Research Focus: Scott Kilpatrick

Sally Everitt:

Hello and welcome to this Research Focus podcast from RCVS Knowledge. During this podcast, we'll be covering all aspects of veterinary clinical research from getting involved in research in practice, to discussing published papers and evidence with particular emphasis on how we can integrate them into our clinical practice. My name is Sally Everitt, and today I'm talking to Scott Kilpatrick about some research he's recently been involved in and some of the challenges of carrying out clinical veterinary research in practice.

Scott graduated from Edinburgh in 2007, started his career at the PDSA before moving to VetsNow in Edinburgh. And then in 2012, Scott embarked on a residency in internal medicine at the University of Edinburgh and completed a masters focusing on the pathogenesis of canine liver disease. Since then, he's been actively engaged in referral practice and clinical research. In 2019, Scott, alongside Liz Bode and Andy Bell, established the Veterinary Thought Exchange, facilitating online veterinary CPD learning in various user-friendly formats. Welcome, Scott.

Scott Kilpatrick:

Hello.

Sally Everitt:

Perhaps before we get into the discussion about the study about cobalamin supplementation in dogs that we're going to talk about, can you perhaps give us a brief introduction to how you got involved in veterinary clinical research more generally? Because I know you've been involved in several studies.

Scott Kilpatrick:

Yeah, I mean, thanks very much, first of all, for speaking today. It's great to be here. Thank you for that opportunity. I think that this is one thing that I really do think is important and also really challenging. I think it can be really, really difficult I think fundamentally to carry out any sort of research when you are particularly in clinical practice. I think it's hard across the board and challenging across the board, but I think I have found personally that in that kind of clinical environment it can be really, really difficult. So I think a lot of veterinary professionals are really keen to be involved in research in some way, but I think finding a pass in is actually sometimes really difficult.

And then when the opportunities arise, whether that's something that you've created yourself or something that someone else has asked you to be involved in, it's then really challenging actually to get it going and almost get it fitting into the clinical day. I always think of an opportunity where I was involved in a prospective study where we were actually looking at potentially a really cool new therapeutic intervention for dogs with thrombocytopenia. And it was a placebo controlled study, so you were either giving the cool new lyophilized platelet drug, which was really cool, or a placebo. And I remember just being so excited by the concept of this, but actually when it came down to remembering that you had to do the study when the cases of thrombocytopenia came in because you couldn't control them, they were just coming in and they were quite sick, so they were emergency cases.

So the idea was so cool, but actually being able to then translate that into practice was much more challenging. You're presented with something more emergent like that and just kind of fitting it in. So the idea is great. The thought of it is great, but sometimes translating that into actual practice is more challenging. And I'm not sure that that's answered your question, but that was one of the things I was...

Sally Everitt:

I suppose the other thing that comes out of that, and we're all taught that the ideal is the placebo-controlled, randomized controlled trial. But placebos, when you've got clinical cases in front of you can sometimes raise some ethical issues as well. They've still got to be getting standard of care. You can't withhold treatment. And discussing with the owner because they have to give informed consent about whether the animal is going to get something that is being tested or not being given something. And that all gets quite complicated as well. So yeah, it can be a bit of a minefield, I think.

Scott Kilpatrick:

I think that's really interesting. That's really true. I think that actually when you lay it out like that, that's absolutely right. You're saying to an owner they might get a drug that might help them or they might just get some saline or something else or whatever. And yeah, that's really interesting. And I think it's more unusual that we're involved in studies like that, that kind of classic, like you say, it would be great if everything was prospective, randomized, placebo controlled, whatever. But that's why I think a lot of the time we're seeing a lot of retrospective studies and I mean that's not a criticism. I think that it's just what kind of works, especially a lot of the research that's being done is maybe residents doing residency projects and that sort of thing. And again, it does come down to time. What's achievable? What's available?

I was talking to a colleague yesterday, a neurologist who I can't remember why we were talking about this. I think we were saying wouldn't it be... I love the idea of going back and working in academia because you'll have time to do this and time to do that. And actually the reality is you get time to do nothing, but the academics listening will be like, we've not got time to do anything. But we were talking about support for research and she was saying that actually one of the reasons she didn't stay in academia was because she felt like she wasn't supported. People were like, "You need to do research." But she was like, "I don't know how to do research. You need to tell me what to do. I need help." And I think sometimes that can be another barrier, just not knowing sometimes what to do. It's very easy to be like, right, so you need to do something. And then the reality is, well actually, I don't know how to do that.

Sally Everitt:

Where do I start if I'm actually in practice?

Scott Kilpatrick:

Yeah.

Sally Everitt:

We can move on from there to talk about the study you actually were involved in and did do. And this is the study that compared oral and injectable B12 in dogs suffering from hypo-cobalaminaemia. So could you perhaps talk through a little bit about that study that might make it a bit more concrete for our listeners?

Scott Kilpatrick:

Yeah, I mean I think that fundamentally, I think that the concept of this is really interesting. Ultimately what we're in this particular study trying to demonstrate the effectiveness I suppose, of different ways of supplementing cobalamin. We know that cobalamin or vitamin B12 is a really potentially really important vitamin for lots of different ultimately very cellular reasons. And I think this cobalamin gets most air time when it comes to talking about chronic... Well, not just chronic but gastrointestinal disease. We're usually measuring cobalamin in our gastrointestinal patients and with a view ultimately to supplementing them.

And I think patients can become hypo-cobalaminaemic for a number of reasons, but notably, there are some sort of genetic abnormalities where younger patients will get cobalamin deficiency. But typically we're seeing it in mature dogs and cats secondary to gastrointestinal disorders.

In this particular study that I was involved in was looking at ways of supplementing cobalamin in patients that had chronic enteropathies, which would be a very common population of diseased patients that would require cobalamin supplementation. And I think fundamentally we would classically draw up that memory of drawing up that pink injection because the vitamin B injection is normally this pink solution.

I think that will be a memory that many people will have. And so that would be the sort of classic way of supplementing cobalamin by injection. And more recently there have been a number of studies including this one looking at giving oral supplementation of vitamin B12 as an alternative to that. And the reason really for that is that it's easier for people to sometimes give oral medication rather than necessarily coming back to the vets every week for an injection. And so just understanding different ways of doing it and I suppose giving owners options.

Sally Everitt:

There was also a period certainly in the UK where there were problems getting hold of the injectable form. I'm not sure where we are on that now, but if that comes and goes, you can normally get hold of least of oral.

Scott Kilpatrick:

Exactly. Yeah, that's really interesting. And that's always the limitation, isn't it, were availability of things. And so having more than one option to do something is always going to be beneficial. So yeah, so I think for me, actually it's funny, as we're speaking now, I've had this conversation a couple of times over the last couple of weeks where I do now routinely present to people the option. And I've seen a couple of dogs with chronic enteropathy very similar to what we looked at in this study. The cobalamin is low and I'm having that conversation that this is I think an important thing that we supplement the cobalamin. How would you like to do that? Either we can do that by injection or by oral supplementation, and I will have some owners that will even want to give injections. We can even train them to give injections at home.

I mean, there's lots of ways of doing it, but I think many people will not want that. And so that oral supplementation is a great option. What we've demonstrated in this study. And generally speaking, I would say that you need to give them oral supplementation for a bit longer. So I mean the classic recipe for injections is that once a week for six weeks type approach, and usually I would supplement them orally for a bit longer. But I think ultimately we have demonstrated in this study and in other studies that oral supplementation is-

Sally Everitt:
Effective.

Scott Kilpatrick:
... a good alternative. Yeah, exactly.

Sally Everitt:
So obviously you can't blind a study where you are giving one... Well, not for the owners anyway, or who's present when it's being given. You could have somebody looking at the results. So you can't blind an injection versus an oral treatment. But obviously you used some quite objective measures here. You weren't just asking the owners or asking a vet to make a clinical assessment as to how they were doing. So there were some objective measures as to how they were coming out of this. The other thing is that's interesting is were you involved in the recruitment of patients to this trial? Because that's another thing that I think people in practice sometimes find quite difficult. How do I approach owners to do this?

Scott Kilpatrick:

Yes. I mean really that was really our role as far as my involvement very much was we were contacted to be one of the centers that was involved in recruiting patients. And I have to shout out to Celia Dor, the first author who really did the absolute lion's share of the work here as far as writing and spearheading the project. But I think, yeah, so we were very much involved myself and Petra, who was one of my interns at the time, we were involved in recruiting patients. And I think again, one of the things that I think I thought a bit about when we were thinking about this paper and reflecting on it I suppose was the fact that we started recruiting for this quite a long time ago. So this paper has been published relatively recently, but actually five, six years ago, even longer when we started to think about getting these patients recruited. And again, although you've got this really nice plan, you know the type of patients that you want, in practice, it's just not that easy to get people enrolled.

Sally Everitt:
No, absolutely.

Scott Kilpatrick:
It's hard to do that. And there'll always be something, obviously there's different exclusion criteria and all this kind of stuff. And you'll get yourself all excited about this is a great one for the study, and then actually something will happen and it won't be. So it's a lot of those

sorts of things. I suppose it's different from doing an experiment in a dish, on a bench and something goes wrong. I don't know, there's a lot of moving parts and so...

Sally Everitt:

Yeah, a lot of things you can't control.

Scott Kilpatrick:

Well, listen, I mean, as we all know, the minute that you put a person and an animal and another person in a room, I mean, all bets are off. Know what I mean? There's so much about our world in veterinary medicine that we just cannot control because people in animals are super complicated. So that's true. Yeah, that's true.

Sally Everitt:

Another thing you did in this study, which I thought was really interesting because quite often we forget about this part of it, was an owner questionnaire. And asking them about their experiences of giving the oral supplementation or having the injections because quite often we do research that tells us ideally what we do, but sometimes we miss out this bit. How easy was it to get owners to get involved in that part of it?

Scott Kilpatrick:

Yeah, I think that's really important. I think that's a really important part to highlight. And I think we sometimes are kind of a bit dismissive of some of these kind of questionnaire based elements to studies, but actually I think this was a really important part of this particularly. And I think you're right. I think that it's very easy sometimes for us to say, "Well, do this," or, "Do that," or, "Give this." And actually what we're sometimes asking is really challenging, and we don't always fully appreciate that because we're not the ones actually doing the giving or whatever.

I think that to be quite honest, for me, as far as that questionnaire-based element, I would say that we're often very lucky actually with the owners that are involved in this sort of stuff. I know this is not really very scientific, but sometimes there is a degree of self-selection for owners that are more dedicated. So I think that, sorry, that maybe doesn't come across very well. I don't mean that in that way, but there is a certain type of owner that would have a willingness to do things maybe. Do you know what I mean?

Sally Everitt:

There is a difference and there'll be those who are perhaps a little bit risk averse who are less inclined to get involved in this or have less understanding and seeing it as something being done to their dog. So I think you are absolutely right. There will always be a level of self-selection in the type of owners who are prepared either to answer questionnaires or even to allow their animals to be part of a research study. I don't think we can get around that.

Scott Kilpatrick:

Yeah, and I think that's the thing, isn't it? There's always that correlation. Yeah, I mean that's very true and I think that, because we all know that there's... When we think about different

things that are maybe a bit more intense or I don't know, for instance, home blood glucose monitoring or some intervention like that, everyone would be like, "Oh yeah, I know the owners that be into that," or, "They would do that," or wouldn't do that. So we kind of have an idea of the type of people that might do certain things. But I think it's interesting because I don't want to go off on tangent, but we've just moved house and one of my cats is now indoor and he used to be outdoor and there's lots of reasons for that. Anyway, and he's definitely put on a lot of weight and I was sitting last night thinking, God, if he became diabetic, I'd be really rubbish at doing that twice a day.

Sally Everitt:

As vets, we're happy to say these things to owners as if it's simple and often it's really quite challenging for them.

Scott Kilpatrick:

I think we underestimate that, don't we?

Sally Everitt:

We do, I think. Perhaps before we go talk about the findings of the studies, if we can just talk about a few of the challenges. Because I noticed one of the things in this, and this happens as you say, once we've got owners involved, there's quite a high dropout rate. Not everyone who was recruited completed it. Can you say a little bit more about that? I mean, they were asked to go back several times and complete questionnaires and things.

Scott Kilpatrick:

Yeah, I mean, honestly I think that looking at this study, but looking at lots and lots of other studies, I don't think that's surprising at all. And I think that there will be 100% a natural drop off when you're asking people to do things like fill out questionnaires and that sort of thing. So that kind of classic loss to follow up is part of that. I think that as far as the construction of this sort of thing, I think you do just have to try and make it as straightforward as possible for people to do. And obviously making things easy will increase your chances of things being done. But I think this is why the multi-centred approach to this is so important.

I look at a lot of studies when I'm just generally reading papers and I often think, why have you not involved your friends? Why have you not got people involved from other places? Because this would've been so much better if you just had passed the net a bit wider. I mean, there'll be lots of reasons maybe why they didn't do that, but one of the reasons why the multi-centred approach and this study, and again, the numbers weren't huge, but that kind of helped with that. But I think it's sometimes unavoidable with the follow-up elements of this. I think you just have to make it as easy as possible for people. And I would also say that having more than one person in each center involved in the study is also really crucial for keeping on top of it. Because the other thing will be that you've just not got time to keep up with follow up or whatever. So I think having that you need someone overall spearheading the whole thing, but having more than one person in the center you're working in,

Sally Everitt:

Always be available so the other things going on. So, multi-center studies obviously help spread the net wider, help you recruit more cases, but they perhaps bring in a few potential confounding factors. One of the ones in this study was that obviously how the animals were being treated in terms of their clinical disease, their underlying GI disease was outside the control. Now this is great in that it's reflecting what happens in real life, but it perhaps goes against what we think of when we think of research where everything's tightly controlled.

Scott Kilpatrick:

Yeah. I mean, that's such a problem and it's such a problem when it comes to particularly chronic GI disease because these patients are, it's not like they're coming in for the first time with this problem. And so they will have received, there's always difficulties about who's had what when, over what period of time, steroids, antibiotics, all these different things are really difficult. Who's had what diet, how many diets? And it's really, by the time they come to particularly a referral center, they'll have had a lot of different things done. And none of it's a criticism, it just is. And so that's inherently challenging.

But actually one of the things that it makes me often think of is that it generally is mostly referral centers that are involved in this sort of research project. And actually it highlights the point that we should be, again, involving more primary care practices in this sort of thing, not that anyone's got any time, but it would be a great opportunity to involve more people. Again, a lot of these studies are that sent that when I'm presenting papers, you've got to remember this is a referral population and it's not really representative of the full. So that's always an interesting element. It's often referral population and maybe we should try and move away from that.

Sally Everitt:

Absolutely. Brilliant. So bearing all these challenges in mind, what were the findings in this study?

Scott Kilpatrick:

So I think ultimately really what I suppose we were trying to understand was again this oral versus injectable approach to supplementing cobalamin in these patients. And ultimately the study demonstrated that those methods of supplementation in this population of dogs with chronic enteropathy, these were very comparable. So really I suppose demonstrating that it was reasonable to use an oral supplementation because we could demonstrate that it was as effective, I suppose is the right way of saying it, as effective as the injectable cobalamin.

And also actually one of the things that you mentioned that I think was important, we could also say ultimately that it was tolerated in the same way. Well, comparably tolerated. And that was another one of the things that you mentioned. Not just looking at the effectiveness of the actual number going up or changing or that the cobalamin state is changing, but also the tolerance of that as a method of supplementing. So ultimately we're demonstrating that the methods of supplementation were comparable and also that the tolerance was comparable.

Sally Everitt:

So you were taking blood samples to monitor effectiveness of the treatment. Just one thing that wasn't specifically covered by this, but I wonder if you've got anything for people in practice, would you be recommending that vets who are supplementing in practice are monitoring cobalamin levels or if they've got a dog on supplementation? And how often do you think that would be appropriate to do?

Scott Kilpatrick:

Yeah, that's a really interesting question. So I think one of the first, if I can just, another thing that I think is just really important to mention, I think this is an ever-changing landscape, cobalamin. I think cobalamin is super interesting, by the way. It's generally, I think it's really interesting, and I now take a B vitamin every day. First of all, I think that our understanding of cobalamin we're just scraping the surface. So as far as in human medicine, as mentioned in the paper, cobalamin status is not just assessed by total serum cobalamin, so they will also use parameters like methylmalonic acid and homocysteine to understand the status much better. Now, we are not routinely doing that in dogs and cats, obviously you'll see methylmalonic acid and homocysteine pop up in lots of studies. So it's available but not commercially as far as I'm aware, commercially available.

I think that I would, first of all, say that sometimes we're not supplementing soon enough, so a lot of the laboratory reference ranges will be quite variable and actually the kind of general consensus is anything under 400 we would now be supplementing, and that won't always be what the lab tells you, but that's important. I would recommend monitoring. I generally, I don't personally monitor them while they're on in practical terms. I don't take cobalamin while they're on cobalamin because I just don't think that's helpful. But I usually will wait a couple of weeks after the supplementation has ended and then measure their cobalamin again.

And I think people often say, "Well, do we need to have cobalamin measured in the long term?" And I say, "Well, maybe, but really we should be doing a better job of controlling the underlying disease." Because I think ultimately for the majority of patients where we're supplementing because the cobalamin is low secondary to chronic GI disease, as long as we deal with the GI disease, then we've dealt with the problem that was causing the low cobalamin. The patients that will require lifelong supplementation and maybe monitoring would be those congenital dogs that are defective, the border collies or the beagles that have-

Sally Everitt:

I've also I've had a case that had parvo as a puppy and they needed supplementation long-term after that.

Scott Kilpatrick:

That's super interesting. And actually that's interesting because there was a study recently looking at cobalamin and in fact, I think it was parvo virus puppies, but it was more acute presentations. It's interesting you mentioned that. I don't think we think about it necessarily in acute disease as much. We're comfortable looking at it in chronic disease, but I think it's probably interesting for us to consider more the importance of cobalamin in acute disease. Yeah, that's a really interesting point.

Sally Everitt:

And the other thing that I thought was really quite interesting in it, and I know it's a small study and we've talked about there may be some level of self-selection, and you were looking for parity rather than one being better than the other. But my gut would've told me that people would've preferred an oral supplementation than an injection just because it saves them going back to the vet and things like that. And actually that didn't come out strongly in this study. People pretty much seemed to be quite happy with both of those options. now there may be individual owners for who one is better than the other because traveling is difficult or they can't give their dogs tablets, but that's perhaps, although they come out roughly the same, that's actually quite a surprising finding. Which goes back to your we should be offering both options to clients because we don't know which one they're going to choose.

Scott Kilpatrick:

That's really interesting actually, and again, I've not orchestrated it this way, but again, going back, I've had these conversations just randomly quite a few times over the last couple of weeks. And I would agree with the finding that you're highlighting that actually people, everyone over the last two weeks that I've spoken to about this has gone for the injection. I think the oral supplementation is a great option, but what I'm saying is people surprise you and they're like, "No, no, I want to do injections," so.

Sally Everitt:

We shouldn't be making the decision ourselves as vets, we should be offering the option. We now have options that we can offer to the owners, and not assume that because there's an oral supplement that's necessarily what they'll want.

Scott Kilpatrick:

I think that without, I suppose, naming any names, but the supplement we used in this particular study, I suppose one of the other benefits that I find is that it contains other things. So it's not just that there's folate in there, too. We could spend another [inaudible 00:30:43] talking about whether we really care about folate or whatever, but certainly there's maybe the fact that there's other things in the B vitamin supplement that are going to be beneficial, too. And I think that the oral supplementation is a very, very good option for some people, but I'm often surprised by the people that would be like, oh no, I'll do the injection. That is surprising.

Sally Everitt:

So research in practice always involves some compromises. We've talked about some of those. And we've also mentioned that it would be wonderful if we could spread out studies like this to involve more primary care cases. Are there any other variation, other things you'd like to have done in this study but either weren't practical or you didn't have time for?

Scott Kilpatrick:

I mean, I think it would be great for us to, in future studies, probably have more of an understanding of cellular cobalamin levels by, as we mentioned, broadening that panel of homocysteine or methylmalonic acid. That inclusion of that in studies I think would be really interesting moving forward. I suppose thinking about ways of maybe standardizing some of these GI cases would be helpful. I think that when people think about some of these scoring systems for GI cases, I think that it can be just thought of as maybe a bit of a time-consuming pain to have to score them and that sort of thing.

But actually getting into the routine of doing more of that, having particularly these validated scoring systems just as part of, I don't know, an automation on the computer system or something, those sorts of things. I do think help, obviously numbers is always a thing, just having a wider number within your study, within your study population. And I think the university, the universities that I've worked at have done a better job of this, but maybe just trying to have, and it's so difficult, isn't it, but trying to maybe standardize that approach to treatment a little bit more.

I think we're getting better because I think many fewer, that's not very good English, is it? Many fewer? No. Do you know what do I mean? A lot less of these patients are getting antibiotics for instance, and a lot of them... But I suppose we're getting more and more that are having faecal transplants and things like that earlier. I don't know, maybe it's getting more complicated, but I think maybe finding ways of streamlining the patients and the approach to these patients would be another thing that might be beneficial.

Sally Everitt:

Another thing that strikes me with the scoring is in the UK as probably in many other places, there seems to be a shortage of vets and therefore perhaps people are seeing different vets or locums or things. And those standardized scoring systems really help when it's not the same clinician seeing the case through. If you've got somebody else coming in and picking up the case that they are actually saying things in the same way as opposed to my old-fashioned way of just writing something very quick on the computer, pretty confident that I, or someone I know well is going to see the animal next time. So it could really help with that sort of ongoing case continuity, even if you're not necessarily always seeing the same person.

Scott Kilpatrick:

Totally agree. And you're absolutely right. I think we probably under-utilize methods of like that to make our lives easier in that way. You're absolutely right. So yeah, I mean there's lots of benefits, but again, it does come down often to that kind of classic time or that perceived time barrier, but actually it's really down to practice management systems I think to be developed in a way that make it easier. So there's lots of things that can be done with AI or all these mad things that we do know. But there'll be ways of making that easier for people, I'm sure.

Sally Everitt:

Brilliant, thank you. So in summary, we've talked about some of the challenges of carrying out clinical research and practice. Perhaps we could end on a more positive note and think about some of the benefits of getting involved in research.

Scott Kilpatrick:

Yeah, I mean, I just think it's really just all about making your life more interesting, isn't it? I think that for me personally, it's just a case of generally just having a bit of variety in your clinical life when it comes to, I suppose, using your brain in a different way, challenging yourself in a different way. I think there's a real pride in being involved in something, projects like this where there's an end product that's a published bit of work that I think is, I always feel very proud of that, being involved in stuff like that. And there's a huge amount of work, really massive credit again, particularly to the first and last author in this particular paper and every paper and the amount of work that goes into the creation of that.

I think it's just so there's a factor of contribution to the profession and the way that we practice. There's a personal pride and the fact that it's a really nice thing to be involved and it's really lovely actually, particularly with this study. I mentioned the first author before and she was just a real joy to work with. She was just really nice. I came away thinking, God, I've never met her personally, but she's a really, as in we've never met in person, but just really lovely. And so just lots of nice elements to working with nice people as well. That's always fun, isn't it? Working with nice people. So I think there's lots of positives and varying your working day is never, in my opinion, a bad thing by doing things that are slightly different.

Sally Everitt:

And one of the things I suppose I spend a lot of time critically appraising or teaching people to critically appraise papers. Taking part in research gives you a new understanding of how difficult it is because it's very easy for us to pick up papers and pick up what's wrong with the study. But actually taking part in that can give you a real understanding of what a lot they achieve, not just pick up the points where things perhaps weren't as you would ideally like them to be.

Scott Kilpatrick:

Absolutely, absolutely. And I think, that also I think don't take things personally. At the end of the day you present the data because that's the data, and there's only so much you can do with that. So I think it is what it is. Most information is worth presenting regardless whether it proves the point you wanted to prove or not. I mean, that's not really the point. And I think also though you've got to, the opposite is true as well as I think there's a lot of papers that present very bold conclusions that maybe, in some cases, will change the way that we may practice in some way. And I always say to people, "Well, please don't just take that on face value, because these studies are challenging and there's lots of reasons why we need to also delve into that information." I think a great example, some of the recent papers looking at the use of Prazosin in cats with urethral obstruction, and I don't know if that's something that you've kind of delved into.

Sally Everitt:

Yes, we've covered that one.

Scott Kilpatrick:

But I always tell people, "Well just go and read that again and let us really think about this." And I'm not here to be controversial, but I'm just saying I think there's more to it than sometimes just the strap line, the headline.

Sally Everitt:

Thank you, Scott. I hope we've given our listeners not only a much greater understanding of some of the challenges, but also some of the benefits personally and professionally of getting involved in clinical research from practice. If anyone would like further details of the study, we'll provide a link to the published paper on our website. If you have enjoyed this podcast and would like to find out more about veterinary clinical research and evidence in practice, please have a look at the evidence and library sections on our website. For more podcasts from RCVS Knowledge, find us on your favourite podcast platform.