

### Episode 3: Types of Anaesthetics

**Intro (Julie):** 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.

**Julie:** Welcome back to 'Operation Preparation'. And in today's episode, we are going to be talking about types of anaesthetics. I'm Julie, one of the clinical nurse specialists from the clinic. And joining me today are my colleague, Pam, also a clinical nurse specialist, Dr Alan Broderick, Consultant Anaesthetist, and Dr Aislinn Sherwin, Consultant Anaesthetist. So, Alan, I'm gonna jump straight in with you. Question number 1, what exactly is an anaesthetic?

**Alan:** Well, the first demonstration publicly of general anaesthesia was on October 16, 1846 in the superbly named Ether Dome - that's at the Massachusetts General Hospital in Boston. Somewhat amazingly, though, considering that the first transatlantic cable to Valentia Island was still a few years away, Ireland's first general anaesthesia was administered just two and a half months later on January 1, 1847, and that was at the Old Richmond Hospital here in Dublin.

In recognition of the momentous event in the Ether Dome of that day, October 16th is now known as World Anaesthesia Day. The word anaesthesia literally means the lack of feeling or awareness of pain, and this can be achieved in a number of ways depending on the particular procedure or on the needs of that patient.

**Julie:** Thanks for that Alan. So are there different types of anaesthetic, Aislinn?

**Aislinn:** There definitely are Julie. So people might be familiar with some and not have heard of other ones. So in summary, there's 4 main types of anaesthetic that you might have.

The first type is a local anaesthetic. So if you've ever gone to the dentist and got a filling, you'll be familiar with what a local anaesthetic is. So, essentially, whatever practitioner is doing the procedure, they will inject local anaesthetic into a particular area. For example, near a mole if you're having that removed, and they'll have you numbed up for that procedure.

The second one, which is the one that people are most familiar with and maybe most worried about is a general anaesthetic. And a general anaesthetic is the one that people are most familiar with when they think about anaesthesia, and it's probably the one thing that worries most people as well about having an anaesthetic. What happens when I go asleep? Pam will take us a little bit later on through the actual procedure in the induction room and how you go asleep and how we do that. But, essentially, what it means is having a drip put in or a cannula usually into your hand or into your arm and the administration of different types of medications which make you unconscious. The other two types of anaesthesia, we can do things under regional anaesthesia. That's usually done for orthopaedic procedures. So things that are on the hands or the arms or the legs. So different parts of the body where essentially

we'll target nerves that supply that part of the body and numb them up for the procedure that you're having done.

Sometimes with that, we give it a little bit of sedation just to make it more bearable for you. Sometimes the surgeon's musical choice is pretty poor, so it can be nice to have a bit of sedation and a snooze with that. And sometimes then we can also do it under, neuraxial anaesthesia, which is a bit of a mouthful, and that kind of covers both a spinal anaesthetic and an epidural, as an anesthetic as well. And the most common of these would be having a procedure done under spinal. For example, if anybody's ever had a cesarean section, most commonly that's done under a spinal anaesthetic where we inject some medication and have you numb from usually around your belly button down for the particular procedure.

So in summary, we can do it under local anaesthetic where we numb a particular part. We can add in some sedation if we feel that you might benefit from it. We can do a general anaesthetic or we can do neuraxial anaesthesia or regional anaesthesia.

**Julie:** That's great to know, Aislinn. It's great to know there's so many options available.

But you might walk us through how you make the decision as what exactly what choice you're going to make on the day for the patient.

**Aislinn:** So I always think about when I assess a patient, I think about the patient themselves. So I think about your medical history, your background, the medications that you take, how you feel on the particular day, whether the procedure is an emergency then or an elective procedure. So whether it's planned or maybe your appendix is not looking too good and we have to take it out.

So that's another consideration that I would have. And then what the actual surgery would involve as well. So if it's, say, something on your toe, maybe we could consider doing that under regional anaesthesia. If it's something on your tummy, that would be something that we'd probably have to do under a general anaesthetic. So it's a combination of things that we think about.

And I suppose in consultation with you the patient, we figure out what the best option is for all of those things together. So it's really a shared decision that we decide on what the best option for your anaesthetic is.

**Julie:** Well, thanks for that, guys. Good to know there's so many options. Good to know that the patient gets a choice and gets involved as well.

But, Pam, my colleague, clinical nurse specialist who works in the Pre Anaesthetic Assessment Clinic, you've also worked in an anaesthetic room. You've worked in a recovery room. So I've met my anaesthetist in the clinic. Together, we've agreed to have a general anaesthetic. My surgery date has arrived, and now I'm very nervous. So if I was the patient, would you be able to talk me kinda through what happens next? Like, you might guide me through once I arrive on the day to the anaesthetic room, what do I expect?

**Pam:** Absolutely, Julie. So once you're brought into the anaesthetic room, prior to that you will have met the anaesthetic nurse, and she will have gone through your information, your name, date of birth, and allergies, and that is routine. It's a routine step, and you'll be asked that a number of times during your journey in through to the theatre before you go asleep. So we bring you into the anaesthetic room, which is one of the smaller rooms beside your theatre. When you come in, some monitoring equipment will be put on. So you'll have a blood pressure cuff put on, you'll have some dots to monitor your heart rate, and you'll have a clip put onto your finger to monitor your oxygen levels. Normally, the only other thing that would be done would be to put a cannula into your hand or a drip.

That is done. There is a needle when you put it in initially, but the needle comes out, and it's just a very thin plastic tube that goes into your hand, and it's attached to fluids. And it allows us to be able to give you all your medication during your surgical procedure. As Aislinn alluded to earlier, there are different drips and different anesthetics that can be done, which we may do before you would go to sleep. But in a normal circumstance, the cannula is the only one that's put into your hand before you go to sleep.

Then we would give you an oxygen mask, and we will place the oxygen mask over your face. Now if you're finding that very difficult, you can hold the mask yourself. And all you're getting through that at that stage is pure oxygen, and we want you to take nice, big, deep breaths and fill your lungs full of oxygen. And while you're doing that, the anaesthetist will inject in the medication that will put you asleep. Once you're asleep, the anaesthetist will pop a tube into your mouth and into your throat that helps maintain your oxygen level, and it helps us monitor you while you're asleep.

And you will then be moved into the theatre area. While you're in theatre, you're going to be monitored with at least 1 anaesthetist, if not 2, and they're monitoring your blood pressure, your oxygen levels, and they're also giving you medication for pain and anti-sickness to make sure that when you wake up, you should be comfortable. And after the procedure, you're brought out to the recovery room where you will wake up.

**Julie:** Great. That sounds very reassuring, Pam. Lots of checks and balances going on. I'm not so nervous about it now. But, Alan, after agreeing to all of this, I'm wondering, are there any side effects to this lovely sleep?

**Alan:** There certainly can be, and patients do ask us about this in the clinic all the time. One of the more common ones that people would be familiar with would be feeling unwell or nauseated or even vomit after anaesthesia. We call this or refer to this as postoperative nausea and vomiting, and this would affect about 20% of people or 1 in 5. Fortunately, it's something that can be relatively easily treated both during the procedure itself in a kind of pre-emptive fashion or afterwards if a patient is feeling sick afterwards. And it would be important to know the patients don't actually have to wait until they are actually getting sick to ask for help if they're just feeling unwell. That's enough for us to intervene and give some medication to help.

Other common problems, patients can feel quite cold or can be shivering after an anaesthetic, and this can be for 2 different reasons.

1 - their body temperature may have dropped a little bit throughout the operation depending on how long that was. So they may be actually cold, but sometimes as a direct side effect of the anaesthesia itself, they can feel as though they are cold and may shiver. This is easily treated with a warming blanket. And having experienced this myself before, I can attest to how incredibly comfortable warming blankets are in the postoperative phase. Patients can also feel quite drowsy after anaesthesia, and this is almost an expected side effect, if you will, given that the whole purpose is to make you asleep or render you unconscious.

So patients can feel residual sleepiness for some time after an anaesthetic. This is mostly gone after about 4 hours or on a practical level a lot sooner than that, but patients may still feel a little bit sleepy for the rest of the day and indeed overnight. Following anaesthesia, some patients can have trouble peeing, and this is a problem that would be a little bit more common in men rather than women, and we have our prostates to thank for that. This is usually quite a transient problem and rarely becomes anything that causes major discomfort. And finally, patients can have problems with either low blood pressure or low oxygen levels in the immediate aftermath of anaesthesia.

**Aislinn:** And I suppose this is why we monitor everybody, Alan, really, isn't it? We don't just monitor you in the recovery room, but we also monitor you from the time you are going asleep all the way through the operation. Whereas Pam mentioned earlier on, we have somebody with you the whole time keeping an eye on you and making sure that you're safe, that you're well, and that we're managing any things that might crop up during your operation. And we have easy ways to deal with all of the problems that Alan has mentioned as well, either through use of other drugs or through use of time or through use of maybe some fluids to help with those low blood pressures. So I suppose just to reassure everybody, because sometimes that can be one of the things, Julie, that people are scared of, that the anaesthetic doctor will be with you from the moment you go sleep until you're woken up after the surgery.

We either wake you up inside in the theatre, most people do not remember this time at all, or we wake you up in the recovery area, where the recovery nurses will be present as well. From there, we hand you over to the recovery nurse once we're happy that you're stable and all of your numbers are looking right. So you'll never be left alone. That's just one thing to kind of really reiterate to patients.

**Julie:** And that's great to know Aislinn and it's very reassuring because that is one question patients ask all the time - will I be left alone? What happens when I'm asleep? What does the anaesthetist do? So I suppose, Alan what we will ask you one question, what does the anaesthetist do? When do you decide to wake somebody up? Or how soon after an operation will the person wake up?

**Alan:** Well, the simple answer is that we wake the patient up when the operation is over. It's a deliberate choice to wake somebody up. And there is a misconception sometimes amongst the public that an anaesthetist gives you a certain amount of medication at the start of your operation, and that somehow that exact dose carries you through to the entire process and

hopefully will wear off around the time we hope it will. It doesn't work that way. Thankfully, anesthesia is actually an active process. We are deliberately keeping you asleep by continuously giving you medication either through your drip or via anaesthetic gases so that when the operation is over, we simply stop giving you the anaesthetic and allow you to wake up. And that process can take as little as 5 minutes.

Julie: Yeah. Well, that's great. Thanks for all of that information. It's great to get it from the experts, hear it from the horse's mouth, so to speak. And from all of that, I suppose what we've learned today, anaesthesia is designed for the maximum comfort of a patient. There are several different types. The type chosen is dependent really on the procedure and the patient, really based on an individual assessment.

It is shared decision making where the patient is involved, and there are some side effects. But as Alan has explained to us, they're all very well managed. And as Pam has reassured us, we're extensively monitored. We're never left alone. And if we didn't know before today October 16th is World Anaesthesia Day.

Thanks for listening and join us again for our next episode where we will talk you through your journey in the day surgery center.

**Outro (Julie):** You have 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've 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). Thanks for listening. Until next time.