



Anaesthetics – risks and side effects

Death and serious harm

About this leaflet

This leaflet is about the **risk of dying and coming to serious harm** as the result of a general anaesthetic and surgery. It explains why death and serious harm can happen and what can be done to prevent these risks.

General anaesthetics are medicines that give a deep sleep-like state. They are essential for some operations and procedures. During a general anaesthetic you are unconscious and feel nothing.

You can read about different types of anaesthetics on the RCoA website:

rcoa.ac.uk/patientinfo/resources.

What is the risk of dying during surgery and anaesthesia?

Nowadays, it is very rare to die during surgery or as a result of the anaesthetic. Most deaths that happen when you have an operation are the result of illness or complications from the surgery. They are not usually due to the anaesthetic.

Out of every 100,000 people

14 died due to complications of the surgery	99,986 did not
1 died due to cardiac arrest during, or just after, surgery	99,999 did not
1 died due to the anaesthetic	99,999 did not

These numbers come from research studies. You can see where we got our numbers on our website: rcoa.ac.uk/patientinfo/risks/evidence.

Death and serious harm

There may be things about your health or the type of operation that you are having that increase the risk of dying during a general anaesthetic. For example, death is more likely if:

- you are older
- you need major surgery on your heart or lungs, your brain, your major blood vessels or your bowels
- you need emergency surgery, including surgery to stop major bleeding
- you are very unwell before your operation.

How can a general anaesthetic and surgery lead to death or serious harm?

Allergic reactions

There may be an unexpected allergic reaction to the anaesthetic or the drugs used at the time of surgery. Life-threatening allergic reactions are rare and most people make a full recovery. More information can be found in our leaflet **Anaphylaxis (serious allergy)** here: [\(updated link to be added here when available online\)](#).

Difficulties inserting a breathing tube

During a general anaesthetic, the muscles in your body relax, including those around your throat and chest. This can lead to your airway becoming blocked or your breathing restricted. To ensure a continuous flow of oxygen to your lungs, the anaesthetist may place a breathing tube into your windpipe to keep your airway open. Rarely, it can be difficult to insert the tube, which can lead to less oxygen reaching the lungs. Anaesthetists are trained to deal with this type of emergency.

More information can be found in our leaflet **Your airway and breathing during anaesthesia** here: rcoa.ac.uk/patientinfo/your-airway.

Reduced blood supply

Most anaesthetic medications cause blood pressure to fall, resulting in less oxygen reaching the brain and the major organs. During certain operations, blood vessels can also be damaged. In addition, strokes and cardiac arrests can happen around the time of surgery, which can lead to a reduction in blood and oxygen getting to the brain and the major organs. The risk of these complications is much higher in people who have had a stroke before, frail and elderly people and those with pre-existing medical conditions.

What can anaesthetists do to reduce these risks?

Before surgery

If you are considered at high risk and are having planned surgery, it is likely that the anaesthetist will want to see you in the weeks before the surgery. They will carry out an assessment where they will look at your health, any allergies and any medications that you are currently on. They may also arrange for you to have additional tests. All of this information allows them to assess your fitness for surgery and put a plan in place for your care.

Death and serious harm

Your anaesthetist will talk to you about the risks specific to you. You can use this information to help you decide whether or not you want to go ahead with the operation.

During and after surgery

During the operation, your anaesthetist will be with you the whole time. Anaesthetists use sophisticated monitoring equipment to check your heart and breathing during surgery. They are trained to deal with a wide range of emergencies that can happen in the operating theatre or on the recovery ward. In case of an emergency, you might be taken to the intensive care unit or high dependency unit, where you can be monitored even more closely.

What can I do to reduce my risk?

If you are having planned surgery, there are many things that you can do to improve your health while you are waiting for the operation. Fitter patients recover more quickly and with fewer complications. You might consider:

- maintaining a healthy weight
- giving up smoking if you smoke (this works best six weeks before surgery, but even not smoking on the days before surgery can lower your risk)
- eating healthily and cutting back on alcohol
- doing some exercise or being as active as you can
- making sure that any medical conditions such as diabetes, high blood pressure or asthma are well controlled.

More information on all the things that you can do to prepare for surgery can be found in our leaflet **You and your anaesthetic** here: [rcoa.ac.uk/patientinfo/you-your-anaesthetic](https://www.rcoa.ac.uk/patientinfo/you-your-anaesthetic).

Death and serious harm

This leaflet has been produced by Leila Finikarides for the RCoA, in collaboration with patients, anaesthetists and patient representatives of the RCoA.

Disclaimer

We try very hard to keep the information in this leaflet accurate and up-to-date, but we cannot guarantee this. We don't expect this general information to cover all the questions you might have or to deal with everything that might be important to you. You should discuss your choices and any worries you have with your medical team, using this leaflet as a guide. This leaflet on its own should not be treated as advice. It cannot be used for any commercial or business purpose. For full details, please see our website: rcoa.ac.uk/patientinfo/resources#disclaimer.

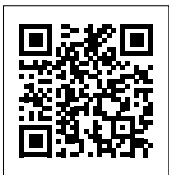
Information for healthcare professionals on printing this leaflet

Please consider the visual impairments of patients when printing or photocopying this leaflet. Photocopies of photocopies are discouraged because these tend to be low-quality prints and can be very difficult for patients to read. Please also make sure that you use the latest version of this leaflet, which is available on the RCoA website: rcoa.ac.uk/patientinfo/leaflets-video-resources.

Tell us what you think

We welcome suggestions to improve this leaflet.

Please complete this short survey at: surveymonkey.co.uk/r/testrisk. Or scan the QR code below.



If you have any general comments, please email: patientinformation@rcoa.ac.uk.

Royal College of Anaesthetists

Churchill House, 35 Red Lion Square, London WC1R 4SG

rcoa.ac.uk



Sixth edition, November 2024

This leaflet will be reviewed within three years of the date of publication.

© 2024 Royal College of Anaesthetists

This leaflet may be copied for the purpose of producing patient information materials. Please quote this original source. If you wish to use part of this leaflet in another publication, suitable acknowledgement must be given and the logos, branding, images and icons removed. For more information, please contact us.