells are found in the sentinel node(s), (a positive sentinel node biopsy) then more nodes may need to be removed by way of a [neck dissection](#).

WHY IS A SENTINEL NODE BIOPSY NEEDED

- Sentinel node biopsy is used to help determine if cancer has spread to the lymph nodes. It may help avoid a more extensive operation such as a neck dissection.
- Sentinel node biopsy may be suitable for some people with small head and neck cancers, including certain cancers of the skin or in the mouth.
- Sentinel node biopsy is not used when cancer in the lymph nodes is suspected or proven.
- Sentinel node biopsy is less invasive than a neck dissection and reduces the risk of side effects such as nerve damage, shoulder weakness, numbness, pain and tissue swelling (lymphoedema).

HOW TO PREPARE FOR THE OPERATION

Sentinel node biopsy may be done at the same time as the surgery to remove cancer. Refer to the [Beyond Five website](#) for further information about the surgery for your particular cancer.

Before the operation:

- You will need to fast (have nothing to eat or drink) for 6 hours before your operation (unless advised differently by your surgeon or anaesthetist) because the sentinel node biopsy/lymph node excision is usually performed under a general anaesthetic (you will be asleep and will not remember what happens during the operation).
- Your surgeon will explain the details of your operation. Be sure to bring up any questions or concerns, and share your needs and wishes with your cancer care team (see box).
- You should speak to your doctor about how to manage aspects of your lifestyle, such as smoking, drinking alcohol and chronic conditions (e.g. diabetes and obesity) that may increase the risk of complications.
 - If you take blood thinning medication for a heart condition or blood clots (such as warfarin, Plavix, aspirin or Pradaxa), make sure your surgeon is aware. Some of these medications need to be stopped more than a week before the operation. Sometimes a short-acting blood thinner (such as Clexane) is used before and after the surgery
- Talk to your surgeon and [cancer care team](#) about any likely side effects you can expect following the operation. You may find it useful to talk to a dietitian, speech pathologist or specialist head and neck nurse about these issues.

Possible questions that you may want to ask your cancer care team

- Where do you expect to find the sentinel nodes and what kind of incision will you make?
- Do you check to see whether the sentinel nodes contain cancer at the time of surgery or do you wait until after the surgery to find out?
- Are there any important nerves near the sentinel nodes?
- What are the risks for that type of incision?
- Will you place a drain after surgery?
- How long will I be in hospital?
- If I need further surgery, when do you expect to do it?

Additional questions are listed at the end of this factsheet.

Visit the [Beyond Five website](#) for further information on the health professionals who may be part of your cancer care team

WHAT TO EXPECT DURING THE OPERATION

- There are three steps to finding the sentinel nodes:
 1. **Lymphoscintigraphy:** Several hours before the operation (or the day before) a radioactive dye will be injected with a needle around the cancer. This is done by a nuclear medicine doctor. A scanner will follow the dye as it travels through the lymphatics to the sentinel nodes. The sentinel nodes will be marked on your skin with a marking pen and pictures of the scan will be given to you to take to your surgeon. Don't rub off the marks on your skin.
 2. **Blue dye:** Immediately before the operation starts the surgeon injects a blue dye around the cancer. This is often done when you are asleep.
 3. **Finding the sentinel node(s):** A cut is made where the scan has shown the sentinel node to be. The surgeon uses a type of Geiger counter called a gamma probe to look for the sentinel node. This is made easier if the lymph node looks blue from the dye. The lymph node is removed and the radioactivity is measured to check it is the right lymph node.
- The sentinel node(s) removed from the excision will be examined in detail by a specialist pathologist, under a microscope to look for cancer cells. Sometimes this is done while you are asleep, but a more thorough examination takes more time. Through this examination, the [cancer can be accurately staged](#). Further information about staging of cancer is available on the [Beyond Five website](#).
- If cancer is found in the sentinel node(s), the surgeon may remove additional lymph nodes either during the same procedure, or during a later operation.

WHAT TO EXPECT AFTER THE OPERATION

- After the operation, once you are fully awake, you will be moved to a bed in the day stay area or in the hospital ward if a more extensive operation was done.
- You may have a drip in your arm to give you fluid until you are able to drink.
- Your anaesthetist and surgical team will give you medicine to help control any pain and nausea after the operation.
- As a result of the dye that is injected as part of the operation, urine may change in colour; this is to be expected and resolves quickly.
- Most patients can go home the same day but this depends on what other procedures are done at the same time.
- If a positive node is found and a further neck dissection is required, information on what to expect for neck dissection and for the surgery for your particular cancer is available on the [Beyond Five website](#).

POSSIBLE RISKS OF SENTINEL NODE BIOPSY AND LYMPH NODE EXCISION

The specific risks of sentinel node biopsy depend on the expected site of removal of the sentinel node(s), which you should discuss further with your surgeon. In general, a scar with an area of numbness around it is expected and specific risks to the nerves or vessels relating to the site of the operation.

All operations carry some risks such as blood clots, wound infections, bleeding, chest infection, adverse reactions to anaesthetic, and other complications. These risks will be explained by your cancer specialist and anaesthetist.

Your doctor will explain details of the operation, general risks and side effects of the operation, they may recommend:

- stopping blood thinners (e.g. aspirin) before surgery to reduce the risk of bleeding
- a blood thinner (called heparin) may be injected before and after surgery to reduce the risk of blood clots
- antibiotics to reduce to risk of wound infection
- early mobilisation to reduce the risk of blood clots and chest infection
- special stockings to reduce the risk of blood clots.

Sentinel node biopsy is a very safe operation and the risk are much lower than a neck dissection but there are some specific risks to be aware of:

- **Skin or allergic reactions:** A reaction to the blue dye used in sentinel node biopsy can occur. Allergic reactions are usually mild and easily treated. Severe allergic reactions are rare.
- **Nerve damage:** There are many nerves that run close to the lymph nodes. There is a small risk that a nerve may be bruised or damaged during the sentinel node biopsy. Usually this is temporary but it may take a few months to recover. Rarely this can be permanent.
- **Lymphatic fluid leak ('chyle leak'):** If the sentinel node is low down in the neck it may be near the main lymphatic channel that returns fluid to the heart. If this channel is not completely sealed large amounts of milky coloured fluid (called chyle) will leak out. This is a rare complication. For more information about chyle leaks see neck dissection.
- **False negative result:** If cancer cells have spread but are not seen in the sentinel nodes this is called a 'false negative'. This may give a false sense of security increase the chance of the cancer coming back. You should discuss with your surgeon the risk of a false-negative result for your cancer.

SIDE EFFECTS AND THEIR MANAGEMENT

As with all operations, there is a chance that the biopsy and/or excision may lead to a number of side effects. You may not experience all of the side effects. Speak with your doctor if you have any questions or concerns about treatment side effects. Side effects common for sentinel node biopsy and lymph node excision may include:

- **Nausea:** General anaesthetic may cause nausea. This will settle down soon after the operation and can be treated with medications.
- **Short-term pain, swelling and bruising:** This may occur at the site of the operation and the cancer care team can assist with managing any pain.
- **Numbness:** Most incisions in the neck will cause some loss of feeling above and below the cut. Because the incisions used for sentinel node biopsy are smaller, this is usually temporary but it may take a few months for the feeling to return.
- **Pain management:** Sentinel node biopsy is not a very painful operation but pain is a common side effect of any operation. Your anaesthetist will give you pain medicine during the operation to keep you comfortable when you wake up, and you may continue on pain medicines to ensure pain is under control.
- You should also refer to the information on neck dissection on the [Beyond Five website](#), for the side effects of neck dissection.

OTHER TREATMENT(S)

- Additional treatment(s) depend on the nature and extent of the cancer.
- Head and neck cancers often require treatment with more than one form of therapy to reduce the risk of the cancer recurring. Many patients need radiation therapy after the operation, and sometimes, may also require chemotherapy.
- Your cancer care team will be able to discuss the likelihood of needing further treatment before your operation.

BEFORE GOING HOME

- Any particular instructions for [wound care](#) or medications will be provided to you before you go home. You may want to download further information about wound care on the [Beyond Five website](#).
- Your doctor may prescribe pain medications to help relieve the pain following the operation. Ensure you take the pain relief medications as prescribed by your doctor and speak to your cancer care team if the pain is not under control, gets worse or if the medication causes any side effects.
- You will be assessed by the team involved in your care before you go home and follow-up will be arranged with your surgeon and GP.
- Follow-up may also be arranged with any other allied health professionals that may assist you with supportive care
- Your recovery at home may vary and you should allow time for your body to recover and heal. Regular follow-up helps to assess your progress.

FOLLOW-UP CARE

- After your operation, you will continue to have regular follow-up visits with your specialist doctor and cancer care team.
- Any additional reconstruction, cosmetic procedures or treatments that you may need are planned after discharge. This enables time for you to recover from the initial operation, get results of the pathology that examined the tissue removed at the operation, and make the arrangements for any additional treatment or next steps.

For further information about the operation for cancer and what to expect, you can also refer to [Understanding Surgery: a guide for people with cancer, their families and friends](#).

QUESTIONS TO ASK YOUR DOCTOR

- What type of cancer do I have? Where is it located?
- Where is it most likely to spread to?
- Am I likely to need more treatment and if so what type of treatment?
- What are the risk factors for this disease?
- What lifestyle changes (diet, exercise) do you recommend I make?
- What are the chances that the surgery will cure the cancer?
- What will happen if I don't have the surgery?
- How much will the operation cost? Will my health insurance cover it?
- What are the possible side effects of treatment? How can they be prevented or controlled?
- Will I have a scar?
- Will I be able to lead a normal life?
- When will I get the pathology results?
- What follow-up tests will I need after the operation?
- Am I suitable for any clinical trials?
- If I wanted to get a second opinion, can you provide all my medical tests?

You may want to write additional questions here to ask your doctor or cancer care team

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