Webinar transcript: Infection control and biosecurity during COVID-19
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Pam Mosedale BVetMed MRCVS
Alan Radford BVSc BSc PhD MRCVS
Tim Nuttall BVSc BSc CertVD PhDCBiol MRSB MRCVS

Pam Mosedale

Hi everyone and welcome to this webinar from RCVS Knowledge. We're going to talk today about the very serious and concerning problem of infection control and biosecurity during COVID-19. I know this is something that lots of practices would like some help with and hopefully we'll be able to give you some pointers.

So I'm very lucky to be joined today by Alan Radford and Tim, Nuttall. Alan graduated from Liverpool in 1993 with degrees in veterinary science and molecular biology and in 1998 a PhD in biology, so no better person to talk to us about the virus and what we're dealing with. Alan also has helped to establish the Small Animal Veterinary Surveillance Network known to most of us as SAVSNET, which collects large volumes of companion animal electronic health data from veterinary practitioners and diagnostic labs across the UK.

Tim is an RCVS Recognised Specialist in veterinary dermatology and head of the dermatology service at the University of Edinburgh. He has a particular interest in antimicrobial stewardship and infection control and has worked with the Bella Moss Foundation, the Scottish veterinary antimicrobial stewardship group, RCVS Knowledge and others, to develop policies and guidelines. He's now like a lot of us working from home and he's learning what his two cats get up to all day. So we're very lucky to be joined by two such eminent speakers to help us through this minefield area of infection control during the current problems.

Who am I then? My name is Pam Mosedale. I'm chair of the RCVS Knowledge Quality Improvement Advisory Board. I'm also lead assessor of the Practice Standards Scheme of the Royal College and I'm also a Bella Moss clinical advisor. I'm a veterinary surgeon whose been in first-opinion practice all my career.

So RCVS Knowledge have brought this webinar to you. RCVS Knowledge's mission is to advance the quality of veterinary care for the benefit of animals, the public and society. They do this by championing the use of evidence-based approach to veterinary medicine and inspiring a culture of quality improvement. Although we have RCVS in our name, we are a separate organisation to the Royal College of Veterinary Surgeons. We have resources on evidence-based medicine and on quality improvement in practice, which are available on our website to the whole profession.

In this webinar we're going to cover, first of all, Alan is going to talk to us about Coronavirus - know your enemy. Again looking at the evidence base and understanding the science can help us to understand what we should be doing. And then Tim will talk about infection control in the face of the COVID-19 pandemic and practical things you can do in your own practices. And then at the end I'll ask them some questions you have submitted.

Alan Radford

Okay. Coronaviruses are, they're viruses, they're obligate intracellular parasites, which means they need a host cell to replicate, different to most bacteria and fungi and things like that. They need a host cell to divide. This cartoon here shows you most of the full range of veterinary viruses of importance, and this is where the coronaviruses fit in and the important things that I want to highlight on this particular figure are that coronaviruses have a RNA genome and they are envelopes. Both of those have important implications for their biology, which I'll talk through on the next slide.

Okay. So the first thing to say is it has an RNA genome, coronaviruses have an RNA genome. The important thing about RNA is that it's very unstable. It mutates very quickly and it allows viruses with RNA genomes to evolve very quickly. And that explains in a nutshell why we're having the problem that we do with this new coronavirus in humans; it's the mutation of the RNA genome that has allowed it probably to arrive in humans.

The next thing, it has a lipid envelope that's really good news actually. The lipid envelope is derived from the host cell virus exited. It's essential for infectivity, but being derived from lipid, it's actually quite fragile and means that coronaviruses are generally short lived in the environments and relatively susceptible to soap and alcohol-based disinfectants. And it's why this sort of hand washing mantra, this hand washing campaign is so prominent for the control of transmission between humans, we all know we should be washing our hands more frequently.

The last thing is the envelope is decorated with viral proteins, which you can see in this electron micrograph here. And when that was first seen, the biologists thought it looked like a crown or a corona, and that's where the name of these viruses come from, coronaviruses. What I'm showing here now is a family tree of coronaviruses, at least as it was a few years ago. And I wanted to make the point that there are lots of very well-known veterinary viruses in the coronavirus family, whether you work on cats, so things like the cause of FIPV appear, whether you work on pigs, lots of respiratory, and enteric viruses in pigs, here's cattle coronaviruses and equine coronaviruses and then down here probably the other prominent veterinary coronaviruses, infectious bronchitis virus of chickens.

So, as vets and vet nurses we're already familiar with coronaviruses and they're a common part of veterinary practice. If we look at the human viruses (again, this is from a couple of years ago), so there are quite a few, generally associated with mild signs like the common cold. And then I'll draw your attention to this one here, which was the new kid on the block in 2002 and the cause of the first SARS outbreak in people. This one was controlled really effectively through a worldwide campaign of identifying infected people and minimising their contact and luckily it wasn't so transmissible, although it was perhaps, virulent. It was less transmissible and we managed to eradicate it from the human population.

The pictures of bats is to make the point that bats have a lot of coronaviruses. And, until they became prominent, we didn't really care about bat coronaviruses to be honest, until it was found that the last SARS epidemic emerged from a virus of bats. And you can see that here, these two viruses are very, very closely related, and to cut a long story short, it's believed that bats are reservoirs of coronaviruses that occasionally spill out into humans. You can see that here.

In general, however, the other important message from this is that the veterinary viruses are really, the non-bat veterinary viruses if you like, ae very distinct from the human coronaviruses. So we should be very careful when we talk about coronaviruses in animals that we make the point, yes, a cat may have a coronavirus, but it is no way related to the coronavirus that we're all worried about at the moment. They're really very distinct. And you can see that from this long branch length here.

So what's changed? Well if we zoom in on this little group here, what happened toward the end of last year and the beginning of this year was the emergence of a new virus in the human population, which ultimately became SARS coronavirus 2. Again, very closely related to bat viruses. This is believed to be, not proven yet, but believed to be another spillover event probably from bats possibly by via an intermediate reservoir. It's not the same as the first SARS outbreak. SARS coronavirus 2 is 80% the same or 20% different to that virus. SARS coronavirus 2 is 96% similar or 4% different to this bat virus. So again, that's what we think is happening, no other animal link that we're aware of.

Okay. So that's where it came from. What about SARS coronavirus 2 and animals? There are two things to think about. I put pets here, but we can think about animals and veterinary species more broadly. The first question is, can they be infected? Well as a scientist it's very hard to say something hasn't happened or will never happen. But the current evidence says the risk is absolutely tiny, negligible. There has been, that I'm aware of a single case where a dog that was living with an infected person also tested positive for the virus. This is for the virus. The dog wasn't sick. It didn't develop antibodies and the suggestion was that the dog probably wasn't infected, more had a virus on it. And that brings us to the second concern with animals, not infection itself, but I've called it here, contamination.

Clearly if an animal's living or in close contact with an infected person the animal will get virus on them, especially perhaps particularly with pet animals, just in the same way that the infected person's phone or door handles in the house would have virus on them, so too their pet, and in that sense animals can be considered fomites that they, animals living with infected people can be considered as, as fomites.

And this is the concern. This virus could infect other people and we'd call that indirect transmission. So what should we do about that? Well, firstly, we're all being told all the time we should be reducing, reducing handling of all fomites and we should include animals in that. So one simple thing to consider in practice is what they consider what cases to postpone. For example, do you need to vaccinate animals as frequently as you used to? And there's some really nice guidance here from WSAVA if you want to have a look at that. I found that quite useful.

When we do handle fomites, including animals that may be infected, we can wear gloves. And that makes sense. And Tim's going to talk much more about that in a moment. We certainly should be asking owners of animals that we're seeing whether the animal comes from a house that has suspect disease, COVID-19 disease, and if an animal has to be seen from such a home, then we really have to be thinking very carefully about separation this infection biosecurity. But again, Tim's going to talk more about that in a moment. I've found this a really useful website for information about dealing with animals from potentially infected homes. So that's it. Not infection at the moment, could change but not infection but absolutely, definitely contamination and fomite risk.

So the take home on the biology is they rapidly mutate. That's why we're having the conversation we're having today. The envelope is really good news. It means that it's a relatively fragile virus and we can therefore focus on sensible things like hand washing and use of detergents and disinfection within the practice and environment. If we do talk about animal coronaviruses, then we should try, let's try and be specific so we don't confuse people and let's not talk about 'coronavirus in cats'. Let's talk about 'feline enteric coronavirus' or 'feline infectious peritonitis virus', we could call it as well. And well just for interest bats are an important reservoir. I'm sure when this is all over and things a bit more back to normal, we'll be reviewing bats in their role as a source of coronavirus infections, people and other animals. And that's all I wanted to say.

Tim Nuttall

Right. Thank you very much to Alan for that really useful introduction to coronaviruses. And I'd like to thank RCVS Knowledge for putting together this presentation and all the really useful information that's

going on the RCVS Knowledge site. But I guess never in my wildest dreams did I ever think that I would be giving this presentation and nor is it the presentation that anybody would want to give. And this is the importance of, of what we're doing. This virus seems to be incredibly contagious and spreading very, very easily between people. And lots of people are going to get infected. And if that happens in a short period of time, our health service will become overwhelmed, which means not only a lot of people might die of Coronavirus, but a lot of people who need urgent lifesaving therapy in other fields won't get, it simply because there won't be the beds or medical staff available to help them.

So we all have to do what we can to contribute to this flattening of the curve, so that the morbidity of this virus and the number of cases become remains manageable, and that as many people survive through to the other end of this as possible. And what we'll be going through in this presentation is really what we can do as vets to help this as part of the wider community effort.

And it's unreasonable to say that we can just shut down. We provide an essential service and although we should all be reducing our case load to what is essential, we will still be seeing animals and obviously then, meeting those animals and meeting those owners, not only places a risk to us and our staff, but also we have to be mindful that, veterinary practices could wind up being hubs for dissemination of this virus amongst the wider community. And again, whatever we can do to reduce that will contribute to this flattening of the curve. And this is where the infection control becomes very important. And I don't think there's ever been a time that I can remember where immediate, and effective infection control has become so important, not just in practice, but throughout the entire community.

And this is something that I and others have been working on very hard for the last few years. And we do know that a lot of bacteria are very good at colonising veterinary practices and veterinary premises and equipment where these can get passed on between people and between patients. But we also know that this is now true of Coronavirus, and Coronavirus is easily transferred onto fomites.

The main routes of transmission are either direct contamination from an infected person, if you're very close to them, but also through fomites and contamination on surfaces and under certain circumstances on hard surfaces. And these would be ideal conditions of temperature and humidity, which more or less reflect what we have indoors. The Corona virus here can survive, or COVID-19 is estimated that it can survive for several hours under certain circumstances, particularly in droplets it can survive for several days. So we have to really think very hard about the challenge of fomites and how we use infection control to manage that.

And this is data that was run by the Royal Veterinary College and the Bella Moss Foundation led by Ana Mateus and is a little bit old now, in 2014. And the good news there, was that more than 50% of the practices and vets that were questioned were aware of written protocols for infection control, but this still meant it was a considerable number that, that weren't, and this really now has to get turned round very, very quickly. Okay. Now there is going to be a second webinar that is going to look at infection control in more detail.

And what I want to do in this session is really just bring out and highlight the immediate points that we need to adopt as a matter of urgency in face of this COVID-19 pandemic. And I'll be looking, picking out some areas on infection control concentrating on hand-washing, cleaning and then how to manage social distancing in practice. And I think it's very important that these, these should be written because everybody now needs very clear and very effective and unambiguous advice, and in particular we have to remember that as people fall sick or become sequestered, we may have members of staff doing jobs that they are not used to doing and working in teams they may not be used to. So this advice needs to be very clear so that it can be immediately and effectively implemented.

And again this is probably best put together by an infection control team, either within the practice or if you're working in a practice group or corporate practice, then it could be spread out throughout that

group. And I know that some practice groups have shared the infection control advice that our RCVS Knowledge is going to be putting onto the website. And we're very grateful for that.

And I think at this stage there are really two things. So there's the background baseline level of everyday infection control. And then there are the immediate tasks and changes to procedure that we need to adopt in the face of this COVID-19 pandemic to make sure that we are not only maintaining our general standards of protection, because remember things like bacteria and antimicrobial resistance bacteria and canine parvovirus and all these other things are not going to suddenly go away, but we are cognisant of the risk to human health from COVID-19 and using simple infographics and posters is very, very useful. And these can be put up both in the sort of back room areas of practice as well as the client-facing areas. And these are ones that I got by going onto the BSAVA COVID-19 website and then following the link through to the World Health Organization. These have been produced by their Western Pacific region. It's just very good, very simple take-home messages to reinforce to people what they should be doing. There's one thing on the right-hand poster there, is talking about a one metre social distancing gap. And I think things are changing very, very quickly. I think since this poster was produced, the advice really now is to look at a two metre gap and as Alan pointed out, our one big advantage here is that the coronavirus is an envelope virus and is therefore very vulnerable to routine detergents and alcohol-based disinfectants among, among others.

And so it is actually reasonably simple to remove this from fomites and hand touch surfaces. I just want to reinforce the messages coming out from everybody about hand-washing. And it is basically just wash your hands as often as you can, and this works. Now people with pre-existing dermatitis, so contact dermatitis or eczema may need, will probably need to moisturise their hands after washing and possibly even carry a little pack of moisturiser around with them because this constant washing will dry out your hands, which might lead to a flare and inflammation. And remember then that can increase bacterial adherence to the skin, which may have infection control implications for practice work.

Now these are the five moments for hand hygiene, which have been adapted from the World Health Organization's advice for managing infection control within hospital and other healthcare settings. And we've just basically done the same thing, but put some animals in there. And all of these still hold true because again, all of the infection control challenges that we faced back in January when corona was still to appear are still there. But really we now need just to up the ante on this and be hand-washing at every opportunity and certainly before and after every task that we're doing. And I really think, again, although normally infection control really majors on clinical areas, this is something we now need to be rolling out throughout the practice teams, whether they're clinical or not.

These are the hand wash and hand rub posters that we use at the Dick Vet. We have these posters up just about by every hand wash and hand disinfection site and we've been rolling out more of these recently. We use these for teaching as well. So if you have a, a smartphone with a quick release code reader on, you can scan the QR code in the corner and that will take you to a narrated video, which we use for our undergraduate teaching. But it's a very quick way to upskill everybody in the practice on that. And again, these are on the RCVS Knowledge website. We're very happy to, to share these. I'm more than happy for people put these up in their practices as well if that is going to be useful. But again, if you're going to put posters up, I should have mentioned this earlier, please laminate them or protect them in some way so that it doesn't interfere with cleaning.

And again, this is a time to reinforce the message that anything that's going to get in the way of efficient and effective hand washing and hand disinfection protocol now needs to go. I know people can get very fond of their watches and rings and bangles and so on, but it now has to go. There is no excuse. There is not just an animal health but a public health imperative to this. Now in the middle there I've listed when we would normally the situations we would normally wear gloves, and these were basically whenever

we had to up the ante on infection control. So either the animal was a greater contagion risk to us, or we were at a greater contagion risk because the animal was vulnerable in some way.

Really now I think we ought to be wearing gloves whenever we are handling an animal or potentially meeting an animal owner. There are really two take-home messages here, that gloves are not a substitute for hand-washing; they are an additional protection to this. They do not make us invincible or immortal. And gloves: once you have performed the task or handled an animal, whatever you've done, it then becomes a potential fomite, so they must be disposed of carefully and changed.

Now, other bits and pieces that we tend to forget about, because even if we really focus on our hands we do have a tendency to forget about other, other equipment. And this could include anything that we use with an animal or anything that we repeatedly touch with our hands. And this does include equipment pouches, stethoscopes. There was a study a couple of years ago showing that in hospitals, stethoscopes carried more bacteria than, than people's hands because we just didn't think about cleaning them. And in the NHS there's been a huge programme of getting clinicians and nurses to remember to clean their stethoscopes between patients as well as their hands, but also fob watches, use of smart phones, tablets a lot now particularly as we're moving to paperless practices. So there's quite a few videos and a very useful guide on the BBC website about how to effectively clean smartphones and tablets during this pandemic.

Otoscopes or ophthalmoscopes would be other pieces of kit as well. Now where possible it would be ideal if particularly vets that are going out to see animals, so equine vets and farm vets had their own selection of equipment and these weren't shared between individuals, so everything's nicely sequestered. But if, if they have to be, they need to be very carefully cleaned and disinfected. Again, I think as Alan said, and we'll talk a little bit about this later on, we have to regard an animal as a fomite but also we have to regard anything that animal is coming in with as a potential fomite as well. The animal, we can't do anything about it. You know, we swore an oath to look after the health and welfare of animals committed to our care.

And that, you know, that's the job we've signed up to do, but we can minimise this risk by just not admitting anything into the practice that is a potential additional fomite. I think nothing now aside from the animal should come in and if we do need to admit animals, then they should, all the leads and other equipment should be clean and allocated to that animal for the duration of its stay, and then disposed of or cleaned and disinfected before it's, it's used again. With dogs it's reasonably easy, we can quickly swap over leads outside the practice; cats and other exotic species perhaps a little bit more difficult. But I think again, outside the practice, the carrier can be taken off the owner as soon as it's practical, the animal can be moved into a carrier that belongs to the practice, both are wiped down to remove any potential virus contamination and then the basket or so on could be returned back to the owner.

And I think this is a good opportunity to reinforce messages about cleaning protocols. And again, this is something that will be covered a little bit later in the second set of presentations. These need to be written down. They need to be clearly indicated in the room that they're relevant to; remember people that are doing this, it may not have been their day job up to this point. They just need to be routine because visual cleanliness when we're talking about any microorganism, but particularly viruses, is utterly misleading. A visually clean surface can be heavily contaminated and therefore using checklists to identify and tick off when things have been cleaned, so everybody's got a very good idea of what, what's been done and what needs to be done, are very, very useful.

And I think anywhere where you can shut areas down just to make things easier is a really good idea. So for example, within the university hospital now as we've moved to essential working only, rooms that are not being used have been cleaned, locked and, and taped off just so that we, we know the areas that are in use and it reduces the workload. And lastly, remember that, as one of my farm colleagues likes to

say, you can't disinfect shit. So it really is about cleaning and then disinfecting. But with the good news that COVID-19 is pretty vulnerable to most detergents and disinfectants.

I think it's a good opportunity certainly it was a bit of an opportunity for us to do a big spring clean and get rid of all that unnecessary mess that you've been meaning to remove for ages, but in particular, anything that can't be cleaned and disinfected needs to go or be sequestered away. So this might include, for example, removing or taping off displays within waiting rooms so that you're just removing the touch risk from there. It's a good opportunity to think about installing washable keyboards wherever they're being used.

And in clinical areas, you could use these keyboard gloves or you can wrap keyboards in cling film. It's pretty fragile, that's the only disadvantage, so as soon as it becomes torn it would need to be removed and replaced. And again, just have a really good think in terms of cleaning protocols, about potential hand touch sites that we don't necessarily think of as being a particular infection control risk, I think uniforms worn, in the practice or on site for equine and farm vets are a really good idea. It is potentially important that this is rolled out to any nonclinical staff who might need to be working within the practice as well, and these need to be cleaned and disinfected after use. And we'll talk a little bit more about PPE later on. Again, very important that there's a one-way movement of potentially contaminated clothing so that there's no cross-contamination with what is clean. And I think it's really important both for COVID-19 control, but also I think to send a reassuring message to members of the public that clinical clothing is now not worn outside of the clinical environment.

And then as I said earlier, as vets, we have a very important role to play in the health of the nation's animals, but we have to do this safely and we cannot say we're just not seeing anybody. So we have to do what we can to do this as safely as possible. And this basically means two things really. One is maintaining the social distancing rules, which is now at about two metres, and then maintaining hygiene and, and hand hygiene. So things that people can do and establish protocols for their practice. I think the first thing is, we're down to essential cases only, do whatever we can remotely so as long as that doesn't interfere with the animal's welfare or RCVS oath and the BVA has produced a very good and very succinct set of guidelines, it's only about two or three pages long. It's going to go on the RCVS Knowledge site. You can also get this off the BVA site, and that covers some really key messages about handling patients in small animal, farm and equine practice.

And some key points are appointments should be made remotely. And again, anybody who does not need to be in the practice should not, should be self, should be working from home. And that could include accounts staff and reception staff, for example. The first question is to ask about the owner's health or the health of any of their contacts, and if there are concerns either from a known COVID-19 household or a suspect one, then greater precautions need to be taken. But do please remember that not being ill does not mean you're not infected with this virus. So, you know, don't be complacent with that. Owners basically shouldn't come into the practice unless it's absolutely necessary. So consultations can be carried out by phone, by email. It's entirely possible for the owner to remain in a car in the car park and then have a phone conversation with the vet. All of this just minimises the time where you have potential contact with them in the same space, and then remember just to minimise any risk of taking additional fomites into the practice. But do record everything. So again, if there's verbal consent, make sure that's recorded somewhere or consider the use of an online consent form.

Unless there was a pressing a clinical need once that history has been taken, then animals can be admitted straight from the car, and avoid the waiting room wherever possible. A lead can be given, as I said earlier, to slip onto the animal and bring them in. Or you might just have to take the basket into the practice and then exchange the animal and take the basket back out again, making sure that you're absolutely staying outside of the social distancing area, maintaining social distancing, sorry, wherever

possible, and wearing gloves when we do that. There should be a one client or owner per animal or consultation. And again, if you're visiting offsite premises, so stables or a farm, restrict the visit. Restrict yourself to only those areas absolutely necessary for the clinical jobs to do, wear gloves at all times. And then think about immediately disinfecting any hand touch sites or equipment after use. And that would include regular disinfection of vehicles, so steering wheels, gear sticks, handles and so on.

And then there are two issues around transmission here. Now, one is direct transmission. So that is where there is a risk from the owner directly to the veterinary staff or within the or between individuals within the same practice. And then there is the issue of the animal acting as a fomite. So the animal is very unlikely to cough or sneeze onto you and spread the virus that way. But it could act as a fomite that you pick, pick up. So I think gloves, the basic minimum will be gloves hand-washing and the disinfection, immediate disinfection of hand touch sites and equipment resisting as much as we can, the temptation touch my face. And it's only since I started thinking about this have I realised how much we just do this unconsciously.

I think full PPE and I think, I think there is two issues around this. One is that a lot of PPE could wind up now, we could wind up running out of it, in veterinary practice because it is going to be prioritised for use in human health and rightly so. So I think we have to be sensible about this, ration what we have and only use it where absolutely necessary. So for example, this could be where we wind up having to see an animal from a known COVID-19 positive house or potentially even go and pick up an animal from a known or suspected COVID-19 house. And I think there we could upscale to an apron. I think face and eye protection would only be necessary from the animal where there is a splash risk.

Again, if we had to go into premises where, where they're a known, it's a known positive household or a suspected one, then you know, that will be a very rare occurrence and if there was no alternative, but I think full PPE could be considered at that point. Practical, social distancing. You can see my two colleagues there holding an animal. I mean, to be fair, that was taken before the pandemic started. But within veterinary clinical work it is difficult to stay two metres apart. So what we're trying to do very much is use open areas and make sure that they're well ventilated.

And then what we've done is divided our team, sequestered our teams, or sequestered our staff into these non-overlapping teams. So first off is essential staff only and then second, they're working on this team base. They, the different teams have no onsite or off site contact. So we have a clear divide and there's no crossover. There's no chain of transmission between our different teams there. And then within the hospital and other areas and other sites, we're maintaining again, a sequestered environment. So for example, our pharmacy staff only work in the pharmacy now and nobody else goes in again, to break the chain of transmission.

Little things. We use remote pickups now. So again, there's no direct human to human contact when either we're sending out samples, or posting drugs or owners are coming in to collect drugs. And again, at the moment we're establishing how urgent the need is. I'm looking for other alternatives. So this could be written prescriptions for use in online pharmacies or using a courier service or the post if there's no delay following guidelines from the government and post office about safe handling.

And certainly we're wiping down anything that has been handled before it goes out to the practice. If we do see animals and we don't, we're only admitting them if absolutely necessary and then they are being discharged straight back to the owner outside of the building in the reverse of the sort of admission procedure that I mentioned earlier, and all of the subsequent discharge information is done by phone and email. And again, I mentioned the use of PPE and this is something where practices may want to check their supplies, with increased turnover of PPE, their waste disposal arrangements. Be cognisant that we might find things like eye protection masks and possibly even aprons or full gowns prioritised for human use.

Let's just, this last slide here is not really about infection control, but I am aware that the, the shutdown or the lockdown is causing a lot of worry and stress both for practice staff as well as animal owners who can often feel very worried and very isolated, and I think practices can work, can act as a source of trustworthy information and support their clients. And this is particularly true for vulnerable clients.

We, we through my own clinic know of some vulnerable people and some elderly people now who are self-isolating alone, and it's very important for them to know that if their pet falls sick, somebody is going to look after it. And so we're using regular contact just to reassure them and let them know that they're not forgotten about, somebody's thinking about them. And then again, I think, you know, we've talked a lot in the veterinary profession about mental health. And I think this is a time when we all need to look out for each other. And I think there is no harm in reinforcing those messages.

And I said earlier, this is the presentation nobody ever wants to give. And this is the photograph that nobody ever wants to see. This was taken last Thursday. It is a convoy of Italian army trucks moving bodies out of Bergamo, because not only has their health system become overwhelmed, but also their funeral systems as well. And we all have a role to play in helping to make sure that this doesn't happen elsewhere. And as I said earlier, we can't not see animals.

Farm vets are going to have a very important role in maintaining food supply chains, but also with companion animal vets I include equine vets in that, we mustn't underestimate the importance of the companion animal bond. And I mentioned earlier, we've got a couple of elderly self-isolating clients and their pet is very important to them and is a great source of comfort right now. And I was also in contact a little over a week ago now with one of our clients who is an ICU nurse, so she's right on the front line of this and we made sure that she had plenty of medication for her cat, and she did say that her cat was really going to help her get through all of this. So I think we have a role to play but we need to do this as safely as possible and bear in mind public health at all times.

Pam Mosedale

Thanks very much Tim. We're now going to, just before we move on to some questions, I'm just going to share with you a slide that we got from BCVA about biosecurity on the farm. Basically it's all the same principles as what Tim said, but most of the things that Tim has discussed can be applied anywhere but some of them were more specific to small animal practice, so really on the farm or any mixed vets or going to see horses as well socially distance.

I like their description of two metres being a cow length. Only have the client there if absolutely necessary. Try and make sure there's just one person there and ensure they wear gloves, wear gloves yourself, change them regularly. Wearing the same pair of gloves all the time is just as bad as not wearing gloves so change them regularly. That thing that Tim said, don't touch your face, which I agree, it's so difficult. I think I'm touching my face more now just by trying not to.

If you think you may be or even if you assume you may be infected with COVID-19 but you're not yet displaying symptoms, then before you leave the farm or the stables or anywhere, ensure you disinfect any area you may have touched or come into contact with as any area that could act as a fomite. Make sure that your PPE is cleaned and kept to one vet wherever possible. Wash your hands thoroughly and for the last thing, however good the tea, the tea and cakes are, don't go into farmhouses. Don't go into clients' houses. Just keep to the area on the farm or on the stables where you need to be.

So to support our colleagues across the whole veterinary team at this very difficult time for everyone, RCVS Knowledge have published a page of resources including veterinary advice, updates, research, evidence. It's all really useful. Thank you to everyone who's worked with us, with us to put this together and thank you to people who've donated their resources to this. And I hope you will all use this

wonderful resource because as in everything, knowledge and information are power and the more you know about this, the easier it is going to be to deal with it.

Questions and answers

Pam Mosedale

So I'm now going to on everyone's behalf, ask some questions that have been sent in. Before we start the questions, as Tim mentioned, there is going to be another webinar going a little bit more deeply into infection control and biosecurity and what we all should be doing all the time, and how we should be monitoring that and auditing that. So that will be coming along soon. And I've told you about the resources. So going onto the questions then. Tim, should we wear face masks as a routine in veterinary practice? We were asked on the website.

Tim Nuttall

Generally, no. I think to start with face masks are very important for anybody in a health care setting who is dealing with infected or potentially infected patients. And from the news this morning or sorry, the current Public Health England advice is that people working in health care or nursing home settings where somebody is, is not symptomatic, does not need to wear a mask provided social distancing can be maintained. There, there was a news report this morning saying that that may be changing for people working in frontline health care settings. So I think vets are going to maybe find it harder to get hold of masks. I think we need to use these wisely because they might wind up being for human use, which is entirely correct.

Now my hospital as well as others have been donating material to local health care providers, which is great. We've reduced our mask use down to the scrubbed-in surgeons only even in our in our theatre settings. Again you know, and again, knowledge is changing. Advice is changing almost on a daily basis here. But the animal is a fomite rather than a direct infection risk, unlike working with, meeting members of the public.

So I think provided that we can stay within maintain the social distancing, albeit there may be an instance where you're just quickly handing over a basket or taking the, the animal, the dog away on a lead where you may be within that social distance, the risk there is very small and I think hand washing, gloves, social distancing are the key messages we want to get across.

If an animal has come from a COVID-19 positive household, and again, ideally that should be a neighbour or somebody else bringing in rather than, well the infected people who should be self-isolating, then an apron might be advisable just because of the increased fomite risk there. And I think I would only put a mask on if there was a real risk of a splash or aerosol risk when, when handling the animal. But I think that's, that's a set of circumstances that are, you know, getting less and less common. So I think generally no would be the answer.

Pam Mosedale

Thank you, that's great. Can I just ask you a question that's been sent in view of what you've told us about the virus, someone's sent in the question, what should we use to clean practice premises, consult rooms, reception. This particular practice, even though they're trying to keep clients out of their area,

they're in a pet shop, so there's always people walking past their reception desk, always people in the shop. So what should they be using to clean the premises?

Alan Radford

I think where we're focusing on the coronavirus issue, then we're lucky because of the envelope and so the chemicals that we use don't need to be particularly severe. If you look at government recommendations around, you know, places like old people's homes and so on, they're just recommending either detergent, disinfection disinfectant mixtures or separately a detergent then a disinfectant.

The disinfectant, they just talk about being a thousand parts per million available chlorine. So that's something you can use. It's not you know, you don't have to be using a specifically formulated product for veterinary practice. A lot of the bleaches and disinfectants we have in our own homes and we use to clean the table and kitchen worktops will probably be fine. Just check that if you, if you're really concerned, just check the amount of chlorine: a thousand parts per million available chlorine.

Pam Mosedale

Okay. And following on from what Tim said about things becoming less available, we also had someone ask if the normal disinfectant they use is out of stock, how would they know which disinfectant to use?

Alan Radford

I think it's the same thing. If you worried, you know, people tend to choose a disinfectant for things like parvovirus where it's a very different issue, it's a very, very resilient virus. But where we're focusing on the increased risk of coronaviruses then, you know, don't worry so much about veterinary-licensed products, just go with straightforward detergents, hand washing, washing-up liquid as the detergent, and then either in combination or afterwards with a chlorine-based disinfectant.

Pam Mosedale

So we don't need to panic if we can't get the disinfectant we normally use in the face of parvo, etc.

Alan Radford

Yes, for Coronavirus. If you've got a parvo case in your practice, then again, you know, you need to, you need to think differently. But if it's this routine extra disinfection that Tim's really nicely talked about around the practice or around a pet shop, for example then don't panic if you can't get the parvocidal product that you would normally use.

Pam Mosedale

And I think on our resources, we've got a link to some DEFRA information about all the different disinfectants. So that could be an interesting thing for people to look at. Tim, following on from the question about face masks, so another person asked, sorry, I haven't got people's names, so they've asked what PPE should vets use when dealing with an animal from a suspected or confirmed COVID-19 household?

Tim Nuttall

I think again, the key messages are gloves, hand-washing, social distancing. And then also to set up a really a plan of how to manage this beforehand. And that's going to be a little bit different for all

practices and situations and might involve how you get the animal to the practice and then how it's handled after that.

And I think at the extreme end if there was no other way of getting the animal. So if you had an elderly, self-isolating person who nobody else could help, and they had a big collapsed dog, then I think in that extreme set of circumstances, somebody is going to have to go into the household and at that point, they should probably wear gloves, apron or a disposable protective suit and a mask. Again, I think, eye protections as long as you maintain a social distance from the owner, there's no splash risk, may not be necessary, but again, goggles could be worn and again, DIY-type goggles that can be cleaned and disinfected are ideal for that.

I think, depending on who brings the animal in and the handover procedures, I think the PPE there needs to be sensible. I think again, if it's a neighbour who's not showing any clinical signs and you know, if they've been able to collect the animal safely, and this could be a lead being slipped out of the door and then an animal being taken that way or cat in a basket left on the doorstep and the basket is wiped and disinfected. Or you know, if it was safe to do so the dog being, you know, let out the front door into the garden, the neighbour comes and picks it up, you know, there are all sorts of things that could be addressed. So I think under those circumstances, I agree gloves and potentially an apron should be fine. You might want to upgrade that if there was a splash or an aerosol risk. But I think the biggest risk to the face there is not so much not wearing a mask, it's not touching yourself. So, you know, remembering to break that transmission because you can have as much, again, within reason, as much Coronavirus on your hands as you want without being infected provided you don't transfer it to your mouth, eyes or nose; it's breaking that hand touch chain.

Pam Mosedale

Thank you. Another question. Somebody asked another question about a pet coming from or a patient coming from a COVID-19 positive or suspected household, should we be bathing these patients that come from these houses?

Tim Nuttall

I think that's sort of a difficult one to answer. And I think the pros and cons of this need to be looked at for each individual case. I would say if it's something that can be dealt with reasonably quickly without having to admit the animal, I would probably not bath it, in that I think the additional exposure to the practice staff the risk of aerosols and splashing and so on probably outweighs any benefit that you could have from the bathing.

You know, given all my comments earlier about gloving, social distancing, hand-washing and hand touch sites and so on, I think if you were admitting the animal there is an argument to say, well, if you used a detergent-based shampoo on the animal you are again, reducing the risk of it bringing any COVID-19 into the practice. But again, I think that's got to be mitigated against all the other risks in terms of contact, availability of PPE, availability of washing facilities. Does that mean you have to take the animal right the way through to the back of the practice past, you know, all sorts of other people and so on? So I think generally I'd say to keep it simple, generally no. I think in certain circumstances it may be advisable, but I think that needs to be looked at very carefully on an individual patient basis.

Pam Mosedale

Thank you. And obviously sometimes emergencies are such that, you know, you wouldn't want to be taking time to be bathing the animal anyway or it wouldn't be appropriate.

Tim Nuttall

Yes. If it's in respiratory distress or it's got a broken leg or something, I think, you know, I think it's the last thing you want to be doing.

Pam Mosedale

Okay. And then another question. This person says, I change my clothes and wash my hands before leaving work, shower when I get home and launder my uniform, is that enough? What temperature is needed to kill COVID?. So I'll ask you that bit first, sorry. I change my clothes and wash my hands before leaving work, shower when I get home and launder my uniform. Is this enough?

Tim Nuttall

Yes, generally.

Pam Mosedale

Should they be laundering their uniform at home or would it be better leaving the uniform at work and it being laundered there?

Tim Nuttall

I think if there are laundry facilities at work, it would be better to leave them at work. You're just breaking any risk that there is, it's just all about breaking chains. It's about building firewalls wherever possible and stopping that chain of transmission. So I think if that's possible then that's ideal. If it isn't then, you know, the usual infection control measures apply, which is, you know, securely bag any clothing before taking it home and then straight into the washing machine. And I think the government, the Public Health England advice is wash with plenty of detergent at the hottest temperature appropriate for the fabric.

Pam Mosedale

Thank you. So that answers the next question then, which was what temperature is needed to kill COVID on clothes and is a 30 degree fast wash sufficient? So I think you've just answered that, haven't you, just as hot as it can be?

Tim Nuttall

Alan might want to comment on that one?

Alan Radford

Yeah, I mean I have to confess, I'm not an expert on washing clothes but it's good to always go back to the highest level of advice you can. PHE and the NHS have a lot of good information for people who are working, you know, in people's homes or working in social care and visiting people who are isolating because they've got COVID signs, and that's what they recommend for those people. You know, in your washing machine at the hottest temperature for clothes that is recommended with an appropriate amount of detergent. Again, it's a virus that has an envelope. It's the detergent that's really, that will kill the virus. But just as we wash our hands with warm soapy water, not cold soapy water, so it would make sense to use the hottest temperature that your clothes will tolerate.

Pam Mosedale

And you mentioned PHE there Alan. That's Public Health England, isn't it?

Alan Radford

It is, yeah. Other sites do exist. But I mean, I'm in England so I tend to go there to see what they're saying about people. Obviously they're not, they're not giving specific information for vets, but there is a lot of information about people working in similar settings, probably at a higher risk because they're mixing regularly with people who are self-isolating with signs. And I think you can quite sensibly translate a lot of their information into a day-to-day veterinary practice.

Pam Mosedale

Excellent. And l think we'll try and get a link to that. Is there an equivalent in Scotland, do you know?

Tim Nuttall

Yeah. I just echo Alan's comments there. There's the NHS Inform site in Scotland. It's really useful. It's got a load of information, you can click and follow the links to the documents very, very easily. A lot of the information that's directed towards patient care. But, but also other health care and social care settings is directly applicable to veterinary practice.

Pam Mosedale

I'm sure there must be equivalents in the other devolved governments and in Northern Ireland and we'll see if we can find links to those. So one question we'll finish with, which is, should staff still be travelling between branches in a multi-branch practice?

Tim Nuttall

I would say wherever possible, no, because if you have a multi-branch practice, that's a good example of how you could sequester a team to that practice so they don't overlap anywhere else, and it's all about breaking this potential chain of transmission. And again, as people fall ill, these arrangements may have to change, but what I would say, wherever possible, no. There was a really good podcast on the BBC a couple of days ago where they lined up a series of matches and set one alight. And then that one lit match set all the others alight. About halfway down the chain, they had one match that was just pulled halfway down. They were using this as a metaphor for virus spread and it stopped at that point. So I think this is where using these non-overlapping teams could just help break any potential transmission risk.

Pam Mosedale

Thank you. Would you agree with that Alan? He's gone I think. OK well -

Alan Radford

Yes I would, sorry.

Tim Nuttall

For a horrible moment there I thought you were going to disagree.

Pam Mosedale

[Laughter] All right, well thank you both very, very much. That's been so useful. I've learned an awful lot and I think this made me feel a little bit more confident. The problem with these times we live in is that there's very few certainties, everything changes day to day. But I think having information is the key to, to trying to know what the best thing to do is. So thank you. You've been absolutely brilliant both of you and I hope that we've helped everyone listening to have a bit more understanding.

Please do go and have a look at the resources because they're there to help you, so please go on there and have a look and we're hoping to keep on adding to them, and thank you again to people who've helped us with that, and just stay safe everybody.

For up-to-date COVID-19 resources for veterinary professionals, visit:

rcvsknowledge.org/covid-19