National Hospital for Neurology and Neurosurgery

General anaesthesia for neurosurgery
Department of Anaesthesia
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Contents

1. What is a general anaesthetic? Who gives a general anaesthetic?  
2. What does your anaesthetist need to know?  
3. What are the benefits, risks and side effects of general anaesthesia?  
4. What if I choose not to have a general anaesthetic? How should I prepare for a general anaesthetic? What happens during a general anaesthetic?  
5. What should I expect after a general anaesthetic?  
6. References  
7. Where can I get more information?  
8. Contact details
1 Introduction

This booklet has been written by the Department of Neuroanaesthesia at the National Hospital for Neurology and Neurosurgery (NHNN). The aim of the booklet is to provide you with some information about general anaesthesia for neurosurgery.

It is intended for use by patients, their family or carers; it is not intended to replace discussion with your anaesthetist. Please do not hesitate to speak to a member of staff, they will be happy to answer any questions you have.

2 What is a general anaesthetic?

The word ‘anaesthesia’ means ‘loss of sensation’. During a general anaesthetic you will be unconscious and feel nothing. This temporary state of unconsciousness is achieved by giving anaesthetic drugs. These drugs stop the brain recognising messages coming from the nerves in the body. When they wear off you start to feel normal sensations again and you will regain consciousness.

3 Who gives a general anaesthetic?

A general anaesthetic is given by an anaesthetist – a doctor specifically trained in anaesthesia, the treatment of pain, care of very ill patients (intensive care) and emergency care. At the NHNN, anaesthetists are also trained in anaesthesia for neurosurgery (neuroanaesthesia). Your anaesthetist is responsible for:
● Your well-being and safety during surgery
● Agreeing a plan with you for your anaesthetic
● Giving your anaesthetic
● Planning your pain control with you
● Your care on the intensive care unit or high dependency unit (if necessary)

You may be seen and cared for by an anaesthetist training in neuroanaesthesia; however a consultant anaesthetist will always be responsible for your care. No one will care for you unless they are adequately trained to do so.

4 What does your anaesthetist need to know?
● Your general health and fitness
● Any serious illnesses you have had
● Any problems you may have had with previous anaesthetics (or if any family members have had problems with anaesthetics), any pains in your chest, shortness of breath or heartburn
● All medicines you take, especially tablets called anticoagulants (warfarin, dipyramidole, clopidogrel, rivaroxaban or dabigatran) and ‘non steroidal anti inflammatory drugs’ such as aspirin, ibuprofen (Brufen, Neurofen), naproxen and diclofenac (Voltarol) as they affect the ability of the blood to form a clot. You may be asked to stop taking these medicines a few days before you come into hospital.
● Any allergies you have
● If you have any loose teeth or any caps, crowns or bridges
● Whether you smoke, drink alcohol or use recreational drugs (all information is held in confidence)
● Whether you take herbal medication, as some can affect the way the blood clots

These days many people come into hospital either the night before or on the same day of their operation. An anaesthetist will always see you before the operation and you will have the chance to talk to your anaesthetist before surgery.

5 What are the benefits, risks and side effects of general anaesthesia?

General anaesthesia has made much of today’s neurosurgery possible by removing pain, sensation and awareness. These benefits are weighed against the risks of the anaesthetic procedure and the drugs used. Risks vary from person to person and the risk to you as an individual will depend on:

● whether you have any other illness
● personal factors such as smoking or being overweight
● surgery which is complicated, long or done in an emergency

Risks of general anaesthesia are thought of as side effects and complications. The side effects and complications associated with general anaesthesia are:
Side effects or complications - Very common (one person in 10) and common (one person in 100)

- Feeling sick and vomiting after surgery.
- Sore throat from the breathing tube
- Itching
- Pain during injection of drugs
  - Bruising and soreness
  - Confusion or memory loss
- Shivering
- Chest infection
- Bladder problems

Uncommon (one person in 1,000)

- Breathing difficulties (depressed respiration)
- Damage to teeth, lips, tongue or skin of face
- An existing medical condition becoming worse
- Awareness (becoming conscious during your operation)

Complications - Rare (one person in 10,000) or very rare (one person in 100,000 or less)

- Awareness (becoming conscious during your operation)
- Damage to the eyes
Very rarely patients can go blind after surgery in the prone position; this is when you are lying on your front during the operation. Risk factors include long operations and significant loss of blood. Lesser risk factors may include obesity, diabetes, high blood pressure and glaucoma.

● Serious allergy to drugs
● Nerve damage

Your surgeon may require you to lie in an unusual position, for an extended period of time, for the duration of your operation. Temporary or permanent nerve damage can be the result

● Equipment failure
● Death

People who are very ill and have certain medical problems have a higher risk of death than those who are fit and well. Death caused by anaesthesia is very rare. There are probably about five deaths for every million anaesthetics given in the UK.

6 What if I choose not to have a general anaesthetic?

If you choose not to have a general anaesthetic your surgery may not be possible, but this can be discussed with your surgeon and anaesthetist.

7 How should I prepare for general anaesthetic?

Before your anaesthetic you may be required to do all or some of the following to ensure that you are safely prepared.
● Fasting or ‘nil by mouth’

You will be given clear instructions about fasting prior to your surgery. Generally you should not eat for six hours before, although you may drink water until two hours before. Anaesthetic drugs stop the reflex that normally prevents stomach contents (vomit) entering the lungs. If vomit enters the lungs it can cause serious infection and damage to the lung tissue. Chewing gum is not permitted as this can cause fluid to build up in your stomach.

● Premedication

Premedication is sometimes given to help patients feel relaxed and slightly sleepy before a general anaesthetic. However this is only occasionally used before neurosurgery as the effects can be long lasting and it will be necessary for you to be alert after the anaesthetic to assess your responses. You will only be offered premedication if it is appropriate for you.

● Washing or bathing

You will be asked to shower and change into a hospital gown before you go to the operating department. Make-up and nail varnish must be removed as this can interfere with monitoring.

● Personal items and jewellery

Glasses, dentures and hearing aids can be worn to the anaesthetic room; however contact lenses should be removed. Jewellery and decorative piercing should be removed or (if they cannot be removed) covered with tape to prevent loss or damage to your skin.
You will be accompanied to the operating department by a trained member of the nursing staff. A relative or friend may accompany you to the theatre reception.

8 What happens during a general anaesthetic?

In most cases a general anaesthetic is started in an anaesthetic room (next to the operating theatre) or sometimes in the operating theatre.

Your anaesthetist will stay with you throughout your anaesthetic. Before you are given any anaesthetic drugs you will be connected to a heart monitor, a blood pressure cuff will be put on your arm and a small clip for measuring oxygen levels will be placed on your finger. A thin plastic tube is placed via a needle, into a vein in the back of your hand or arm. This will be used to give drugs and fluids and will stay in place until you are able to drink normally.

The anaesthetic is started by injecting anaesthetic drugs into a vein or in some cases by breathing a mixture of anaesthetic gases and oxygen through a mask. You will become unconscious within a minute or so. A breathing tube is then placed into the lungs once you are asleep.

Drugs are given for the duration of the operation to keep you pain free and unaware. The anaesthetist will also give fluids as well as anti-emetics (anti-sickness drugs) and drugs to block certain reflexes. Throughout the anaesthetic you will be monitored closely so any changes can be detected immediately and treated, if required.
9 What should I expect after a general anaesthetic?

In the immediate period after your operation you will continue to be closely monitored either in the recovery room, high dependency or intensive care unit (if you require a longer period of monitoring). Your anaesthetist will tell you where you can expect to be after your operation.

You will be given oxygen (via a clear, plastic facemask) until the anaesthetic wears off. You may need to wear the oxygen mask until the oxygen content in your blood has returned to normal.

Shivering or feeling cold is common and is easily rectified by using warm blankets or a special warm air blanket.

Depending on your operation you may have a urinary catheter temporarily to drain urine.

When you are fully alert, any dentures, hearing aids or glasses can be worn.

Your anaesthetist will prescribe medication to relieve your pain. It is important that any pain is well controlled to help you recover more quickly. Good pain relief assists mobilisation and consequently helps prevent complications such as chest infections and deep vein thrombosis (DVT).

Your anaesthetist will prescribe pain relieving medicines to relieve your pain; some will be given to you regularly and also some additional ones. If these are not controlling your pain, you should inform a member of staff in order that your pain management plan is reviewed. Occasionally pain is a warning sign that all is not well so the
nursing staff should be told about it. You will be seen by your anaesthetist after your surgery and when you are well enough you will be taken back to the ward.

10 References

This booklet has been developed using information from the publication below:

You and your anaesthetic. 3rd Edition. The Royal College of Anaesthetists.

11 Where can I get more information?

Royal College of Anaesthetists
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Red Lion Square
London WC1R 4SG
Telephone: 020 7092 1500 25 Fax: 020 7092 1730
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12 How to contact us

Pre-operative Assessment Centre
National Hospital for Neurology and Neurosurgery
Queen Square
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WC1N 3BG
Switchboard: 020 3456 7890
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Fax: 020 3448 8937
Website:http://www.uclh.nhs.uk/OurServices/ServiceAZ/Neuro/QSPAC/Pages/Home.aspx

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