

Risks associated with your anaesthetic

SECTION 8: AWARENESS DURING GENERAL ANAESTHESIA

When you have a general anaesthetic, you become unconscious. The anaesthetist decides how much anaesthetic you need to keep you unconscious during your operation. Awareness is when a patient becomes conscious or partly conscious during a general anaesthetic and can remember things that happened. This is uncommon, but it can be very distressing. This article tells you more about how it can occasionally happen, what steps are taken to prevent it and what to do if you think it has happened to you.

What is awareness?

Awareness is becoming conscious during some part of your operation under general anaesthetic. The majority of patients who are aware do not feel any pain, but may have memories of events in the operating theatre. Dreaming around the time of an operation is very common (6 in 100) but this is not awareness.¹ Some patients recall events from the recovery room after their operation and believe them to be memories of the surgery.

How and why does it happen?

Your anaesthetist is present throughout the whole operation and he/she uses clinical judgement and experience to ensure that you are receiving enough anaesthetic to keep you unconscious, but not so much that you suffer serious side effects.

Anaesthetics have side effects that increase as more anaesthetic is given. These include falling blood pressure and reduced breathing. Anaesthetists sometimes use a muscle relaxing drug as part of the anaesthetic. These drugs stop your breathing and your anaesthetist will

use a ventilator (breathing machine) to do the breathing for you. For some operations these drugs are essential as they allow the surgeon access to parts of your body that he/she could not reach without muscle relaxants. These drugs also allow lighter levels of anaesthetic to be used, and this reduces dangerous side effects. Muscle relaxants also prevent movement, and your anaesthetist uses information coming from monitors (heart rate, blood pressure, anaesthetic gas levels, etc.) to judge whether you are unconscious or not.

Awareness occurs if you are not receiving enough anaesthetic to keep you unconscious. It can also happen if the equipment that delivers the anaesthetic to your body is malfunctioning, or there may be a combination of these.

How likely is it?

Careful studies have been done, mainly in the USA and Scandinavia, which include interviews with many thousands of patients. Most studies^{1,2} suggest that around 1 or 2 people per 1,000 patients under anaesthetic experience some kind of awareness. Only one third of

these people feel pain, although the experience can still be very distressing. However, another study,³ of over 80,000 patients given an anaesthetic according to a strict protocol, found that only 1 in 14,000 people having a general anaesthetic experience awareness. Most of the cases they found happened to people who had certain risk factors. If no risk factor is present, the risk was 1 in 42,000 anaesthetics. Awareness is slightly more likely if you are having open heart surgery, Caesarean section (delivering a baby), or surgery after a major accident. A recent survey of anaesthetists in the UK estimates that around 1 person per 15,000 patients reports awareness to their anaesthetist.⁴

What does it feel like if it happens to me?

Over half of aware patients recollect sounds and conversations within the operating theatre.^{1,2,4} They are unable to move and have feelings of anxiety and panic.^{1,4} Approximately a quarter of aware patients are aware of the insertion or presence of the breathing tube in their throats^{1,5,6} and about a third experience pain.^{1,2,5,6}

Are there any long-term effects?

Some people who have been aware during a general anaesthetic suffer long-term effects.^{2,5} These include anxiety, fear of anaesthesia, sleep disturbances, nightmares, flashbacks and in some cases post-traumatic stress disorder.

If I think I have been aware, what should I do?

Your anaesthetist should be informed as soon as possible. You can ask your nurses, or, if you are already at home, your GP, to contact him/her. Your anaesthetist will want to know about it, and you will benefit from talking about it and understanding how it might have happened.

Studies have shown that some people do not realise that they have been aware until several days later. You can still report the fact that you think you have been aware, even days or months later.

The anaesthetist who conducted the anaesthetic will talk to you. He/she will ask you to explain exactly what you remember. He/she will talk to you about your memories and try to work out if you have been aware or if your memories are dreams or relate to things that happened while you were waking up after your operation. If you have been aware when you should not have been aware, your anaesthetist will explain to you how this might have happened. You will be offered counselling. Help is also available on the internet.⁷

Can awareness be avoided?

Awareness happens when a general anaesthetic is used and an insufficient amount of anaesthetic is given. Not all operations require general anaesthetic. Some operations can be carried out using a local or regional anaesthetic to numb part of the body. If you have this kind of anaesthetic, you will be awake. You will not be able to feel anything, and if you are anxious, some light sedation may be used to keep you calm and relaxed. You can find out more about these anaesthetics in the booklet 'Anaesthesia Explained' on the Royal College of Anaesthetists' website (www.rcoa.ac.uk). Your anaesthetist will be able to tell you if these anaesthetics are suitable for you.

How is awareness prevented during a general anaesthetic?

At the start of the day, your anaesthetist will check all equipment to ensure it is functioning properly. Misconnections and disconnections of the breathing tubes can cause awareness.

All anaesthetists are trained to spot these problems, hopefully before awareness occurs. Before the start of your anaesthetic you will be connected to a monitor that tells the anaesthetist how you are responding during the operation. Another monitor will usually be used which shows the amount of anaesthetic in your body. This monitoring equipment helps the anaesthetist judge whether you are having the right amount of anaesthetic.

Monitors, which try to detect awareness by analysing brain activity, have been developed. These have been studied in a number of trials of varying size and quality.^{8,9} These monitors may reduce the possibility of awareness, particularly in patients who are at higher risk, but they cannot prevent awareness completely. At the present time these monitors are not in routine use in British hospitals nor are they generally recommended for routine use in America.¹⁰ NICE, the National Institute for Health and Care Excellence, published guidance in 2012 for their use in the UK.¹¹

If I have had an episode of awareness, is it more likely to happen during my next anaesthetic?

Yes, you are at a slightly increased risk during your next anaesthetic. It is very important you tell your anaesthetist about your previous episode of awareness. He/she will try to ensure that you receive adequate doses of anaesthetic throughout surgery.

Are there any circumstances in which awareness is more or less likely?

If you are very ill, awareness is more common.¹ Very ill patients have a low blood pressure and anaesthetics can decrease the blood pressure further which may cause harm (e.g. heart attack or stroke). The anaesthetist may use a lighter

general anaesthetic to reduce the risks to you. However, the risk of you being aware of what is going on is increased.

In some types of surgery the side effects of anaesthetic drugs may be particularly dangerous to you (or, if you are pregnant, to your unborn child). The risk of awareness is increased because your anaesthetist may need to use less anaesthetic. For example:

- ▶ cardiac surgery (the risk may be 1 in 100)
- ▶ emergency caesarean section under a general anaesthetic (4 in 1,000).⁶

If you take certain medications you will require more anaesthetic. These include alcohol (prolonged, heavy use), some types of sleeping tablets and morphine-like drugs. It is very important that you inform the anaesthetist of all your regular medications.

Most cases of awareness leading to serious psychological upset occur in people who have received muscle relaxants. People who breathe for themselves very rarely become aware during anaesthesia² and serious psychological upset does not generally occur. Therefore anaesthetists tend to use this type of anaesthetic where it is possible and safe to do so.

Is there anything I can do to prevent it from happening?

You could ask your anaesthetist if it is possible to avoid having a general anaesthetic and have your operation performed with a local anaesthetic. You can have sedation as well to help you feel drowsy and mentally relaxed.

Tell the anaesthetist about all your regular medications or drugs, especially those mentioned above, and about your alcohol intake. Also tell him/her if you think you may have been aware during any previous anaesthetic.

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