Neck Dissection - Surgery to remove neck lymph nodes

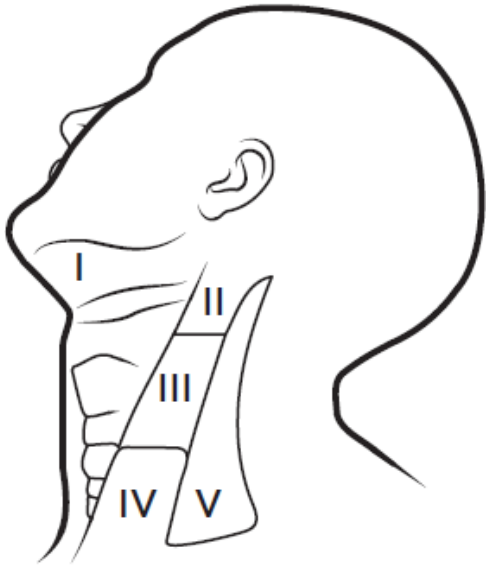
Introduction

There are approximately one hundred lymph glands (nodes) on each side of the head and neck. These nodes are joined together by a network of lymph channels to form the lymphatic system of the head and neck.

Lymph nodes can be enlarged for many reasons including persistent inflammation or infection.

Occasionally, cancers within the head and neck region can also spread to these lymph nodes forming ‘secondaries’ or ‘metastases’ and present as a persistent enlarging lymph node or neck lump.

In order to confirm the origin of a cancer in the head and neck, a number of investigations need to be done. These may include endoscopies, imaging (CT, MRI and or PET scans), needle sampling and sometimes tissue sampling surgery.



What is a neck dissection?

Neck dissection is an operation performed to remove the involved and draining lymph nodes in the neck. This includes the enlarged lymph nodes or neck mass and the surrounding “normal” lymph nodes. Surgeons divide the neck into different ‘levels’ where certain cancer types can spread to (see image above).

The dissection can be selective or ‘partial’ where only some lymph gland groups are removed with preservation of most normal neck structures (nerves, muscles, vessels) or ‘radical’ where these structures may need to be removed in order to remove a cancer growth.

Neck lymph node surgery may be performed at the same time as another head and neck operation to remove the original tumour (primary site). Occasionally, both sides of the neck will have a neck dissection.

How is the operation performed?

The surgery is done under general anesthesia. Surgery can take anywhere from 1 to 3 hours, plus time needed to remove the primary tumour. If a plastic surgery reconstruction is needed, the surgery can take even longer. A long neck incision will be made in an an existing skin crease and the structures of the neck and lymph nodes will be identified and removed as appropriate. The tissues removed will be sent to the laboratory to confirm the diagnosis and determine the extent of the disease. After the wound is closed, drain tube(s) will be placed under the skin. You will be in hospital for a few days depending on the extent of surgery and the length of time that the drain tube needs to stay in position.

How to prepare for surgery

It is important to let your doctor know if you are taking any prescription or non-prescription (including herbal) medications. Blood thinning medication (eg Plavix, Xarelto, Warfarin, Pradaxa, Eliquis) greatly increase risk of bleeding and will need to be stopped before surgery. Certain diabetic medications also affect anaesthesia and need to be discussed with your treating doctor. Smoking greatly increases the risks of surgery and stopping even for a few days before surgery can help.

Possible complications of surgery

Skin numbness

It is common to have skin numbness after surgery and most will improve with time though not completely. This numbness initially includes the skin from the ear lobe to the collar bone. It often limits the pain patients experience after surgery.

Blood clot (haematoma)

Sometimes a clot can develop under the skin despite the drain tube(s). It may require further surgery to evacuate the clot.

Accessory nerve injury

The accessory nerve is a major nerve that runs along the neck and supplies the muscles of the shoulder. It may be injured or removed (close to or stuck to the cancer) during surgery. This will result in a stiff shoulder and difficulty lifting your arm above the shoulder. Physiotherapy may be recommended to help the shoulder recover.

Hypoglossal nerve injury

This nerve makes your tongue move and it may be rarely injured or involved by the cancer that is removed. Injury will cause some difficulty in eating and speech change.

Marginal mandibular nerve injury

This nerve moves the corner of your mouth. Injury to it (usually temporary) will result in asymmetry of the lower face particularly when smiling and occasionally some dribbling when drinking liquids.

Neck deformity and stiffness

You may experience some neck stiffness. There may be some neck asymmetry due to the swelling but also from the removal of certain neck structures (eg muscles).

Other important structures in the neck

The vagus nerve and the phrenic nerve can occasionally be involved in tumour removal or injured as part of neck dissection. Vagus injury can lead to voice or swallowing problems. This may be permanent. The phrenic nerve controls one side of the diaphragm. Injury to this nerve rarely causes symptoms as the other side still works ok. Major vessels such as the carotid and jugular veins are followed carefully during neck dissection and their injury can cause intraoperative bleeding requiring control. Occasionally these vessels need to be sacrificed as part of surgery to remove a tumour.
The lymphatic system in the neck drains into a small structure called the thoracic duct. If this is injured during neck dissection, it occasionally leads to further surgery. With small leaks of lymph fluid (chyle), the patient is often treated medically.

What to expect after surgery

You will need at least a week off after discharge and that will depend on the extent of surgery.
You can perform light activities but no strenuous activities for at least 2 weeks.
Your neck wound will have a waterproof dressing and sutures used are generally dissolvable.
Keep the wound dry for at least 5 days.
There might be some neck stiffness and gentle & gradual neck movement and exercise are encouraged (see below)
You may be advised to do some shoulder exercises (or see a physiotherapist)

A post-operative appointment will be arranged 1-2 weeks after surgery to assess your recovery and discuss your diagnosis. Further treatment may be needed which may include radiotherapy, chemotherapy or further surgery.

Post-operative neck dissection exercises

These exercises are designed to gently reintroduce normal movement of your neck after your drains have been removed. Repeat each exercise 3 - 5 times a day and are to be done while sitting.

1. Bend your head forwards until you feel a gentle stretch behind your neck. Tilt your head back to look up at the ceiling feel a gentle stretch at the front of your neck. Hold each position for 5 seconds. Repeat 5 times.

2. Tilt your head to one side until you feel a gentle stretch. Repeat to the other side. Hold each position for 5 seconds Repeat 5 times each side.

3. Sit with your shoulders back, turn your head to one side until you feel a gentle stretch. Repeat to the other side. Hold the stretch for 5 seconds Repeat 5 times each side.

4. Squeeze your shoulder blades down and inwards towards each other. Hold for 5 seconds. Repeat 5 times. Sit up straight. Bring your shoulders back slightly.
Gently pull your chin back to flatten the curve at the back of your neck. Hold for 5 seconds. Repeat 5 times.

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