Episode 14 – What is Regional Anaesthesia?

(Intro) Rosie: Do you have upcoming surgery? Are you feeling a little 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: Welcome back to Operation Preparation. Today for episode 14, we'll be talking about regional anaesthesia, what it is, how it works, the benefits and what you can expect as a patient. This episode is designed to answer common questions and help you feel informed and confident if you are considering or scheduled for a procedure involving regional anaesthesia.

My name is Roseann Murray, one of the clinical nurse specialists, and here also is Pam, another clinical nurse specialist. Joining us here also is a guest speaker, Consultant Anaesthesiologist, doctor Ben Atterton and our very own patient, Grace. Welcome. So Ben, let's start with the basics. What is regional anaesthesia?

Ben: Well, Grace, firstly, thanks for having me. So there are two broad types of anaesthesia, general anaesthesia, which most people will be familiar with as being put to sleep for an operation, and that was covered in really great detail in episode 12, and regional anaesthesia. So unlike general anaesthesia, which makes you unconscious, regional anaesthesia numbs only a specific part of your body, your arm or your legs, for example. There's lots of different types of regional anaesthesia, which we can use either in addition to general anaesthesia for really good pain relief after your surgery, or we can use regional anaesthesia on its own without a general anaesthetic, meaning you might be awake for your surgery.

Pam: Ben, you mentioned there are a lot of different types of regional anaesthesia. Could you explain more?

Ben: Yeah, so for simplicity's sake, I'll split regional anaesthesia into two different groups. The first is spinal and epidural anaesthetics, also known as neuro axial anaesthesia, which have also been covered in another episode. These are injections in your back, which are used to make you numb from about your belly button down and are often used for operations on the legs, such as hip and knee replacements or operations on the lower abdomen, such as a caesarean section. Epidurals are also used for major surgery on the chest or tummy for really good pain relief after the operation. And of course, they're also used for pain relief during labour and childbirth. Now, I won't go into any more details for those types of anaesthetics because they're covered in another episode, but they do come under the regional anaesthesia umbrella.

Rosie: Okay, that sounds great. Can you tell us a little bit more about the second set?

Ben: Yeah, so the second group of regional anaesthetics and what we're going to talk about for the rest of this episode are what we call nerve blocks. So going back to some basic

biology, I would probably say GCSE or A-level, but perhaps I should be saying junior cert or leaving cert as I'm here, nerves carry information from our brain to the rest of our body, telling it what to do. And those nerves also carry information back from the body to tell us what's happening, where your arm or your leg is, if something's hot or cold, or if something's painful, for example. So when we're giving someone a nerve block, what we're doing is using medications called local anaesthetics to temporarily turn off those nerves so that all those unpleasant feelings like pain can't get through. We can inject local anaesthetic near specific nerves or groups of nerves to numb large areas of the body, your whole arm, for example. We really can numb any part of your body, but common operations which might include a nerve block are those on your arms or your legs, typically bony operations like bunions or hallux valgus, as we would call it. Fixing bones like wrists and ankles are also great examples. But nerve blocks are really useful for soft tissue operations as well, such as Dupuytren's contracture, which is a common deformity of the hand, and also things like hernia operations and breast operations.

Pam: And Ben, you mentioned an injection. Lots of people don't like injections. Can you allay their fears?

Ben: Yeah, as you say, lots of people really don't like needles. But unfortunately, they're kind of an essential part of healthcare nowadays. The needles we use for nerve blocks are sometimes quite long, but they're really thin. And I can talk from experience here as I've had some nerve blocks, and I'm sure Grace will be able to give us the sort of patient perspective as well later, but they feel really similar to having blood taken or having a vaccination, for example. So not pleasant, but it's also not that bad.

Pam: And are there any alternatives for people that really don't like injections?

Ben: Yeah, there are. There's a couple of options. Unfortunately, whichever way you choose, it's impossible to avoid needles altogether, as you'll have to have a cannula, sometimes known as an IV or a drip, and these were also covered previously in episode 10, I think. This is so that we can give you medications. We can either give you some sedation or anti-anxiety medication. Or if your anaesthetic is planned with a general anaesthetic as well, we can give you the nerve block when you're asleep. We do generally advise patients to have the nerve block done awake with no or minimal sedation, as it's slightly safer for you, but it's not absolutely mandatory. And if your fear of needles is really severe, it's something you can discuss with your anaesthetist.

Rosie: That's great. It's great to know that patients do have options. But how long does the nerve block take to perform?

Ben: So that really depends on the specific nerve block. Sometimes it's less than a minute. Other times it might be 10 or 15 minutes.

Rosie: And what exactly is involved?

Ben: Great question, yeah, so after making sure that you're the correct patient, having the correct surgery, and it seems really pedantic, all the questions, but it's really, really

important to make sure that we've got the right person in the right place. The anaesthetist will ask you to get into a specific position on the bed. And this, again, depends on which nerve block you're having. But for example, you might be moving your arm out to one side or looking over to your left or your right, or even sitting on the side of the bed. They'll clean a small patch of your skin with some really cold antiseptic solution. Next, they'll more than likely use an ultrasound machine to have a look inside your body to find your nerves. They're also looking for other important bits as well, like blood vessels and bones, to make sure that when they put the needle in, it doesn't hit anything it shouldn't do.

The ultrasound scan isn't painful, but sometimes we do need to put quite a bit of pressure on the ultrasound probe. If you're uncomfortable, then just let the anesthetist know. After they're happy that they can see everything is where they think it is, then that's when it's time for the actual injection. So we use a very fine needle, which stings a little, as I said, and we advance that until the tip is near the nerves at the point. And then at that point, that's when they'll inject the local anaesthetic.

We also sometimes use another piece of equipment called a nerve stimulator. So this does exactly what the name suggests and uses a tiny electrical impulse to stimulate the nerve. And what we're looking for is twitches in your muscles. It's not particularly painful, but it can feel a little weird. We use that to make sure that we're at the correct nerve, and also that we're not too close to the nerve as well. Once the injection is done, the needle is removed, and then it's just a matter of waiting to make sure that it's working properly. And there's a really good video link in the show notes that will show an example of a patient having a nerve block.

Pam: So Ben, I just have another couple of questions. So if I'm awake from my surgery, do I have to stay completely still the entire time? Can I talk to you or you to me? And how do you know it's working properly?

Ben: Yep, so in terms of staying still, the short answer is yes, you have to stay still. Surgeons are great at their job, but it's a lot easier if they don't have a moving target. That said, if you need to make a quick adjustment or scratch your nose or something like that, that's fine. As for talking, absolutely you can. If you want to ask questions or just fancy a bit of gossip, then chat away. Although we understand that everyone is different. So to be honest, most people take the opportunity to have a little snooze. We often have music or the radio playing in theatre, so there's lots of things to distract you. And some units even have headphones or virtual reality glasses for you to wear as well.

As for knowing whether it's working properly, that's a great question. We do years of training to make sure that the nerve blocks that we provide are safe and effective. So we can often tell just based on the ultrasound images that a nerve block will likely be successful, but we'll always check before we let the surgeons anywhere near you. We do this by asking you to do certain movements like bending your arm or spreading your fingers, or we might check with something cold. The way that we're wired as humans means that cold and pain sensations follow the same pathways. So when we're checking with something cold, especially either a special spray or even just an ice cube, we're actually checking to make sure that you won't feel anything painful. It's far kinder to check with

something cold than poking you with a needle or doing something which might still be painful for you. Once we're happy that the nerve block is completely working, and it can take up to half an hour or so, we'll start getting you ready for surgery.

Rosie: So Ben, you mentioned that sometimes the patient is awake for surgery. Does that mean that they're going to see everything?

Ben: Not at all. We take great care to make sure that you can't see anything by putting big screens and drapes up. We also make sure that you're comfortable, warm, and calm. At any point during the operation, we can give you sedation. So if you've already discussed this with your anaesthetist, they will make sure that you're nice and relaxed. But if you realize that perhaps you're not as brave as you thought you were, then you can always ask. Your anaesthetist has to stay with you during the whole operation, so they will always be there if you need them.

It's important to note as well that at any point during the operation, you can always have a general anaesthetic as well. It's rare, but sometimes nerve blocks don't work quite how we planned them to, or sometimes the surgery is taking a little longer than we expected. So if at any point you feel uncomfortable or something unpleasant, it's your anaesthetist's job to make sure that you're comfortable. And this includes giving you a general anaesthetic if need be. We'll be checking in with you the entire time, and you'll never be left alone.

Pam: Ben, it seems like there's a lot involved in a nerve block. What's the advantage?

Ben: Well Pam, there's lots of benefits. First and foremost, it's great pain relief for after your surgery. The main alternatives to nerve blocks are really strong painkillers like morphine. And these drugs work really well, but they do come with some side effects like nausea, drowsiness, and constipation. And if these side effects are severe, it can sometimes mean that you have to stay in the hospital when otherwise you would have been going home. So nerve blocks are a great way to make sure that you're pain-free, free of side effects, and on your way home as soon as possible after surgery.

Rosie: It sounds great. Are there any other benefits?

Ben: Yeah, of course. So having a nerve block can sometimes mean that you don't have to have a general anaesthetic and this can be really useful for patients with lots of health problems for whom having a general anaesthetic can be quite risky. So it means these people can have safer surgery. Some people as well really don't like the idea of having a general anaesthetic, perhaps the feeling of losing control, for example. And so we do occasionally get patients specifically asking if they can stay awake for their surgery. Avoiding a general anaesthetic also avoids all of the side effects of a general anaesthetic as well, the sickness, drowsiness, and there's a few other risks too, which I think you've covered before in episode 12.

Pam: And what can patients expect after the procedure? How long will the nerve block last? And will it be painful when it wears off?

Ben: Great questions. So immediately after your procedure, you'll be monitored closely in the recovery room. In most cases, it'll only be a short time in recovery, 20 or 30 minutes or even less. Definitely less time than if you'd had a general anaesthetic. The numbness, however, will last for a few hours. How long it lasts really depends on how long we want it to last and your anaesthetist will be able to give you a more accurate estimate, which is specific for you. But in general, nerve blocks last for about 16 hours. So in most cases, you could expect it to wear off the morning after your surgery, but sometimes it's shorter, sometimes it's longer.

Occasionally, we will put in what we call a nerve catheter as well. This is a small plastic tube similar to a drip, which stays at the nerve. And we can connect this up to a local anaesthetic pump and use this to keep the nerve block going for several days at a time if your surgery is particularly painful or complex, but this isn't common.

As for if it will be painful when it wears off, I usually tell patients that having a nerve block is great pain relief, but I describe it as a soft landing. It's going to wear off, and when it does, it's going to be as painful as if you didn't have the nerve block. Unfortunately, surgery is painful. But the good news is that we have lots of other painkillers we can use, and if we time the painkillers right, we can pre-empt the nerve block wearing off and the pain kicking in. So if your anaesthetist hasn't told you already, it's really important to ask them when to expect the nerve block to wear off, and that way you can time the painkillers accordingly. The moment you notice it's starting to wear off, that's when to take the painkillers you've been given, because it's only going to get more painful. The nerve block will have got you through the worst part of the pain though.

Rosie: So the benefits are really clear, but are there any risks to having a nerve block?

Ben: Yep, like everything we do in medicine, unfortunately nerve blocks do have some risks, but serious complications are very rare. The exact risk depends on the type of nerve block you're having, but a few possible side effects might include infection, that's why we clean your skin with the antiseptic, bleeding, or more commonly just a small bruise at the injection site. We can run into serious problems if you're given too much local anaesthetic, or it's given in slightly the wrong place. However, as I said, we train for many years to give you nerve blocks safely, so this is extremely rare. Nerve damage is another complication that we worry about. Usually this is just a bruised nerve and means a small patch of numbness that takes a bit longer to come back, say a few days or weeks. More serious or permanent nerve damage can happen, but it's very, very rare. We're not exactly sure how common it is, but the best estimate probably lies somewhere between 1 in 1,000 and 1 in 10,000 people. Personally, I think it's probably less than that. There's actually a big study happening in all hospitals across the UK and Ireland next year, which will hopefully give us more accurate information, but we'll just have to wait and see. As for other side effects, your anaesthetist will be able to give you more details and tell you about any specific side effects you need to look out for, depending on specifically which block you have.

Pam: So today we also have Grace. Grace, you had a nerve block recently during an operation that you needed with us up in the South Dublin Surgical Hub at Mount Carmel Hospital. Could you tell us a bit about your story and how you found it?

Grace: Firstly, thank you so much for having me here today, and I'm delighted to be part of this podcast. I've actually listened to many of the Operation Preparation episodes and found them to be so helpful in understanding what happens when you come to hospital for surgery. I suppose it puts you at ease and you feel more confident coming in that you know what's going to happen, when you're having your anaesthetic and when you're coming into the operating theatre.

So as you said, I'm Grace and I was a patient in St James' Hospital in September when I broke my wrist and needed surgery. So I had my surgery in the South Dublin Surgical Hub and it was a great experience, I must say. I was looked after so well by the surgical teams and by the anaesthetists and the nursing teams. So thank you so much to them.

Before having surgery, the surgeon explained that I had the option of having regional anaesthesia or a nerve block and that the nerve block would make my arm completely numb. And I also received a leaflet from the hospital explaining what a nerve block was and the benefits and I suppose the risks of having one. So that was really helpful. Before I came into hospital, I could understand what was ahead of me and what it was going to be like.

Ben: That's great, Grace. I give a lot of people nerve blocks, but one question I'm always desperate to ask is what did it feel like? How was it?

Grace: That's a good question and I suppose I wasn't sure what to expect either. Ben, you were my anaesthetist and thank you for looking after me. So I had the nerve block in the room next to the operating theatre. So you put a needle into my arm just near my armpit and it was slightly uncomfortable and there was a kind of a stinging sensation, but it wasn't too bad. I actually didn't look at what you were doing, Ben, because I'm sure like most patients, I don't love needles so I prefer to look away and not see what was happening. So I was lying on the bed and then you just came to my arm and gave me the block. And, you know, just after a few seconds, that stinging feeling eased and I felt quite comfortable.

Ben: And what did it feel like, I guess, immediately after we'd given you that injection and the nerve block was kicking in? How did that feel?

Grace: Well, I had a general anaesthetic, so I went to sleep quite quickly after that. But as the nerve block was kicking in, my arm started to get a little bit warmer and I actually didn't feel it go entirely numb so I didn't feel that full sort of numbness in my arm until I woke up after surgery.

Pam: And what did it feel like when you woke up after surgery, Grace?

Grace: So when I woke up, Pam, my arm was completely numb. I couldn't move it at all and it's quite a strange feeling, not having any kind of power in your arm. And the only thing I could compare it to was the feeling of having anaesthesia when you go to the dentist so that kind of warm, numb feeling and you know your arm is there, but you can't move it at all. So yeah, it's quite strange and unusual, I have to say.

Rosie: And Grace, what was it like then when it was starting to wear off?

Grace: Straight away after waking up from surgery, I felt really, really comfortable. I had no pain whatsoever in my arm. And that was, I suppose, a huge benefit that I was able to travel home after surgery quite soon. I felt really comfortable. I was able to get home to the couch and settle in and feel really relaxed because I had no pain and I was able to eat something. And I think Ben said, you know, it buys you time to kind of get home and get comfortable and I really appreciated and valued that. I suppose I had my surgery in the morning and that night I could feel the block starting to wear off. So I started getting some sensation in my fingers and I started getting a tingling feeling in my arm. And it also started to get a little bit warmer and I started feeling some pain. So I suppose the advice I got was, as soon as you feel anything wearing off to take pain relief and that was really helpful to sort of get ahead of the game. So I took the prescribed pain medication in bed that night and the pain does come, you know, sort of you get waves of pain as the block starts to wear off. But I will say it was great having those kind of nearly almost up to 24 hours feeling quite comfortable, if not a little bit unusual in my arm and being able to be relaxed at home.

Rosie: Brilliant and well done for remembering to take your medication at that time. And what kind of advice were you given then when you were leaving the hospital about your arm and how to look after your arm?

Grace: I was, you know, just advised to be really careful with my arm because I had no feeling in my arm. If I came close to something warm, I could get burnt. So I was just very conscious of that. I kept my arm in the sling and kept it, I suppose, very secure at all times. I suppose I was very conscious that it was numb for quite a long time. So I rested a lot, you know, I stayed on the couch. I kept my arm elevated to make sure that the swelling was going down and continued to do that even when the nerve wore off, pardon me, when the block wore off, I continued to relax and keep my arm elevated.

Pam: Thank you, Grace, for giving us such a fantastic idea of what someone can expect when they have a nerve block. So, Ben, let's wrap up with some more common questions. Will I feel anything during the procedure?

Ben: So if you're having your surgery awake, you might feel a bit of pressure or perhaps some movement, but you shouldn't feel any pain.

Pam: And can I eat or drink before having regional anaesthesia?

Ben: Unfortunately not, no.

Pam: Even if my surgery is planned awake?

Ben: Still no, I'm afraid. Like I said, very rarely we do have to give you a general anaesthetic as well so we need you fasting just in case.

Pam: And do I have to have a nerve block even if I don't want one?

Ben: Absolutely not. We can never force patients to have any one particular type of anaesthesia, but we will make sure that you know the risks and benefits of all the options and help you make an informed decision. We're here to help.

Pam: And the last one is, when will it wear off and when should I start to take my painkillers afterwards?

Ben: So we usually find that nerve blocks wear off at about 16 hours, but this can vary based on lots of factors so make sure to discuss that with your anaesthetist. In terms of when to start taking the painkillers afterwards, I normally advise patients to take simple painkillers like paracetamol and ibuprofen, or some people know it as Nurofen, to take those regularly, even if the nerve block hasn't worn off, because these medications work better if we take them regularly. You'll often be prescribed some just-in-case painkillers as well, usually an opioid or a morphine-like drug, and I would advise people to take this the moment they think the nerve block is wearing off, just as Grace described, typically around the 16 hour mark, as I said.

Rosie: So to sum it all up, regional anaesthesia is a safe and effective method for pain control during many types of procedures. It can allow you to stay awake and recover quickly, with fewer side effects than general anaesthesia for many patients. If you have any questions or concerns, always speak with your anaesthetist. They are there to help you to make informed choices.

So thanks everyone for listening today, and to our guest speakers, Consultant Anaesthesiologist, doctor Ben Atterton, and to our patient Grace, who has given us a very open and honest account of her journey with regional anaesthesia, who might help alleviate any other concerns that patients might have who are scheduled for regional anaesthesia. Join us again in the next episode, where we'll be discussing your physiotherapist, Prehab and Rehab.

(Outro) Aislinn: 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 abbreviation 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 us at operationpreparation@stjames.ie. Thank you for listening. Until next time.