

## Episode 12 – What Is A General Anaesthetic?

**(Intro) Alan:** Do you have an upcoming surgery? Are you feeling a little bit overwhelmed? Then this is the podcast for you. Welcome to 'Operation Preparation'. You are listening to the pre anaesthetic assessment clinic podcast or PAAC for short from St. James's Hospital Dublin. Here we put together a series of short episodes to help you, your family, and your loved ones learn more about your upcoming perioperative experience.

**Rosie:** Hi, everyone. Welcome back to 'Operation Preparation'. This is Rosie here, clinical nurse specialist. This is our final episode of season two, 'What is a general anaesthetic?'. And joining us here today is our two consultant anaesthesiologists, doctor Alan Broderick and doctor Ashlyn Sherwin. So, Alan, what is a general anaesthetic or a GA for short?

**Alan:** So, Rosie, a general anaesthetic is, broadly speaking, a group of medications to induce a temporary controlled state of unconsciousness. Medications are given to ensure that you're fully asleep or unconscious, that you do not feel any pain, and that you are not aware of what is happening throughout your procedure. It's important to remember that when we say asleep, we're actually talking about your brain being in an unconscious state. It's not like a normal sleep that you would have at home. There are two primary ways of giving patients a general anaesthetic. We can use an inhalation method, which is where we use gases, or an intravenous method using drugs given to you through a drip. Commonly, adults will have a combination of intravenous drugs to go to sleep, followed by gases to keep them asleep.

Smaller children regularly go to sleep by breathing in gases alone. In some cases, a medication will be given so that your muscles are relaxed during the operation. We usually give muscle relaxation for particular anaesthetic reasons or for surgical reasons. For example, if we were taking out your appendix during a keyhole operation, the surgeon needs to be able to get their instruments in through the strong muscles of your abdomen to work on the appendix itself. It's easier for them to do this with relaxed muscles.

And for the surgery, it's safer for us to give you a muscle relaxant in order to put a breathing tube into your airway to manage your breathing.

**Rosie:** Thanks, Alan. So, Aislinn, how is a general anaesthetic delivered, or what does it look like?

**Aislinn:** Thanks, Rosie. So firstly, we do a lot of preparation for general anaesthesia. We usually see you in clinic before your general anaesthetic, or we see you before the procedure itself. And we ask a lot of questions, we do a lot of checks on your medical history, and we do a thorough assessment of you before developing a plan for your anaesthetic. We then also do checks on our machines. We make sure our ventilators are working correctly and that our monitoring is working correctly. We then drop all of our medications. We make sure we've got the proper amount of medications and the proper amount of emergency drugs that we might need. And then we bring you into usually an Induction room, which is where you'll go asleep. Here, you'll be attached up to some monitors. We usually use an ECG monitor that checks your heart rate. We usually put on an oxygen saturation monitor to look

at your oxygen levels and a blood pressure cuff as well. We also put in an IV cannula or a drip that we've talked about in previous episodes, and we ask you the same questions about three or four different times over the course of this time to make sure that everything is correct. We want to make sure that your consent is right, that we know the spot that you're having the surgery, and that the details on your name band and on your chart are correct. And we'd actually surprised that even on the last check, a patient remembers something like an allergy that they'd forgotten to tell us about, which is important information to have. After this, we do what's called the induction of the general anaesthetic or very simply putting the patient to sleep. We give you an oxygen mask to breathe, and we try and fill up the lungs as full as they can be with some oxygen. We then give you a combination of anaesthetic medications with or without muscle relaxation, as Alan has discussed, before we manage your airway using the preselected best option for you. Often at this point, once you're asleep and onto the ventilator, we can use this time to put in extra intravenous cannulas or drips or other lines or catheters that we've talked about in previous episodes. The 3<sup>rd</sup> part of the general anaesthetic is maintenance of the general anaesthetic or keeping you asleep. So this involves keeping you unconscious using either anaesthetic gas or using medications through the drip. We monitor different measurements to ensure that you're fully asleep so that you're not aware of what's going on around you. We also, throughout the operation, make sure to take care of different things like protecting your eyes, your pressure points, and making sure that you're kept warm. We give you antibiotics through the drip that we've put in before. We give you some pain medications and some anti sickness medications with the fluids to ensure that you're comfortable throughout the operation and into the period beyond.

**Rosie:** That's great. Thanks, Aislinn. Alan, can you tell us about the next steps?

**Alan:** Yes. So the next step is to wake you up once the procedure is finished. This differs depending on the type and duration of surgery. In most cases, we'll wake you up by simply turning off the anaesthetic medications or gases. We'll give a separate drug to reverse the effects of the muscle relaxation if that's been used. Once we're satisfied that you're breathing in a regular pattern and that you're obeying commands, we will remove the breathing device and send you onwards to the Recovery Room. In some cases, the patient will need to be kept asleep for a specific duration after an operation, for example, following cardiac surgery. If this has to happen, you're usually transferred to the intensive care unit. And when it is safe to wake you up, they will do that there.

**Rosie:** Thanks for that, Alan. And, I think it's really good to reiterate for the listeners as well that to stop an anaesthetic and to wake a patient up is a very decisive moment for the anaesthetist as well. So, Aislinn, it's been mentioned there a couple of times that, you know, we have to manage the airway or that a tube is inserted into the airway. So does that mean my breathing will need to be supported during a general anaesthetic?

**Aislinn:** Yes, Rosie. It will. It usually does need to be supported during a general anaesthetic. So as I've mentioned, we start off by giving you oxygen to breathe to ensure that your oxygen levels are nice and high before we send you off to sleep. Once you're asleep, we put in a breathing device, and these are usually two common things that we use. One is called

an ET tube or an endotracheal tube, and that goes down the back of your throat and into your windpipe directly. The other device that we commonly use is an LMA or a laryngeal mask airway, and that sits just above the voice box as well in the back of your throat. We use these then to deliver the oxygen in and out of your lungs throughout the procedure so that we can ventilate you successfully with our anaesthetic machine in a nice controlled fashion.

**Rosie:** Thanks. So, Alan, will I need to be monitored throughout the procedure?

**Alan:** Yes, you'll be monitored throughout the procedure by an anaesthesiologist who'll be present with you for the entire operation. They'll keep an eye on your vital signs or, in other words, your heart rate, your blood pressure, and your oxygen levels.

**Rosie:** That's great. And as we covered before in a previous episode, the patient will never be left alone during this. So Aislinn then, can you tell us a bit more about how will I wake up?

**Aislinn:** Yeah. And it's really one of those things that people are very commonly worried about, the thought of either waking up during the procedure or making sure that they wake up after the procedure. As you've mentioned already, Rosie, it's really a definitive decision that an anaesthesiologist makes to wake you up at the end of the procedure. There's a common misconception of a general anaesthetic where people think a specific dose of medication is given at the beginning, and that's what keeps you asleep throughout the whole procedure. People worry that maybe this dose isn't exactly correct and they might wake up during the operation. But in fact, we actually give you a continuous infusion of medications or gas throughout the procedure to keep you asleep. When the surgeon is finished and everything is over, it's just a matter of turning off either the gas or stopping the infusion of medication and waiting for that medication to wear off, which is usually quite a quick process. It's really common when you wake up afterwards to be groggy and probably not remember much for the first while after the operation, but this will wear off postoperatively.

**Rosie:** So, Alan, a common one here, fear of being aware during the procedure, especially if you're paralyzed or having pain. Is there anything you can tell our listeners here to help alleviate their fear?

**Alan:** So anaesthesiologists are asked about this very, very commonly, And there is actually a very small risk of being awake or aware under anaesthesia. However, this risk is exceptionally low. It is perhaps slightly higher for patients undergoing emergency procedures rather than elective or planned operations. Once again, we it's important to understand that anaesthesia is an active process. We deliberately keep a patient asleep, and then we deliberately wake them up again afterwards. So the mere presence of an anaesthesiologist in the Operating Theatre keeping an eye on you is the safest bet against being awake or aware during surgery. However, we also have two different ways of monitoring how deeply asleep you are under anaesthesia depending on whether we're using gases or intravenous fluids, And those serve as a useful guide as to making sure you're not aware during surgery.

**Rosie:** Thanks for that, Alan. So, Aislinn, when you're putting a patient to sleep, what sort of risks do you talk to them about before you put them asleep for a general anaesthetic?

**Aislinn:** Yeah. So I generally talk about the general risks associated with a general anaesthetic, Rosie, as well as the specific risks. So in terms of general risks, the most common thing that people complain after a general anaesthetic is having a sore throat. So about one in ten people have a sore throat. This is due to the fact that you've been fasting, and also we put a device in for your breathing during the procedure itself. Both of those things contribute to that sore throat afterwards, and it should get better once you start eating and drinking again. The other common risks include postoperative nausea and vomiting, which is a fancy way of saying you might feel sick or you might vomit or throw up after the operation due to the drugs that we use, and you might also feel pain, which we've discussed in our previous episode. Dental risk is also something that we talk to you about, and that risk exists because we have to put in a device to manage your airway. The risk goes up if you've got any dental work there, so things like caps, crowns, loose teeth, implants, bridges, all of that extra dental work increase that risk of having damage. I always say to patients that your breathing is far more important than what your dentist has done. So if there's any problem with securing your breathing, there is a risk to your dental work that you have. I also talk to patients about the specific risks around general anaesthetics. Those specific risks can relate to the surgery itself. For example, if you're having a particularly long surgery like eight to ten hours in length, you're at higher risk of having pressure areas or areas of discomfort when you wake up, which we'll try and alleviate during the surgery. And then the specific risks relating to your medical background. If you've had problems with your breathing in the past, that may put you at a higher risk of having a chest infection after an operation, for example.

**Rosie:** So, Alan, the procedure is finished and I'm awake, but what am I not allowed to do after a general anaesthetic?

**Alan:** So anaesthesia does wear off very quickly, but it's important that you don't drive or operate heavy machinery for at least twenty four hours after you've woken up. I would also advise against drinking any alcohol after surgery until you no longer require strong painkillers like opioids and until your wounds have healed or as directed by your surgical team. And then finally, patients after anaesthesia can experience what's known as post 'operative cognitive deficit' where you may not be in the best frame of mind to make important decisions for 24 or 48 hours afterwards. So I usually jokingly advise that patients shouldn't sell their house or change their will very shortly after an operation.

**Rosie:** So one of our listeners 'Val' has sent him by email a couple of queries that she had. And, Aislinn, I'll direct this first one for you - A common fear about dying under general anaesthetic. Can you talk to us a bit about that?

**Aislinn:** Thankfully, Rosie, death under anaesthesia in routine circumstances is exceedingly rare. If you were present at that first anaesthetic back in the 1840s, your patients may not have done very well afterwards. However, now having regular elective surgery, a death happening under an anaesthetic is really, really, really rare.

**Rosie:** Thanks, Aislinn. And then one for you, Alan – a common worry that surgery might start or begin before the patient is fully unconscious. Could you talk to us a bit about that as well, please?

**Alan:** Yeah. So we mentioned already that patients undergo several safety checks on their way to having an operation. But one final one that we haven't already mentioned is that just before the surgeon would make an incision or start a procedure, they would ask the anaesthetist, 'may I start?'. And this gives a final opportunity to the anaesthetist to check that everything is prepared already and that they're satisfied that enough anaesthesia is being administered.

**Rosie:** Fantastic. Thanks, Alan and Aislinn, for all your information today for what is a general anaesthetic. And hopefully, upcoming patients feel a little bit more prepared for their general anaesthetic as well. So thanks everyone for tuning in to the final episode of series two 'Operation Preparation'. Stay tuned for series three.

**(Outro) Alan:** You've been listening to 'Operation Preparation' the Pre Anaesthetic Assessment Clinic podcast from St James's Hospital Dublin. Don't forget to subscribe and check out our website links and abbreviations in our show notes to learn more about the topics we covered today. If you have a question that you would like us to cover here, email the podcast at [perioperativepodcast@stjames.ie](mailto:perioperativepodcast@stjames.ie). Thank you for listening. Until next time.