NASOPHARYNGEAL CANCER
(CANCER OF THE NASOPHARYNX)

Nasopharyngeal cancer is a type of head and neck cancer that is rare in the UK.

In this information:
- What is nasopharyngeal cancer?
- The nasopharynx
- Causes and risk factors of nasopharyngeal cancer
- Symptoms of nasopharyngeal cancer
- Diagnosing nasopharyngeal cancer
- Further tests
- Staging and grading
- Treatment
- Follow-up
- Useful organisations
- References and thanks

What is nasopharyngeal cancer?

There are different types of nasopharyngeal cancer. This information is about the three most common types which are all treated in the same way. They are:
- squamous cell carcinoma
- non-keratinising carcinoma
- basaloid squamous cell carcinoma.

Other rare types of cancer can develop in the nasopharynx. These include melanoma, lymphoma and sarcoma. They are treated in different ways.

If you’d like to order information or have any questions, contact our cancer support specialists free on 0808 808 00 00, Monday–Friday, 9am–8pm. Or you can order information online.

It’s best to read this with our information on head and neck cancer, which has more about the tests and treatments mentioned below.
The nasopharynx

The nasopharynx is the part of the throat at the back of your nose. “Naso” means nose and “pharynx” is the throat. It connects the nose to the back of the mouth (oropharynx), letting you breathe through your nose and swallow mucus produced in your nose.

Side view of structures in the head and neck

Causes and risk factors of nasopharyngeal cancer

The Epstein-Barr virus (EBV), which causes glandular fever, is the most common risk factor for nasopharyngeal cancer, particularly in the Far East and in people of Asian descent. As with other cancers, nasopharyngeal cancer is not infectious and cannot be passed on to other people.

EBV is very common. Almost everyone is infected with EBV at some time. The body’s immune system is normally able to get rid of the virus, and usually infections don’t cause any problems. Most people with EBV will not develop nasopharyngeal cancer.
Symptoms of nasopharyngeal cancer

Often the first symptom is a painless swelling or lump in the upper neck. Other common symptoms include:

- changes in hearing
- earache
- fluid leaking from the ear
- a blocked nose
- nosebleeds
- a headache.

These symptoms can often be caused by other conditions, but it's important to have them checked by your doctor.

Diagnosing nasopharyngeal cancer

You usually start by seeing your GP. If they are unsure what the problem is, or think that your symptoms could be caused by cancer, they will refer you to a hospital specialist. If your only symptom is a lump in your neck, you may be referred to a hospital neck lump clinic.

At the hospital

The specialist doctor will ask you about your symptoms and general health. They will examine your nasopharynx using a very thin, flexible tube with a light and camera at the end (nasendoscopy). The doctor passes the tube into your nostril. This can be uncomfortable, so the doctor may numb your nose and throat with a local anaesthetic spray first. If you have this spray, you should not eat or drink for about an hour afterwards, or until the numb feeling has gone.

To make a diagnosis, the doctor removes a small piece of tissue or cells (biopsy). You usually have a general anaesthetic for this. You may need to spend the night in hospital. A pathologist (doctor who specialises in analysing cells) examines the biopsy under a microscope to look for signs of cancer.

At the neck lump clinic

This is a one-stop clinic where you can have all the tests needed to check for cancer in a neck lump. You’ll usually have an ultrasound scan and a sample of tissue taken from the lump using fine needle aspiration. Sometimes your nose and throat are also examined using a nasendoscope. The clinic can often give you the results of your tests on the same day, but sometimes you may need to wait longer.
Ultrasound scan

This test uses sound waves to produce a picture of your neck and lymph nodes on a computer screen. The lymph nodes are part of your body’s system to protect you from infection and disease. Sometimes nasopharyngeal cancer can spread to lymph nodes in the neck.

The scan is painless and only takes a few minutes. Some gel is spread onto your neck and a small device, which produces sound waves, is passed over the area. The doctor will look for any changes in the size or appearance of the lymph nodes in your neck.

Fine needle aspiration (FNA) of the lymph nodes

You may have this test if the lymph nodes in your neck don’t feel or look normal on the scan. It is done to see if there are any cancer cells in the lymph nodes.

The doctor passes a fine needle into the lymph node and withdraws (aspirates) some cells into a syringe. This might feel a little uncomfortable but it’s very quick. You don’t usually need a local anaesthetic to numb the area. You might have an ultrasound scan at the same time to help guide the needle. After the test, a doctor will examine the sample under a microscope to check for cancer cells.

Further tests

These tests may be used to help diagnose nasopharyngeal cancer or to check whether it has spread.

CT (computerised tomography) scan

A CT scan takes a series of x-rays that build up a three-dimensional picture of the inside of the body. The scan is painless and takes 10–30 minutes. It may be used to find exactly where the tumour is, or to check if the cancer has spread. CT scans use a small amount of radiation, which is very unlikely to harm you and won’t harm anyone you come into contact with.

You will be asked not to eat or drink for at least four hours before the scan. You may be given a drink or injection of a dye, which allows particular areas to be seen more clearly. This may make you feel hot all over for a few minutes. If you’re allergic to iodine or have asthma, you could have a more serious reaction to the injection, so it’s important to let your doctor know beforehand.
MRI (magnetic resonance imaging) scan

This test uses magnetism to build up a detailed picture of areas of your body. Before the scan you may be asked to complete and sign a checklist. This is to make sure that it’s safe for you to have the scan.

Before having the scan, you’ll be asked to remove any metal belongings, including jewellery. Some people are given an injection of dye into a vein in the arm. This is called a contrast medium and can help the images from the scan to show up more clearly. During the test, you’ll be asked to lie very still on a couch inside a long cylinder (tube) for about 30 minutes. It’s painless but can be slightly uncomfortable, and some people feel a bit claustrophobic during the scan. It’s also noisy, but you’ll be given earplugs or headphones.

PET/CT scan

This is a combination of a CT scan and a positron emission tomography (PET) scan. A PET scan uses low-dose radiation to measure the activity of cells in different parts of the body.

PET/CT scans give more detailed information about the part of the body being scanned. You may have to travel to a specialist centre to have one.

A mildly radioactive substance is injected into a vein, usually in your arm. The radiation dose used is very small. The scan is done about an hour after this. It takes about 30–60 minutes.

Staging and grading

Staging

The stage of a cancer describes its size and whether it has spread. Knowing the stage helps doctors decide on the best treatment for you. The two most commonly used staging systems for nasopharyngeal cancer are the TNM system and the number system.

TNM staging system

T describes where the tumour is in the nasopharynx, nose and throat. It also describes whether it has grown into nearby tissues, such as bones, nerves or muscles. For example, a T1 tumour is only in the nasopharynx and the nose or back of the throat (oropharynx). A T4 tumour has grown further into nearby nerves, bones or spaces in the skull.

N describes whether the cancer has spread to the lymph nodes. N0 means that no lymph nodes are affected. N1, N2 or N3 means there are cancer cells in the neck lymph nodes.

M describes whether the cancer has spread to another part of the body. This is called metastatic cancer. M0 means the cancer hasn’t spread and M1 means the cancer has spread to distant organs such as the liver or lungs.
Number staging system

Nasopharyngeal cancer can also be given a number stage from 1 to 4.

Stage 1

The tumour is only in the nasopharynx and may have spread inside the nose or oropharynx. This would be called T1 N0 M0 in the TNM system.

Stage 2

The tumour has also started to spread to the neck lymph nodes or the tumour has spread into an area behind the nasopharynx (called the parapharyngeal space) and may have started to spread to the neck lymph nodes.

Stage 3

The tumour has spread further through the neck lymph nodes or the tumour has grown into nearby bones or bony spaces and may also have spread to the neck lymph nodes.

Stage 4

The tumour has spread even further through the neck lymph nodes or to other parts of the body or the tumour has grown further into nerves, bones or areas of the skull and may have also spread to the neck lymph nodes.

Talking about staging

Your doctor can explain staging in more detail. To keep things simple, they may use the following words to describe the stage of the cancer:

“early” or “local” – to describe stage 1 cancer

“locally advanced” or “advanced” – to describe stage 3 or 4 cancer in the head and neck area

“local recurrence” – to describe cancer that has come back in the head or neck after treatment

“metastatic” or “secondary” – to describe cancer that has spread to other parts of the body.
Grading

The grade of a cancer gives the doctor an idea of how quickly it may develop. Doctors will look at a sample of the cancer cells under a microscope to find the grade of the cancer.

**Grade 1** – the cancer cells tend to grow slowly and look quite similar to normal cells.

**Grade 2 and 3** – the cancer cells look more abnormal.

**Grade 4** – the cancer cells tend to grow more quickly and look very abnormal.

Treatment

Your treatment will depend on the stage and grade of the cancer as well as your general health. Your specialist doctor or nurse will explain the best treatment for you and any side effects that are likely.

The main treatment for nasopharyngeal cancer is radiotherapy. For early stage nasopharyngeal cancer this may be the only treatment needed. If cancer has spread into areas around the nasopharynx, chemotherapy is often given with radiotherapy. This is called chemoradiation. Sometimes chemotherapy is given to shrink a tumour before chemoradiation.

Chemotherapy and radiotherapy can also be given if the cancer has spread to other parts of the body.

Cancer that has come back in the nasopharynx or neck lymph nodes can be treated with one or a combination of treatments including surgery, radiotherapy and chemotherapy.

Radiotherapy and chemoradiation

Radiotherapy uses high-energy rays to destroy cancer cells, while doing as little harm as possible to normal cells.

Radiotherapy is given on its own for stage 1 nasopharyngeal cancer or with chemotherapy for more advanced stages of cancer. Having chemotherapy and radiotherapy together is more effective than either treatment alone, but it can cause more severe side effects.

Radiotherapy is also usually given to the lymph nodes in the neck, even if there are no signs of cancer there. This is to reduce the risk of the cancer coming back.

Radiotherapy can be given in different ways:
External radiotherapy

You have treatment as a series of short, daily sessions (called fractions) over 5 to 7 weeks from a radiotherapy machine, similar to an x-ray machine. The radiotherapy treats the area of the body that the rays are aimed at. It does not make you radioactive. If you are having radiotherapy to control symptoms such as pain, you might only need a few days of treatment or even just a single dose.

A type of radiotherapy called intensity-modulated radiotherapy (IMRT) is often used.

With IMRT, the high-energy rays are shaped very precisely to the area of cancer. This makes sure that a higher dose of radiation is given to the tumour while healthy areas nearby get a lower dose of radiation. This can reduce side effects.

Another way radiotherapy can be given is called stereotactic radiotherapy. It uses many small beams of radiation to target the tumour. This delivers high doses of radiotherapy to very precise areas of the body, which again reduces side effects. You may only need one session of treatment.

Internal radiotherapy (brachytherapy)

This treatment involves putting a solid radioactive material beside the tumour in the nasopharynx for a short time. A surgeon places thin tubes inside the nasopharynx through your mouth or nose. They can do this using a local anaesthetic spray to numb your nose and throat. But sometimes it is done while you’re sedated or under a general anaesthetic.

Radioactive beads are then put inside the tubes and left in place until the right amount of radiation has been given. This can vary, but may take up to six days. The surgeon or nurse then removes the tubes again.

You stay in hospital while the radioactive beads are in the tubes. During this time, there is a small risk of radiation exposure for the people around you. Your doctor or nurse will give you advice about keeping yourself and others safe. You’ll need to stay in one room and your visitors may only be allowed in for a short time each day. Once the tubes are taken out, you are not radioactive and you can go home.

Side effects of radiotherapy

You may develop side effects during radiotherapy. These usually disappear gradually over a few weeks or months after treatment finishes. Your radiotherapy team will let you know what to expect. Tell them about any side effects you have. There are often things that can be done to help.

Your radiotherapy team will give you advice about skin care during treatment. It's common to have a skin reaction in the area of your face or neck being treated. The skin can become sore, red and may peel or become blistered. This usually starts about 2–3 weeks after treatment starts and may last for 3–4 weeks after treatment ends. Let your radiotherapy team know if your skin becomes sore. They can give you painkillers and advice about caring for your skin until it heals.
It's also important to look after your **mouth** during radiotherapy. Following a mouth care routine to keep your mouth clean will help to prevent problems. Your mouth and throat may become sore after a couple of weeks of treatment. You may get some mouth ulcers and your voice may become hoarse. You might find your **sense of taste** and smell change. Eating food can become difficult and **swallowing** can be painful. Your doctor can prescribe medicines to help.

Radiotherapy also affects your salivary glands. This is less likely with IMRT, stereotactic radiotherapy or brachytherapy. Your saliva may become thicker, stringy and sticky. Your nose, mouth and throat may also feel dry making eating and talking difficult. Your doctor can prescribe mouthwashes, lozenges, artificial saliva sprays or gels to help. Changes in your saliva usually get better within about eight weeks of radiotherapy ending.

If you find it hard to eat and drink because of any side effects, let your doctor or nurse know. They can give you advice and medications to help. They may refer you to a dietitian for more advice. You may need food supplements to add extra energy and/or protein to your diet. Some can be used to replace meals, while others are used in addition to your normal diet. You can get some of these from your chemist or the supermarket, or your doctor, nurse or dietitian can also prescribe them for you.

Most of these side effects get better after treatment ends. However, **radiotherapy to the head and neck** can cause other long term effects. These aren’t as common but can happen months or even years after your treatment. Before you start radiotherapy, your specialist doctor will explain any long term effects and how likely these are for you.

**Chemotherapy**

Chemotherapy is the use of anti-cancer (cytotoxic) drugs to destroy cancer cells. For nasopharyngeal cancer it’s usually given with radiotherapy. Chemotherapy may also be given if the cancer has come back or spread to other parts of the body.

**Cisplatin** is the most common chemotherapy drug used with radiotherapy to treat nasopharyngeal cancer. Other drugs such as 5FU or gemcitabine (Gemzar<sup>®</sup>) are sometimes given with cisplatin. These drugs are given into a vein by infusion (drip).

**Side effects of chemotherapy**

The **side effects** depend on the drug or combination of drugs you are given. Your doctor or nurse will explain any treatment you are offered and what to expect.

Chemotherapy can reduce the number of white cells in your blood. This will make you more likely to get an infection. Your doctor or nurse will give you advice about what to do if this happens.

Chemotherapy can also cause tiredness, a sore mouth, feeling sick (nausea) or being sick (vomiting), diarrhoea and hair loss. Let your doctor or nurse know about any side effects during treatment. They can often give you advice and help to reduce these.
Surgery

Sometimes surgery is used to remove cancer that comes back or is left behind after the radiotherapy or chemoradiation. The surgeon aims to remove as much of the cancer as possible from the nasopharynx and/or the neck lymph nodes. Your surgeon will explain what to expect.

Clinical trials

Cancer research trials are carried out to try to find new and better treatments for cancer. Trials that are carried out on patients are known as clinical trials.

Research into treatments for nasopharyngeal cancer is ongoing and advances are being made. But because nasopharyngeal cancer is rare, there may not always be a relevant trial in progress. If there is, you may be asked to take part. Your doctor must discuss the treatment with you so that you have a full understanding of the trial and what it means to take part. You may decide not to take part, or withdraw from a trial at any stage. You will still receive the best standard treatment available.

Follow-up

After your treatment is over, you will have regular check-ups and possibly scans or x-rays. These will continue for several years. If you have any problems or notice any new symptoms between these appointments, let your doctor know as soon as possible.

Your feelings

You may have many emotions, from shock and disbelief to fear and anger. This natural and it’s important to be able to talk about how you feel.

Everyone has their own way of coping. Some people prefer to keep their feelings to themselves. Some people find it helps to talk to family or friends, while others get help from people outside their situation. Talking to other people in a similar position may help you feel less alone. Sometimes it’s helpful to share your experiences at a local cancer support group. You may also want to talk to our cancer support specialists free on 0808 808 00 00, Monday–Friday, 9am–8pm.

The useful organisations listed below have information about where you can find support groups, specialist advice and counselling. Our online community is also a good place to meet people who may be in a similar situation.
Useful organisations

**Throat Cancer Foundation**

**Mouth Cancer Foundation**
Helpline 01924 950 950 – volunteers
Online support community

**The Swallows** – online support group
Tel 01253 425078 (11am to 3pm, Mon-Fri)

**The Rarer Cancers Foundation**
Helpline 0800 334 5551
Email helpline@rarercancers.org.uk

References and thanks

This page has been compiled using information from a number of reliable sources, including the electronic Medicines Compendium (eMC; medicines.org.uk). If you’d like further information on the sources we use, please feel free to contact us.

This information was reviewed by a medical professional. Thank you to all of the people affected by cancer who reviewed what you’re reading and have helped our information to develop.

You could help us too when you join our Cancer Voices Network - [find out more](#).

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