

# **Preparing for neurosurgery: pre-operative anaesthetic assessment**

## **Information for patients**

You have been seen by our neurosurgical team and we have provisionally placed you on our waiting list for an operation. This leaflet explains what happens before we confirm any offer of surgery, including the pre-operative anaesthetic assessment and the conditions we screen you for, as well as how you can help to ensure you are fit enough to safely have surgery and make a good recovery.

We will be able to confirm your place on our neurosurgical waiting list when we know you are as healthy as possible. If you have any queries or concerns, please do not hesitate to speak with the nurses and doctors caring for you.

### **Why do I need a pre-operative anaesthetic assessment?**

Everyone who needs a general anaesthetic or sedation for their procedure or operation has this assessment before they can have surgery. You will have yours after you and your neurosurgeon have decided that you need surgery. You must have it before a decision can be taken to confirm any offer of surgery.

It aims to assess your health and fitness for anaesthesia and surgery. Ensuring you are as fit as possible will reduce your risk of complications from surgery and anaesthetic and help you to recover more quickly.

We will also contact your GP and any other doctors or health professionals treating you to ensure we have as much information as possible about your health and any medical conditions you may have.

### **What do you check during the assessment?**

There are a number of habits and health conditions which can affect how successful your operation is and how smoothly and quickly you recover from it. They include:

- smoking
- diabetes

- obesity
- high blood pressure
- anaemia
- sleep apnoea
- heart and lung disorders.

We will screen you for these during your assessment and support you and your GP to manage them as well as possible before your proposed operation.

If you already know that you have one or more of these conditions, it is important you act now to ensure with your GP – and any other health care practitioners you see – that your treatment is as optimised as possible. This includes stopping smoking, as even stopping for a short while before and after your proposed operation can improve how well you recover and how much your symptoms improve.

Please note that it may not be safe to go ahead with your operation until your health in general has improved.

## **What happens when I come to the assessment?**

If you and your neurosurgeon are considering an operation, we will send you a health questionnaire to complete through the MyChart app. Please fill this in. It tells us more about your health, your fitness and any medication you take.

We will also arrange for you to have some blood tests so we can ensure you are as fit as possible.

You will have an appointment with one of the specialist pre-assessment nurses, either in person or by phone. They may ask you more in-depth questions about your health. They will also explain what happens when you are admitted to hospital, and how to prepare for and recover from your operation. They will give you written information as well. You will be able to ask them any questions you may have and discuss any concerns.

Depending on the answers you give on your health questionnaire, the results of your tests and the complexity of your health problems, you may:

- proceed straight to surgery
- have some more tests and a follow-up appointment with one of our nurses, either by phone or in person
- have another appointment with one of our anaesthetists, either by phone or in person.

## **What tests will I have?**

These will depend on your medical history, results from simple examinations – such as your blood pressure or a listen to your heart and lungs – and the surgery you need. They may include:

- Blood tests.
- Lung function tests – a series of breathing exercises where you blow into a measuring device using a mouthpiece. The results show us how well your lungs are working by assessing its capacity, the airflow and its ability to exchange oxygen and carbon dioxide.
- Heart tracing (ECG/electrocardiogram) – this records your heart's electrical activity and the results show whether or not this is normal.
- Echocardiogram – a type of non-invasive ultrasound scan that uses sound waves to create a picture of your heart that is then used to assess how well it is working.

You may need other tests on the day or at a later date so we can get more information about any illnesses you may have and assess whether you are ok to have surgery.

## **What health conditions do you screen for and why does this matter?**

We want your operation to be as safe as possible. Being in good health makes you less likely to have problems during or after surgery. The healthier you are the more likely you are to recover quickly.

During your pre-assessment we look for certain conditions that could affect your health and recovery. The following are some of the conditions we screen you for which need to be treated before you are well enough to have surgery.

### **Anaemia**

This is caused by not having enough healthy red blood cells (haemoglobin) to deliver oxygen around your body. You are anaemic when your level of red blood cells is less than 130g/L. If you have surgery when you are anaemic, you are two to three times more likely to suffer a serious complication such as:

- getting an infection
- your surgical wound healing slowly
- having heart or lung problems
- needing to stay in hospital longer
- needing to go to intensive care
- needing a blood transfusion
- death or disability.

There are a number of treatments for anaemia, depending on the cause. They include iron tablets or injections, vitamin B12 tablets or injections, folic acid tablets or hormone (EPO/erythropoietin) injections. It is also important to find and treat the problem or disease causing your anaemia.

### **High blood pressure**

This is where the force of blood against the walls of your arteries is high (more than 140/90 mmHg). If you have severe high blood pressure (more than 180/110mmHg), we will delay surgery until it is lowered.

The risks of high blood pressure include:

- during surgery, bleeding that makes it more difficult to do the operation
- after surgery, bleeding around your operation site, which can be dangerous and may mean you need to have more surgery
- generally, an increased risk of:
  - heart attack
  - heart failure and fluid in your lungs
  - stroke
  - kidney damage or failure
  - death.

High blood pressure can be treated in a number of ways, including by losing weight, improving your diet, eating less salt, reducing how much alcohol you drink and stopping smoking. You may also be given medication to lower your blood pressure.

### **Diabetes**

This is where you have high blood sugar, either because your body does not produce enough insulin or it cannot effectively use the insulin it does produce. At your assessment you may have

an HbA1c blood test which will show how high your blood sugar has been over the past three months. It should be less than 69mmol/mol for brain surgery and less than 55mmol/mol for spinal surgery.

Having surgery when you have long-term high blood sugar levels increases your risk of:

- infections
- your wound healing slowly
- kidney injury or failure
- heart attack, heart failure and fluid in the lungs
- stroke
- pressure sores
- needing to stay in hospital longer
- death.

Diabetes can be treated in a number of ways, including by losing weight, improving your diet, taking anti-diabetic medications, having insulin treatment or using other new forms of injections. Good control of diabetes greatly reduces the risks we have listed.

## **Obesity**

This is where you have excess body fat that results in a body mass index (BMI) of more than 30.

If you have surgery with a high BMI you have an increased risk of:

- infection
- blood clots
- slower and poorer wound healing
- slower recovery
- longer surgery and anaesthesia
- less effective spinal surgery where metal implants are inserted
- needing intensive care treatment
- significant blood loss
- breathing complications, including collapsed lung, chest infections and difficulty removing the breathing tube due to inadequate breathing
- kidney injury or failure
- pressure sores
- death.

Losing any weight before your surgery will help reduce all of these risks, as will doing other things such as being more active, exercising, improving your diet, eating less salt, drinking less alcohol and stopping smoking.

## **Obstructive sleep apnoea (OSA)**

This is where you stop breathing (apnoea) repeatedly while you are asleep because the soft tissue in the back of your throat relaxes and blocks your airway.

If you have surgery with OSA you have an increased risk of:

- breathing difficulties or low oxygen levels after the operation
- abnormal heart rhythms and heart attack
- high blood pressure
- stroke
- blood clots
- needing to stay in hospital longer
- needing to go to intensive care
- death, especially in the first 24 hours after the operation.

Treating OSA greatly reduces all of these risks. Treatment includes losing weight, drinking less alcohol, stopping smoking, having breathing support overnight using a CPAP mask, and treatment of any associated medical conditions such as high blood pressure and diabetes.

## Smoking and alcohol

Both smoking and drinking a lot of alcohol can affect how well your body copes with an anaesthetic and heals from surgery.

If you are a smoker, it increases your risk of:

- infections, especially chest
- low oxygen and high carbon monoxide levels in your blood
- irritated airways that cause coughing, which may give you more pain and make it more difficult for your wound to heal
- needing breathing support and being admitted to high dependency or intensive care
- delayed healing of your wound
- abnormal heart rhythm and heart attack
- needing to stay in hospital longer
- death.

If you regularly drink more than the weekly recommended maximum amount of alcohol over a long time, you have the same risks as for smoking, as well as a higher risk of:

- major bleeding
- becoming delirious or confused after surgery.

Lifestyle changes will help you to get ready for a safer anaesthetic and operation. These include stopping smoking with support or nicotine replacement therapy, drinking less alcohol, eating a healthy diet and becoming more active.

## What else can I do to ensure I am well enough to have surgery?

It is very important to look after your wellbeing before surgery. Try to stay active and do social activities wherever possible, eat and sleep well, and do things such as relaxation exercises. See 'More information about getting ready for surgery' below, which lists websites with advice on how to help yourself while you wait for your operation.

## More information about getting ready for surgery

- Centre for Perioperative Care – [www.cpoc.org.uk/patients](http://www.cpoc.org.uk/patients)
- Royal College of Anaesthetists – [www.rcoa.ac.uk/patients](http://www.rcoa.ac.uk/patients)

## More information about health conditions

- High blood pressure: <https://tinyurl.com/msrmtkry>
- Obesity: <https://tinyurl.com/hernyrka>
- Obstructive sleep apnoea: <https://tinyurl.com/49bk6v78>
- How to quit smoking: <https://tinyurl.com/4p5ed649>
- How to drink less alcohol: <https://tinyurl.com/44rcepda>
- How to cope with stress or anxiety before surgery: <https://tinyurl.com/bdefh7vh>

## MyChart

Our MyChart app and website lets you securely access parts of your health record with us, giving you more control over your care. To sign up or for help, call us on **020 3299 4618** or email [kings.mychart@nhs.net](mailto:kings.mychart@nhs.net). Visit [www.kch.nhs.uk/mychart](http://www.kch.nhs.uk/mychart) to find out more.

## **Sharing your information**

King's College Hospital NHS Foundation Trust has partnered with Guy's and St Thomas' NHS Foundation Trust through the King's Health Partners Academic Health Sciences Centre. We are working together to give our patients the best possible care, so you might find we invite you for appointments at Guy's or St Thomas' hospitals. King's College Hospital and Guy's and St Thomas' NHS Foundation Trusts share an electronic patient record system, which means information about your health record can be accessed safely and securely by health and care staff at both Trusts. For more information visit [www.kch.nhs.uk](http://www.kch.nhs.uk).

## **Care provided by students**

We provide clinical training where our students get practical experience by treating patients. Please tell your doctor or nurse if you do not want students to be involved in your care. Your treatment will not be affected by your decision.

## **PALS**

The Patient Advice and Liaison Service (PALS) offers support, information and assistance to patients, relatives and visitors. They can also provide help and advice if you have a concern or complaint that staff have not been able to resolve for you. In addition, they can pass on praise or thanks to our teams. The PALS office is on the ground floor of the Hambleton Wing, near the main entrance on Bessemer Road - staff will be happy to direct you.

## **PALS at King's College Hospital, Denmark Hill, London SE5 9RS**

Tel: 020 3299 4618

Email: [kings.pals@nhs.net](mailto:kings.pals@nhs.net)

**If you would like the information in this leaflet in a different language or format, please contact our Interpreting and Accessible Communication Support on 020 3299 4618 or email [kings.access@nhs.net](mailto:kings.access@nhs.net)**

**[www.kch.nhs.uk](http://www.kch.nhs.uk)**