

## **SIVUH Department of Otolaryngology NECK DISSECTION INFORMATION SHEET.**

### **Purpose of operation**

Neck dissection is an operation performed to remove lymph nodes / lymph node- bearing tissue from the neck. There are two reasons for performing a neck dissection:

1. In patients with cancer of the Head & Neck (including mouth, throat, voice-box, or skin), where the cancer is also involving lymph nodes in the neck, a neck dissection is performed for definitive removal of this cancer.
2. In patients with certain cancers (including mouth cancer), even though they may not show any evidence of having involved lymph nodes in the neck, a neck dissection may be recommended on the basis they are considered to be at risk of having microscopic disease in the neck. In such cases, the neck dissection is performed at the same time as removal of the primary tumour.
3. In some patients with Head & Neck cancer who undergo primary treatment with radiotherapy, a neck dissection may be recommended after completion of treatment to ensure that the cancer in the neck is fully eradicated.

### **How it is performed:**

An incision is made within a neck crease. Following this, lymph nodes and lymph node- bearing tissue in the neck are removed. The precise location of removal of this tissue will depend on the site of the primary cancer and whether or not there is gross evidence of cancer in the neck. In most patients, it is possible to preserve the sternomastoid muscle, which is a large muscle which runs from just below the ear to the collar bone, and which gives bulk to the neck. It is occasionally necessary to remove this muscle in patients with more extensive neck disease. This leads to loss of bulk on one side of the neck, however, it does not lead to any weakness or such problems.

In most cases, a drain is placed, which is usually removed after 2-4 days.

### **What I can expect post-surgery:**

You will have a drain in place which will be left for 2-5 days, depending on the extent of surgery and amount of drainage.

Stitches or staples will be removed after 1-2 weeks.

You can shower but try to avoid any soap or shampoo getting near the wound. If the wound gets wet, you should pat it dry with a clean towel. Avoid rubbing the wound for the first 6 weeks as this can make any scarring worse. Men will not be able to shave themselves over the wound for the first 6 weeks, although this could be performed by a barber.

You will probably have some numbness of the neck and possibly of the ear after the surgery. It may be necessary for men to use an electric razor for some months afterwards due to the risk of cutting themselves with an open razor due to lack of sensation.

You may have some temporary weakness of the lower lip on the side of the surgery. This is due to trauma to the nerve which supplies the lower lip (marginal mandibular nerve). It generally resolves within a few weeks or months.

You may also have stiffness of the neck and shoulder. This is one of the most troublesome long-term sequelae of neck dissection. Causes are stretching of the accessory nerve, which supplies the trapezius muscle, a large muscle behind the shoulder, and scarring within the neck. For unknown reasons, patients undergoing neck dissection may also develop scarring within the shoulder joint. The risk of problems due to stiffness is significantly increased in patients who also have radiotherapy.

To avoid neck and shoulder stiffness, you should perform gentle "range of motion" neck and shoulder exercise immediately after the operation. Do not do anything too vigorous at this stage as it will only increase the propensity for fluid buildup in the neck. During this time you should also avoid manual work, lifting, or activities like swimming or tennis. After 3 weeks you should switch to more vigorous exercises and continue these for many months. Patients who also undergo radiotherapy need to continue these exercises lifelong.

In the SIVUH, we can arrange for a physiotherapist experienced with post-neck dissection issues to see you while you are an in-patient or as an out-patient after discharge to teach you how to perform the exercises. Leaflets with diagrams detailing these exercises are also available.

### **What are the risks?**

1. Bleeding into the wound: Risk 1-2%. If this occurs, you will be brought back to the operating theatre so that the blood clot can be removed and any bleeding stopped.
2. Seroma: After removal of the drain, the wound may slowly swell due to accumulation of body fluid. This is usually treated by drawing the fluid off with a needle and applying pressure dressings, and nearly always resolves spontaneously in a few days.
3. Injury to the marginal mandibular nerve: This nerve supplies the muscles of the lower lip. Injury thus leads to lower lip weakness which is most obvious when the patient smiles. While the risk of permanent injury is low, roughly 5-10% of patients may experience temporary lower lip weakness, due to stretching of the nerve, which resolves in a few weeks. Occasionally it is necessary to deliberately sacrifice the nerve if it is in close proximity to cancer.
4. Injury to or deliberate sacrifice of the accessory nerve: The accessory nerve supplies the trapezius muscle which assists in lifting the arm above the head. Injury or sacrifice will thus lead to weakness, stiffness, and possibly chronic pain of the shoulder. Although the risk of inadvertent injury to the accessory nerve is very low (1%), it may be necessary to deliberately sacrifice this nerve if it is in close proximity to cancerous lymph nodes or involved with cancer.

5. Wound-healing problems: Delayed wound healing or wound breakdown is most likely in patients who have had previous neck surgery or radiotherapy. In most cases, wound healing eventually occurs. Occasionally, further surgery is necessary.
6. Chyle leak: Risk 1%. This is a complication caused by damage to the lymphatic vessels at the root of the neck. These vessels carry fats from the bowel back into the bloodstream. Injury to these vessels causes a build-up of fatty fluid in the lower neck which can impair wound healing and give rise to infection. The treatment is generally to restrict fat intake until the leak resolves. This may take up to 3-4 weeks. Occasionally, return to theatre is necessary to treat the leak.
7. Tongue weakness or numbness: Risk 1%. Injury to the hypoglossal nerve, which supplies the tongue musculature, may lead to some weakness of the tongue, however, this is generally well-compensated. Injury to the lingual nerve, which supplies sensation to the tongue, is very uncommon. If this occurs, it may lead to numbness over a variable part of the tongue on the side of the surgery. Occasionally it may be necessary to deliberately sacrifice these nerves.
8. Voice-problems (very rare): This is caused by injury to the vagus nerve which supplies the vocal cords. This may lead to weakness of the voice and some problems with swallowing. In most patients, these problems improve with time.
9. Horner's syndrome (very rare): This is caused by injury to the sympathetic nerve. It causes slight drooping of the eyelid and constriction of the pupil on the side of the surgery.
10. Brachial plexus injury (extremely rare): This is caused by injury to the nerves which supply the arm. Most commonly it leads to weakness of the shoulder and weakness in flexing (bending) the elbow.
11. Scarring and tightness of the skin: Tightness of the skin of the neck in the months after surgery is most common in patients who have also received radiotherapy and / or had previous surgery. This can be minimized by frequent stretching and range-of-motion exercises.

**Other things you should know:**

1. Possibility of further treatment: After the neck dissection specimen is removed, it is sent to the laboratory for analysis. Depending on the findings of this, further treatment (e.g. further surgery or radiotherapy) may be recommended.
2. Negative specimen. When neck dissection is performed on patients with no obvious evidence of neck disease, or in patients who have completed treatment with radiotherapy, there may not be any evidence of cancer on the final specimen.