



BSAVA Congress Continuous Quality Improvement webinar series: Management of feline chronic kidney disease

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Paul Pollard:

Hello everybody. Welcome to this presentation on the management of feline chronic kidney disease in association with RCVS Knowledge on their Quality Improvement stream. My name is Paul Pollard and I'm a first opinion practitioner working at the Royal Veterinary College in Camden and I'm also in charge of student learning on their first opinion rotation. So let's start off with a very important question on quality improvement - what is quality improvement and what does it entail and why should we be interested in it? Well, I've come across one definition. This definition says that quality improvement is all about working together, gathering real information and finding practical things that we can do to continuously improve as a whole. I suppose that's why we're here, why we're listening to this webinar and why we go to CPD, is that we want to gather real information from experts such as Sarah who will be talking to us later on. And then we should be aiming to do something with this information so that we can continually improve. Not just ourselves but the practice team and the profession as a whole.

Paul Pollard:

And my learning objectives for this presentation are at the end of the presentation, we should be able to understand the advantages of creating clinical guidelines to improve the standards to which we work and also that we should be able to design a clinical guideline and clinically assess its value within the practice. So I'm going to hand over to Sarah now who is going to give us some up to date thinking and some real knowledge and tips on the management of chronic kidney disease. And afterwards I'm going to talk about how we can take this information and use it to drive quality improvement within the practice. Over to you, Sarah.

Sarah Caney :

Thank you very much and it's a pleasure to be able to still deliver this session in spite of the fact that of course we both very much, were looking forward to delivering this as part of the RCVS Knowledge stream at BSAVA Congress. And very sadly, that, of course, was canceled due to the COVID-19 pandemic and we're recording this in our own homes, but still very much would appreciate your feedback and comments and suggestions on the presentation. And we very much hope that it's going to be something that you're going to enjoy and find a useful contribution to your CPD. So Paul kindly mentioned that I would be the sort of expert providing up-to-date information on feline chronic kidney disease. I'm an RCVS specialist in feline medicine and CKD is most definitely a passion of mine.

Sarah Caney :

It's, of course, a very important cause of illness in cats. It's estimated to affect at least a third of elderly cats and therefore is something that we're very familiar with seeing in our clinics and you will

all know about the many repercussions that CKD has on our patient wellbeing. It's of course a great concern to cat owners as well. And thankfully, happily it's an area of feline medicine where I feel there are constant advances being made in our ability to diagnose and also to manage CKD. And so for the purposes of this discussion today, really wanted to focus on what I think are the most important aspects of management, which is actually to provide dietary support for patients with chronic kidney disease.

Sarah Caney :

So a few conflict of interest statements to read there for you. The Vet Professionals logo on the bottom of the slide is mine. This is my own business that I set up and it does have a lot of educational resources which are free to access on the website, including in the video tutorial section, some webinars for pet owners on chronic kidney disease, which you might find a useful resource to recommend to your clients. And as you'll see, my work does involve providing education and consultancy services for a number of companies with an involvement in the world of feline CKD and support thereof. So in our patients that we do diagnose CKD, what is the best way that we can help support these patients in terms of optimising their quality of life and also importantly, their length of life. And the true answer to this is that, and the reason I put several pictures of cats in, is partly because I'm a very passionate believer that we should always individualise our health care to really titrate it to the individual pet and owner needs. But there are of course some overall strategies when it comes to CKD and an important aspect of treatment is, where possible, to try and slow the progression of that disease.

Sarah Caney :

And chronic kidney disease is a disease which is always considered to be progressive. In other words, it will always get worse with time. And there are a number of reasons why that is the case. So called maladaptive processes. These are compensatory mechanisms which are triggered as a result of the chronic kidney disease, which ultimately have deleterious consequences on the kidneys. And two good examples of these maladaptive processes that occur would be the renal secondary hyperparathyroidism, which arises due to phosphate retention associated with CKD. And secondly, glomerular hyperfiltration due to activation of the renin angiotensin aldosterone system, the RAAS, which can result in damage to the kidneys and proteinuria as long term consequences, which have an impact on further progression of disease. There are other factors that may well have an impact on progression of CKD and are known in other species such as ourselves to have an impact on progression of disease. And that would include things like systemic hypertension.

Sarah Caney :

But what I'm going to focus on in this presentation is one of those top two maladaptive processes, which we know occur in cats with CKD and also which we know we can have an impact on through our management and actually the biggest impact in terms of improving patient quality and length of life through addressing the phosphate side of things, the phosphate story.

Sarah Caney :

So we'll just spend a few minutes reviewing what exactly is going on from a pathogenesis perspective in our patients with CKD. And as I've already mentioned, cats with CKD are very vulnerable to phosphate retention as a consequence of that disease. And that's because the kidneys are, in a normal, healthy individual, very important in regulating phosphate levels through excreting excess phosphate into the urine. But that excretory function obviously depends on healthy working kidneys, good glomerular filtration. And in a patient that does have loss or damage to their functional nephrons, and actually has chronic kidney disease, they are immediately vulnerable to phosphate retention. The nephrons can no longer keep up with the workload that is required of

them in terms of that phosphate excretion. And that has a number of consequences on the body. Most important of which is triggering increased production and release of parathyroid hormone, PTH. And that, in the early stages of chronic kidney disease, may be helpful in terms of encouraging those remaining functional nephrons to work more efficiently to excrete phosphate because parathyroid hormone is phosphaturic. In other words, it encourages phosphate excretion by the nephrons. However, as the disease advances, those fewer numbers of functional nephrons just really struggle to keep up with the increased burden of workload on them. Forgive my anthropomorphism here. And so, however much PTH is thrown at the kidneys, they just can't keep up with the need to excrete that phosphate. So phosphate levels do start to build up and actually levels of, or high levels of PTH also are quite damaging to our cats both in terms of progression of disease but also in terms of clinical signs associated with renal disease.

Sarah Caney :

So there's a number of things already you can see starting to happen which are deleterious to our patient wellbeing and also to their long-term prognosis. And overall as we get this phosphate retention, increased production and release of PTH, and this sort of vicious cycle that I've described, we then have the scenario of renal secondary hyperparathyroidism. Also contributed to by the fact that kidneys are producing less calcitriol than would be normal for them. This is the active vitamin D and that also contributes to development of the renal secondary hyperparathyroidism. And that as an entity is very damaging to our patients in terms of their clinical status. For example, we may see soft tissue mineralisation, progression of renal disease, but also those high levels of PTH make our patients feel ill. So it's often PTH is considered to be a uremic toxin and ultimately very detrimental to our patient's status and shortens their lifespan. And this is something that we've known about for many years now in cats with chronic kidney disease.

Sarah Caney :

And we also know that by addressing this, we can have a big impact on our patients and improve their quality of life and also their length of life. So the key to management's in terms of this whole entity that I've been discussing is phosphate restriction, limiting the amount of phosphate that we feed our cats, because we know that they're vulnerable to accumulating it. They can't excrete it as readily. And so titrating a bit more carefully how much phosphate they're offered. We do all need, our patients still do need phosphate. Phosphate is obviously part of cell membranes energy transport systems within the cells. So phosphate is an essential nutrient. But what we're trying to do with these patients is really limit the amounts we give them to what is needed and minimise that possibility for phosphate accumulation and triggering of renal secondary hyperparathyroidism. And that's why organisations like IRIS, the International Renal Interest Society that is a expert panel of nephrologists from around the world have come up with some guidelines for also what blood phosphate levels should be considered normal in our patients with chronic kidney disease. And we should be aiming for them to be in the lower half of a standard reference range where possible to try and remove any stimulus for production of parathyroid hormone.

Sarah Caney :

So the IRIS information is all very easy to access through the iris-kidney.com website referenced on this slide. And this table shows the different stages of CKD according to severity of azotaemia from the non-azotaemic patient through to the patient with stage four severe renal azotaemia. And that azotaemia is categorised according to creatinine results, in the third column. I've included the conventional and SI units for this. So in the UK you'll be most familiar with looking at creatinine in micromoles per litre. And SDMA is a more recent addition to our ability to diagnose and assess severity of CKD as well. So patients with non-azotaemic CKD may include those that have, for example, a structural abnormality in their kidneys, polycystic kidney disease or lymphoma. But

they're not actually azotaemic. We know they've got kidney disease, but it just isn't azotaemic versus those that obviously lower down the chart that have a varying degree of renal azotaemia as identified here.

Sarah Caney :

And then in the right hand column you can see the target phosphate levels. So, this is the IRIS guidelines that I was just referring to. A typical laboratory reference range might be between one and two or even one to 2.5 millimoles per litre. So it's quite a broad reference range. And the main thing to be aware of is that the reference range quoted by the laboratory is typically for that species, but includes all ages of animals through their life stage. And it is normal for young, growing animals that are developing their muscle and bone to have quite high phosphate levels. So a kitten, it might be completely normal for their phosphate to be two or 2.5, but in a cat with CKD, we really want their phosphate much lower than that to try and remove any trigger to the development of this renal secondary hyperparathyroidism.

Sarah Caney :

So this is why IRIS came up with these guidelines. And you can see also that the target phosphate levels do differ according to the severity of CKD. So stage one we have up to 1.5 millimoles per litre. Sorry, stage one and two up to 1.5 millimole per litre, but for stage three up to 1.6 and stage four, 1.9. Why is that? Well, it's not because actually we want the cats with the higher stage of CKD to have a higher phosphate, but we do have to be pragmatic and sensible in our expectations. And a cat with stage four CKD has very few functional nephrons. So realistically, if we can get that patient's phosphate levels below 1.9, we're doing a brilliant job. If we get it as low as 1.5, fabulous, but that may just be an unrealistic expectation.

Sarah Caney :

So that's why the levels change. If at all possible, of course, less than 1.5 is ideal. And it is worth trying to keep these figures in mind in your clinic when you see your CKD patients. Many laboratories don't provide you with titrated guidelines on phosphate interpretation. It will just be part of the panel and as I've mentioned before, the typical reference range will incorporate those young growing kittens as well. So you may need to actually interrogate your lab results a bit more thoroughly because a 1.9 phosphate could well be within the lab reference range and therefore not highlighted as abnormal unless you actually go and look for it. What are the aims of phosphate restriction? Well, of course we want to switch off that renal secondary hyperparathyroidism and where present actually it can be reversed. So, don't assume that once it's triggered, that's that, we can actually reverse it.

Sarah Caney :

But ultimately this is because we want our patients to feel better. We want them to live longer and this is going to be, we hope the net benefits of our phosphate restriction and the current IRIS recommendations are that all azotaemic patients with chronic kidney disease have phosphate restriction as part of their regime, irrespective of their blood phosphate levels. So we don't look at those IRIS target goals in terms of deciding whether or not phosphate restriction is warranted, we assume they will benefit from it if they're azotaemic. However, if we see, let's say a stage two patient with CKD and their phosphate is 1.9, which is much higher than that stage two target, that gives us extra incentive, extra rationale if you'd like, to increasing the phosphate restriction through measures I'll talk about in just a moment.

Sarah Caney :

So where is the evidence to support this? Well, there are quite a few papers that have been published over the years looking at the impact of phosphate restriction on the survival statistics of cats with chronic kidney disease. The initial work was published from the Royal Veterinary College, Penny Barber and Jonathan Elliott. But there have been a number of studies since, so that the Ross study is an American study. And it's really been very widely accepted through expert consensus as well that this is this is very much a justified and important treatment for CKD. And the screenshot on the right here is a screenshot of a consensus of opinion guideline which was produced by the International Society for Feline Medicine a few years ago. And this is an example of I think a really nice up-to-date reference which looked at the different interventions available for management of feline CKD and looked at the level of evidence available to support each of these interventions.

Sarah Caney :

And certainly for this consensus guidelines, the only treatment really which came up very, very strongly in terms of good evidence to suggest a really good impact was phosphate restriction. So it's something I feel we can really justify. And in fact, probably all of you are already encouraging your owners of cats with CKD to feed a phosphate restricted diet. And that's the main way that we achieve phosphate restriction. I put at the top of this slide, maintain normal hydration. As it's just important to mention a lot of cats with CKD are vulnerable to dehydration and as soon as you are dehydrated, your kidney function really does plummet. And so if we want our kidneys to do the best possible job that they can do, then maintaining and supporting normal hydration is I think an important strategy.

Sarah Caney :

So that might be talking to our clients about having multiple water-bowls around the home, perhaps. Trying to make flavored waters for the cat. So the sorts of things I talk about with clients would include poaching some chicken or some fish in a pan of water. We eat the chicken or the fish or we feed it to an animal that doesn't have CKD, but that cooled down water, that sort of nicely flavored infusion, might encourage the cat to drink more. And many cats don't have a very strong thirst reflex. And so they are vulnerable to dehydration as a species anyway, particularly when they get older. But CKD of course, that's much more serious. So support hydration. Beyond that really the main strategy is through reducing phosphate intake. And the most recommended route would be to use a therapeutic renal diet to achieve that.

Sarah Caney :

But dietary wise, there are other options. So with the support of a veterinary nutritionist, a home prepared diet could be a good option. Senior diets tend to be moderately phosphate restricted. So if the cat won't eat the therapeutic diet or the owner doesn't want to buy the therapeutic diet, a senior diet is likely to be a little bit in the right direction. And avoiding high phosphate foods to supplement the diets, so things like cheese, milk and meat are all quite high in phosphate. And then the second strategy, which also can be very helpful in combination with the phosphate restricted diet or separately with a normal cat food, is to use an oral phosphate binder, a substance which binds to phosphate within the food and prevents it from being absorbed. So that that phosphate is passed out in the faeces rather than going into the cat.

Sarah Caney :

Therapeutic renal diets are the most proven management strategy for CKD as far as the available publications show. And in general, cats that have CKD, if they will eat a therapeutic renal diet, they will tend to live two to three times longer than if they were eating a standard supermarket cat food for example. Also, some nice evidence in some of these publications in terms of improved quality of life. So it's not just a long-term strategy. It's actually hopefully going to make your cat feel better in

the short term. Perhaps reduce some of the clinical signs that have been present in that cat, whether that's vomiting, nausea, or other problems. And these therapeutic renal diets have a number of modifications in addition to the phosphate restriction, which may also be of value, which is why they tend to be more prioritised compared to just phosphate restriction alone.

Sarah Caney :

Although it's fair to say we've not done the level of detailed research that you would need to sort of unpick the specific benefits of the other modifications. But these, the commercial therapeutic renal diets tend to be designed to be as palatable as possible. Also often calorie dense. So in other words a cat that has a poor appetite, if it just has a few mouthfuls of a therapeutic diet, it's going to take in a lot more calories, than if it was just going to take a few mouthfuls of a supermarket cat food for example. Protein restriction, really the main benefit of that is to potentially reduce uremic clinical signs associated with build-up of protein breakdown products. Non acidifying, so less likely that our patient will develop a metabolic acidosis, which can make them feel quite ill and supplemented with the sorts of things that cats with CKD are vulnerable to having low levels of through excess loss in the urine. So hypokalemia, vitamin deficiencies potentially catered for there and low in sodium to hopefully reduce the risk of systemic hypertension from developing. But the main benefit really thought to be the phosphate restriction.

Sarah Caney :

Most of the benefits in terms of the publications have been have tended to be orientated around azotaemic cats with kidney disease. So IRIS stage two, three and four. And there's often a lot of discussion really as to with the cats in the earliest stages or milder stages of CKD, whether there are benefits to changing diet at that point or whether the main rationale should be along monitoring the cats and owner education and support as appropriate. And the book picture there, is a book that is available through my website, which is aimed to owners of cats with kidney disease and explaining the condition and hopefully reinforcing the recommendations that come through the vet clinic.

Sarah Caney :

Within the last few years, there has been a little bit more data come through to support some phosphate restriction of cats in IRIS stage one CKD. And the screenshot you can see now is from a study that was performed by Hills, so performed by a nutritional company where they looked at some client-owned elderly cats and one cohort of these cats received a senior type of formulation of food, which was a Hills product. So not KD, but a sort of senior diet versus a more standard adult maintenance cats diet. And they demonstrated through this study that the cats that were on the more phosphate restricted diet their renal disease appeared to stay stable for longer when tracking their creatinine and SDMA levels. So there may be some rationale for these early renal diets in some of these cases where perhaps it's difficult to justify the full blown, if you like, therapeutic diet or perhaps there may be worries that the protein content in that therapeutic renal diet is perhaps too restricted for a cat in IRIS stage one disease. These are cats where maybe a senior diet or a moderately phosphate restricted diets, which some pet food companies are now producing, is indicated.

Sarah Caney :

I mentioned this consensus guidelines a little bit earlier, a screenshot again on the slide, but if you do look at that publication and it is free to download, you don't need to be a member of ISFM or to subscribe to the Journal of Feline Medicine and Surgery to get this publication. But if you do look at it, you'll see that there are some colour coded boxes within that publication for each of the interventions in terms of the quality of evidence and also the panels recommendations. And I've just lifted out really a summary version of that in terms of therapeutic renal diets for this slide. And you

can see that the quality of evidence of therapeutic renal diets as an intervention is considered to be good in terms of increasing life span and improving quality of life.

Sarah Caney :

And that's why this is a strong recommendation of the panel. Ideally that patients are fed exclusively a therapeutic renal diet, if possible wet rather than dry just because these cats are vulnerable to dehydration. But a dry therapeutic diet is better than other supermarket diets for example. So the emphasis on the therapeutic renal diet as the first important step.

Sarah Caney :

What level of compliance is realistic? Well, it has varied a lot. If you look through the literature some studies have shown really quite high levels of compliance. So the top, you can see research studies relating to CKD up to 94%. Probably worth pointing out that often in those studies where they had really good compliance, the food was provided free of charge as part of signing up to the study, as part of being recruited. And, I think that is actually worthwhile knowing though, because what it says to me is that if you remove a barrier to the owner, which is perhaps cost and perhaps effort in terms of sourcing the diets, but if you just give them the food, there's a good chance they're going to do a really good job in feeding it to their cat because you've just, you've provided it to them. So it also to me demonstrates that good compliance is often possible. And so if we see a lower compliance, and you can see right at the bottom therapeutic diets in general from pet owner surveys often, you know, 10 or 20% that there are reasons in there that are not just limited to the cat and the acceptance, but likely involve the owner as well in terms of their enthusiasm to try this. Perhaps them being persuaded that it's the right strategy and it's really important. So education and support also comes into this.

Sarah Caney :

So my tips for successful transition, well I think it can be quite daunting for owners. A diagnosis of CKD in itself is often quite stressful to owners. And even though in my opinion now many, many cats with CKD will live a very long period of time following diagnosis, often several years, still, as a diagnosis it can be quite an emotional roller-coaster for carers. And as part of our ongoing plan, I think the main messages we want to support are that firstly, this is a long-term aim, and don't worry if you can't succeed in one week or two weeks. If it takes six months, but you succeed, that is still brilliant and that's worth going for. And every effort you make to move in that right direction is going to be doing good things as far as the kidneys are concerned.

Sarah Caney :

If possible, introduce a diet early in terms of when the cat is relatively well. Cats with stage four renal disease are probably going to feel quite sick and maybe much harder to persuade them to eat a different cat food. But typically it does require a lot of perseverance as well. And so I would always say to my owners do expect to be throwing out a lot of food, unless you've got conveniently a Labrador in the house that you don't mind Hoovering up the uneaten kidney food. It is unfortunately inevitable that you're not going to have a hundred percent success in terms of dietary transition because this is often quite challenging. From a clinical perspective, also resist the temptation to introduce a new renal diet at the point of diagnosis with a sick cat in the hospital because whilst it may that new diet in the hospital, often cats will eat things in the hospital that they would never eat at home anyway.

Sarah Caney :

But also they may associate that new different diet with, "Oh, I was in the vet clinic then I felt ill. It was horrible, I was really unhappy and although I ate it there, I'm just... It's obviously poison because

it was given by those people there". So try to wait till the cat is at home, wait till the cat is in the best possible shape otherwise. So sort out anything else that needs sorting, like dehydration, and then gradually start to introduce it. And wet preferred to dry for the reasons we've already talked about. And ideally, therapeutic renal diet, but if that's not possible the sort of flow chart in that penultimate bullet. So home-prepared diet with input from a nutritionist where available, then a senior diet and then lastly, a more standard commercial cat food.

Sarah Caney :

I do think we as clinicians do have a power to really influence the behavior of our clients. And this was illustrated to me with respect to CKD in an owner survey I published a few years ago. Vet Professionals hosts a number of surveys primarily with pet owners. And this was one that we wanted to understand owner experience of phosphate restriction in their cat with CKD. And as part of that survey to which, as you can see, 859 owners responded to this survey. Owners of cats with kidney disease. We asked a question, firstly had anyone recommended feeding a therapeutic renal diets to their cat with kidney disease. And about 90% of the owners said yes, they had received that recommendation, which is absolutely brilliant. In terms of good reflection of the veterinary world making that recommendation,

Sarah Caney :

About 10% of them said no. And I think it's quite possible that some of that 10% did receive the recommendation, but perhaps it just.. They didn't remember it. But in any case, that was our starting point. And then as you can see those that were aware they'd received that recommendation, someone has said to them, this is important. You can see from our survey, 72% of the owners were feeding at least some therapeutic renal diet to their cat with CKD versus 7% of the owners who'd not received that recommendation. And the only reason that it's 7% and not zero is because the sort of people who fill in surveys on my website, as you might imagine, are really dedicated owners. So obviously these 7%, they hadn't had that recommendation, but nonetheless, they'd gone off and done some reading about CKD, perhaps bought my book and decided off their own bat, that they were going to go down this route. But for me, a big take home message for this really was in terms of overall impact on patients is we not only need to make this recommendation, but we need to reinforce it. We need to make sure that our owners are really aware that this is an important recommendation as part of their cat's management.

Sarah Caney :

Phosphate binders, I briefly mentioned a little bit earlier, are substances that we can give to bind phosphates in the food and prevent phosphate from being absorbed into the cat. So they're sort of doing a lot of the phosphate restriction that might be present in a therapeutic renal diet, but just in a slightly different way. And you'll know there are a number of these available on the market. And they can be used with standard cat food or they can be used with therapeutic diets. They take a while to have an impact on blood phosphate levels because all they're doing is reducing the amount of phosphate that can be absorbed with the food. And a key thing really is that they need to be given with the food, either in the food itself or very close to a meal time to have an impact. So they're particularly useful in those situations where for whatever reason, either the cat or the owner cannot be transitioned to that renal diets. Perhaps the cat has other health issues which have a different dietary priority for example. Also in those situations where phosphate levels remain high in spite of that transition to a renal diet.

Sarah Caney :

In my owner survey, one of the questions we asked was for owner tips for acceptance of phosphate binders. I did think this was actually really useful thing to ask and get data on. And you can see some

really sensible recommendations on here terms of starting at a low dose, gradually increase, mixing it thoroughly. Perhaps disguising it with a little bit of something nice. And I particularly liked the bottom recommendation, which I do think is completely and utterly valid. But cats are, they can be quite clever creatures. They know when we're behaving differently, they start to suspect us when they see us behaving strangely and that account affects the likelihood of eating that food as well. So I think take all of these tips and use them in your clinics and hopefully that will help.

Sarah Caney :

The consensus guidelines, their view on phosphate binders is that there is much less data to stringently assess the impact of these as an intervention. However, based on what we know about phosphate restricted diets and what we know about what's going on in the phosphate story in the cat, it is considered that they are likely to have a good impact in terms of slowing the progression of renal disease. And therefore they are a sensible intervention if therapeutic diet can't be used or if a therapeutic diet on its own is insufficient, to help manage our patients with renal disease.

Sarah Caney :

Many of many cats with renal disease of course are also quite difficult to transition on to a new food because they feel ill. And so it's worth always looking at that individual patient and trying to determine what barriers might be present that are affecting this cat's uptake of the food and what we can help with. So for example, there are some things on the list on the left that we can very definitely help with. If our cat is dehydrated, we can correct that. If our cat has hypokalemia, we can correct that. If a patient's anemic, we can also support that. If they have chronic pain due to, for example, osteoarthritis, we can support that as well. So I think always with our, within our individual, try and think as critically as possible, what potentially might be going on in this patient that I can help with. And that is likely to have a positive impact on dietary acceptance and compliance to that therapeutic renal diets.

Sarah Caney :

So going down this sort of checklist to make sure we've crossed off possibilities like dehydration, electrolyte imbalance, anemia, as discussed. There are some really good treatments available for nausea and vomiting. Maropitant is obviously a licensed treatment. Mirtazapine is not veterinary licensed but is available and is a really good appetite stimulant in cats and also in cats with kidney disease has the added advantage of having some anti-emetic effects. In cats with CKD, I tend to start at that lower dose, one milligram per cat, every 48 hours. And there are tablet formulations and there are also transdermal formulations of Mirtazapine available to help support. Pain relief, depending on the patient, if it has osteoarthritis, well Meloxicam can be tolerated by many cats with CKD, if they're not dehydrated, and if their disease is stable. But if you're worried about non-steroidals in certain patients, then other painkillers like buprenorphine might be indicated.

Sarah Caney :

So it's about looking at the patient, seeing what might fit with their clinical presentation and might improve their likelihood of complying with the diet that we've chosen. And again, looking at the data for managing inappetence, nausea and vomiting from the ISFM consensus guidelines, there's no data that this is going to help our cat with CKD to live any longer. However, it's likely that they will have a better quality of life if they're symptomatic with any of these clinical signs. And therefore we should be looking for it and managing it to the best of our ability. And current consensus would be also that Mirtazapine is a good product because it attacks both the nausea, vomiting and is appetite stimulating as well. So if you're not already using that in your patients, I think it's a very helpful product to have available.

Sarah Caney :

Other tips for owners and also for cats in the hospital, cats always liked to eat little and often, so try not to overwhelm them with food, any uneaten food, take it away. If this is in the hospital, if it's not been eaten within an hour or so, probably take it away. And resist the temptation for what I refer to here as the buffet. This is where very well-intentioned owners and perhaps nursing staff may think, well, what have I got in my house or in my hospital that might be delicious to a cat that's not feeling very well. And then basically offering all of that simultaneously. So we've got the sort of sardines and the pilchards and the tuna and the prawn and then the chicken and it just is too much. And that can trigger a food aversion where the intense aromas and sight of food in combination with the cat feeling ill just makes the cat associate the two and therefore anything food related becomes a negative for that cat.

Sarah Caney :

And it will often need tube feeding, and no food offered voluntarily for some time to actually recover. Some other general tips on here in terms of the sorts of food bowls that cats tend to like. So they tend not to prefer plastic, given a choice. They don't like their whiskers touching the sides given a choice. They like privacy. They like calm, quiet environment to eat. They might appreciate hand feeding. If they're elderly and have arthritis affecting their elbows and their shoulders, they might appreciate the food-bowl being lifted up, just placed on an upturned bowl for example. If they've got dental disease, they might appreciate the food being mashed a bit. Things like catnip, some cats also FortiFlora can make the food appear more appetising and not doing stressful things close to a meal time. So try to avoid dosing the cat with whatever medication it needs at the same time as a meal time unless you absolutely have to.

Sarah Caney :

So there's a lot of different things to consider in CKD, which all can have an impact. And as I mentioned right at the start, I think it's the individualised approach that is going to really optimise the outcome. Looking at that individual cat and owner situation and working out well, what treatments really are going to make them the best result for this situation.

Sarah Caney :

But in terms of overall management of CKD, I think the key messages are, in terms of slowing progression of disease, phosphate restriction has to be an absolute essential and often can be practically achieved with our patients at home. Suppression of the renin angiotensin aldosterone system. The RAAS is something I've not talked about, but you will be aware of through use of medications like ACE inhibitors and angiotensin receptor blockers is also an important consideration. Especially for patients that where there is evidence of RAAS activation manifested through proteinuria for example, that we hope that also will have — if we treat those patients with RAAS-suppressing therapy that will be able to improve their long-term outcome. And then very importantly, for the individual, it's the additional symptomatic and supportive treatment that really makes their life worth living on a day-to-day basis. So reducing nausea, increasing appetite, and so on.

Sarah Caney :

And I'll just finish off with a case study which hopefully illustrates some of these challenges. This is a cat called Sula who I first became involved with when she was 12 years old. She's a female, neutered domestic short hair and she had a background history of having previously had a healthy weight of around about four and a half kilos. She'd had some dental issues in the past which have been treated. Then you can see during 2016, she had some senior health checks in February and October where things had looked quite good.

Sarah Caney :

You can see she's got very dedicated owners, they're bringing her in for these senior health checks, which is great. Her systolic blood pressure, that point 138 which is normal. That's great. Urine specific gravity, quite good. 1.045, so that is concentrated urine. Then in 2017 her urine specific gravity, it's come down, it's now sitting on that sort of borderline of normal to abnormal. We consider a USG in a cat of less than 1.035 to be abnormal. Her blood work was still okay and in fact her weight, okay at that point. She had a dental in July. But then in August she was found to have on evaluation increased creatinine, her USG was the same, and the therapeutic renal diet was initiated at that point, prescribed at that point, to support that CKD that had been identified.

Sarah Caney :

And over the following months that was when the symptoms really started to show from her owners perspective and really the main manifestation was appetite falling off and she'd now having been a previous healthy weight 4.5 kilos, the weight was really starting to fall off her. So you can see by the October her weight to drop to 4.2 kilos. The following January, she was 3.7 kilos and compared to her healthy weight, that's a 20% loss of her body weight, which is of course absolutely massive. Her owner said that Sula was preferring the wet food to the dry food, but that her appetite, even for the wet food was poor. They also reported some changes to her faeces. They would just seem to be quite loose a lot of the time.

Sarah Caney :

Her renal parameters actually appeared stable. So IRIS stage two to three, she was not proteinuric or hypertensive and phosphate levels, reasonably okay. Pretty much at those IRIS targets. And the only other slight concern on assessments in the January was that her calcium levels were either at the top of the reference range or just a little bit above depending on which reference range you use. So that concern over possibly a mild hypercalcemia.

Sarah Caney :

So the main concern of course here is really her appetite. But, in terms of thinking through how to support Sula at this point, there were a number of concerns she'd come with in addition to that poor appetite, namely the fact she had these loose faeces, what was going on there? Also, that fact that the calcium was just a little bit elevated. Was that something that was hinting at other concerns or concerns that we needed to address? So a number of questions really at this point in Sula's story, as far as deciding where to go next.

Sarah Caney :

But from a kidney disease perspective as I've mentioned already, my starting point would be to think, well, what, can we find that's fixable, that is likely to be having an impact on her appetite but we can help her with. And also from an appetite perspective, opening up the differential diagnoses to consider other possibilities because she is an older cat, and many older cats have more than one issue.

Sarah Caney :

From a symptomatic perspective, options also at this point, which we can have in our mind would include, well we can use an appetite stimulant, something like mirtazapine that I've already mentioned and see what impact that has. We also potentially can try a pure anti-emetic approach. Something like Maropitant, which obviously is licensed, to see whether nausea is a cause of that poor appetite, even if vomiting is not reported. We can give some guidelines in terms of that dietary support, the nursing care aspect for the owners. We can also look more closely at exactly what she's

eating and in terms of calorie access, perhaps try and focus on more calorie dense therapeutic diets. And always, I guess have on the list the possibility of more active nutritional support, for instance, tube feeding.

Sarah Caney :

So what happened with Sula? Well, we had some good discussions on this initial day that we met up. And in terms of proceeding, there was clear enthusiasm on their part really to do some investigations where we could learn a bit more about her kidney disease, investigate that calcium in a bit more detail and really screen a bit more thoroughly for other possibilities. And we would have gone ahead on that day except for that our calcium analyser for ionized calcium was actually out of reagents. So from a practical perspective, we decided, well rather than having her in and just doing 90% of what we would want to do, we'd send her home with some symptomatic treatment and have her back at a later date to do a thorough investigation all on the same day, including some imaging of her kidneys as well to see whether there was any structural clues as to underlying ongoing illnesses that might impact on her appetite as well. So I provided them with some mirtazapine at a low dose that one milligram dose every other day. So every 48 hours. We discussed some nursing care appetite support.

Sarah Caney :

I also advised them to try a phosphate binder with the non-therapeutic renal diets that she was receiving. So it gave them a bit more flexibility of what they could offer. And we arranged to speak a week later and find out how things were going. And at that point, her owners were actually quite happy to report that her appetite definitely had improved on the mirtazapine. And they were quite content with how things were going.

Sarah Caney :

So meanwhile, of course, we still wanted to do the investigations that we had planned. And so that actually ended up happening three weeks after the first appointment. At which point you can see she'd gained actually quite a large amount of weight for a cat, 0.45 kilos gained in three weeks. So quite a dramatic uptick in her weight really just as a result of the mirtazapine and nursing support and a bit more flexibility with what she was being offered following our discussions.

Sarah Caney :

Her lab results at that point were relatively similar in terms of her creatinine and SDMA in terms of her stability of her renal disease. Phosphate just a little bit higher than I would ideally like it to be. Potassium very fractionally lower than I would like it to be, but really not dramatic. As you can see calcium not on there because that was all, turned out to be fine in terms of total and ionized results. Her urine specific gravity a little bit lower. Her thyroid looking okay. She's not proteinuric. We did, as you can see, some GI related tests as well, which all seemed to be fine.

Sarah Caney :

And on imaging, no sort of really earth shattering findings in terms of any unwanted surprises should we say. Kidneys both, certainly looking a little bit less normal on imaging than healthy cats kidneys were. So a reduction in corticomedullary definition, the left kidney smaller than the right. But nothing, as I say, earth shattering in terms of our diagnostics. Some thickening of the small intestine diffusely, so perhaps consistent with diffused GI disease, whether that was inflammatory or diffuse neoplastic, undetermined at this stage. But the weight gain extremely good to see as a positive change with very little intervention.

Sarah Caney :

So what's the assessment this point? Well it really seemed to be, based on our investigations on the response to treatment that we got, that the most likely scenario was that her poor appetite was related to her CKD. And the usual challenges really with a new diet, not so popular. Her owner's very keen for her to eat the therapeutic renal diets so had been fairly rigidly sticking to it, which on the one hand is wonderful, but obviously with her not really having a good appetite, that did contribute to her fairly rapidly weight loss. But we've been able to turn that around. No other complications at this point from a renal perspective. The loose faeces at this point, not really the cause of that not clear. We've got a few possibilities still left to consider there, but really good response to symptomatic support.

Sarah Caney :

So the plan really at that point was to continue with that support approach and monitor things. And her treatments at this point included some potassium supplements. So she had some Kaminox for that. The phosphate binder that's that we chose was Renate. And that she seemed to take quite well, starting again at homeopathic doses and gradually building up as per the owner recommendations I showed with you a little bit earlier. Mirtazapine for appetite support.

Sarah Caney :

And really the only additional challenge that her owners reported was that tablets, they did find quite tricky, so were there other options we could consider there. And in fact as I've mentioned earlier on, there is a transdermal or there are some transdermal preparations of mirtazapine available, obviously not licensed in the UK. But they are available through some specialist labs such as Summit, Bova and PCCA. In the US so if you are an overseas delegate listening to this then you may be able to access Mirataz, which is a licensed veterinary mirtazapine transdermal, which is available in the United States.

Sarah Caney :

And so we did talk about this as an option, transdermal mirtazapine. There are a few publications on, Jessica Quimby has reported in one of these studies, actually looking at cats with chronic kidney disease and found that the transdermal formulation she was using, which I think was made, it wasn't the licensed Mirataz, it was before that was licensed, I think it was made at the university pharmacy, did have a statistically significant impact on appetite and weight, and you can see at even relatively conservative doses. Often with transdermal medications you need to use a higher dose than is given orally.

Sarah Caney :

But actually with mirtazapine it's the same dose that is recommended as orally. So one to two milligrams per cat. Two milligrams per cat being a standard dose. But as I say, I would in cats with kidney disease tend to start on one milligram per cat, because you can always up the dose if you need to. If you've not used mirtazapine before it's worth knowing that in terms of adverse effects probably the most common one is for cats to be very vocal and a little bit agitated on mirtazapine.

Sarah Caney :

So the owners will typically report if that's the case. "Oh yeah, the cat ate, but then it just wouldn't sit still. It followed me around the house, it was meowing at me constantly. It wouldn't, it wouldn't sit down, it wouldn't chill out". So a little bit distressing for them to witness that. It does of course wear off as the drug wears off, but that is one reason I will personally start at a one milligram per cat dose for cats with kidney disease and also always give it no more frequently than every 48 hours in a cat with CKD. They need a little bit more time between doses because of their kidney disease and you can always up to the two milligram dose if you need to.

Sarah Caney :

So Sula's long-term progress has been really good. Her owners, I already mentioned, they're very dedicated, very keen owners. Well, I encouraged them to consider monitoring Sula's weight at home, which is often a recommendation I make to owners of cats with CKD if they are keen to be involved, because you can get relatively inexpensive scales from the likes of Amazon, et cetera. And I also said it'd be useful to monitor just exactly what are you feeding Sula, how much is she eating? And I didn't provide them with a table. They designed this table themselves. You can see it's very detailed, really a week-by-week, documenting how much she's eating. How much of that is renal compared to non-renal food. You can see she for the duration of this chart here was on a mixture of renal and sensitivity control. Her body weights whether that's going up or down. So huge amount of data that's being collected and is absolutely brilliant in terms of monitoring progress and therefore allowing us to see, well, how are our interventions working.

Sarah Caney :

And do we need to make further changes? And I last spoke to her owners end of January of this year, Sula is continuing to do really well. Her renal disease remains pretty stable in terms of renal parameters. Her soft stool has been the main thing that actually has concerned her owners recently. Whilst it's not had an impact on her otherwise, so I don't think it's likely to be anything terrible going on in there. It's been a focus for us in terms of tweaking her diet and seeing if we can really get an improvement in her stool consistency that would be appreciated by her owners. But she is really well in herself and her, her body weight also doing really well.

Sarah Caney :

So a nice example of where we can really have a big impact. CKD is obviously an unpleasant disease. It's a progressive disease that ultimately is likely to be the cause of Sula's demise and yet through some involvements in her care and with obviously a great deal of support from her owners as well, we've been able to really improve her clinical condition and quality of life and that's been very rewarding to see.

Sarah Caney :

So there are some useful resources that I just referred to with respect to CKD and some, I've already mentioned. My website also shown on here and I mentioned in the video tutorials earlier on, there are some owner webinars on CKD, which your owners may find helpful to refer to as well. And of course the book that I wrote for cat owners as well. So thank you very much for choosing to listen to this webinar.

Sarah Caney :

I'm going to hand back to Paul now for the next section of the webinar where he's going to talk about how you can make changes in your clinic and hopefully support your owners. Thank you.

Paul Pollard:

Thanks very much, Sarah, I thought was an excellent presentation, very, very informative and some really great tips that we can all take home with us. I know I've recently diagnosed kidney disease in my own cat, Tom. And so I've been busily scribbling some notes down that I'm going to sit and have a think about and use over the coming weeks, months and hopefully years.

Paul Pollard:

And, and I'm sure everybody else who's been listening has been scribbling down notes and maybe if you're very high-tech taking screenshots of the presentation, but it begs the question, what next?

We all go to the CPD and over the years I've been going to CPD with my little notebook, scribbling down notes and they're, whatever happens to those notes or, or what do we do with them? Does it stay in our Congress bag until we need the Congress bag or what do we do with them? And I remember reading or seeing somewhere a while ago about the definition of good CPD.

Paul Pollard:

And what exactly is good CPD? And I love this definition because it rings true with all the best CPD that I've ever been to. 'Cause good CPD is not just about what you hear, it's about what you do as a result of what you hear. And I always think that if I go to CPD and I go to listen to a webinar and I scribbled down some notes and at the end of it, I really, really enjoyed it, and I don't do anything with those notes, well I would argue that I'd been entertained. But if I actually take those notes and I change what I do and I take them back to practice and they do something differently, then I've been educated, that is the beginning of quality improvement.

Paul Pollard:

So with that in mind, I would, if this was live, I would be asking everybody in the audience just to have a think about all the notes that they've taken and what they've written down. Just pick one point that Sarah has given us, and I know that there's multiple ones, but the one that that rings true or the one that you think is the most relevant one for you. If there's one thing that you've learned today, what is it and just think about, okay, what is the main take-home message that you've taken from that wonderful webinar among the multiple ones?

Paul Pollard:

So for me, if there's one thing that I'm going to take home it's this slide, and I love this slide, the aims of phosphate restriction, and there's a number of reasons why I love it because it's very, very simple. It tells us the reason why we know that are very important in cats. But if we think about it in even more detail, it's brilliant because it hits values on three different levels. And these values may be clients values or they may be our own professional values. In other words, we can make our patients feel better. So some clients aren't really worried about how long their cats going to live. They just want to know is my cat okay and what is my cat feeling. Whereas other clients will want their pets to live forever and if you can convince them that phosphate restriction is that important that it will significantly increase the life expectancy of their pet. If you talked to them about that value, well then they might be more inclined to use the diet. And again other people just might feel helpless and say, well you're not going to give any medication, is there nothing that you can do to help with this disease? If you try to get across, well actually, phosphate restriction can slow down the rate of disease progression, well, people may be interested in that. Of course some people will be interested in all three of these aims. So I particularly love this slide because it lets us know about all the important things that phosphate restriction can do.

Paul Pollard:

So the one thing that I have learned really is that I have learned that phosphate restriction is very important in the management of renal disease. And if I take that thought and say, well, okay, phosphate restriction is very important.

Paul Pollard:

Well, what am I going to do differently whenever I go back into practice? So in other words, what was going to turn this from good CPD and great CPD, how am I going to do something differently that is going to change what I do rather than just having something written down on a piece of paper.

Paul Pollard:

Well, whenever I go back into practice, I'm going to recommend renal diets for all my renal patients and explain the benefits to the clients. And the reason why I'm going to explain the benefits to the clients is because different clients may have different values. And if I explain all the benefits, well then we may get better compliance. And I thought that was very interesting whenever Sarah was talking about compliance, it could be that some people, whatever the benefits were being explained to the clients, that the person that explained the benefit didn't hit the value that the owner was most interested in. So what I'm going to do is I'm going to recommend renal diets for all my renal patients and explain the benefits to my clients.

Paul Pollard:

But I don't think we go far enough for that because CPD is very important and quality improvement is very important. And you know what? CPD can be very expensive. So I have to think about is there anything else that I can do in order to get the maximum benefit out of CPD? And this is where I've come up with this thought about the CPD pyramid. So I'm just going to explain a little bit about what the CPD pyramid is.

Paul Pollard:

At the bottom of the CPD pyramid is us going to CPD and coming away with knowing. And what we do is we write things down on our notepads or iPads or whatever, and we go away knowing more. But if we go back to the previous definition of good CPD, well then technically just knowing more doesn't change how we work. So I would argue that it isn't real CPD, the way we get good quality CPD is if we do something differently.

Paul Pollard:

So the next level up on the CPD pyramid really is taking what Sarah has said and then going away and changing something with how we work. If we use the example that I give, the next level up would be me recommending renal diets to all my kidney patients. I'm trying to convince clients of the benefits of it. But again, I don't think that is good enough because there is no point in me doing that if all my colleagues in the practice don't do it. So the next level of the CPD pyramid really is taking that concept and embedding it within the culture of the practice. And the way I feel that is best done is to create a clinical guideline and we'll speak more about clinical guidelines later on. But if we create a clinical guideline which explains the benefits of phosphate restriction on renal diets and embed that within the culture of the practice, we've got so much more out of our CPD than scribbling some notes on a notepad. And then the final part of the CPD pyramid on the top of it is if we extrapolate that concept of sharing our CPD experience, sharing our notes, writing clinical guidelines and tweaking clinical guidelines across other disciplines. Well I think that's how we get the most out of our CPD.

Paul Pollard:

So what next? We've decided that we are going to take all this information back to the practice. We've agreed that we've learned something and we're going to make a change within the practice. We're going to think about writing a clinical guideline because that's the next step. Write the clinical guideline.

Paul Pollard:

But I suppose we have to ask ourselves, why bother? Really, what is the point in putting something down on a page and going to the hassle of writing a clinical guideline when we can just tell everybody within the practice that you've went to some CPD and you've learned some stuff on what

we should do is we should encourage phosphate restriction or one of the other interesting points that Sarah said. You know, there was so many of them. So why bother with a clinical guideline? And I think that's a really great question.

Paul Pollard:

In order to prepare for this talk, I decided, well, what do we need to create clinical guidelines? So what I decided to do is I decided to ask some of our receptionists, and some of our nurses within a first opinion teaching hospital, "Why do we feed a renal diet?" And these are some of the answers some of the team came up with. One receptionist says, "I don't know. I don't know why we feed a renal diet". And that's disappointing, because often receptionists are the ones who are talking to clients about which food to feed and on what to do. So I think it's disappointing that the receptionist didn't know why we're feeding them renal diet. Another person said, "well, it's kinder to the kidneys". Somebody else, it slows down the disease. And again, if you take that concept that slows down the disease, they are correct. They are 100% correct. It does slow down the disease. But if this person or this nurse was talking to an owner who was interested in how their cat felt and was it making their cat feel better, and they only presented this information, well then that client may not have been overly interested in slowing down the disease, especially if the cat wasn't interested in the diet. So therefore, they may not have made the switch. Another person said it has less protein and somebody else said it isn't that tasty. And then whenever I asked the next person, they said, well actually it is, it's tastier than other foods. And again, it just shows you that there's a lot of people have a different understanding on this simple concept of why do we feed a renal diet. And with that in mind, I think that it means that creating a guideline for something like this would be very, very useful. And finally, somebody else said, again, "I don't know, but I just know that you can't feed it to sick cats if they're not eating". And again, they're correct with that in that we don't offer it to animals in the hospital. But, that's not really the reason why we feed a renal diet. We feed a renal diet for the reasons that Sarah has mentioned.

Paul Pollard:

So I think clinical guidelines certainly have their place and there's a number of reasons why we should create clinical guidelines, especially for renal disease because renal disease is a very complex and progressive disease. So giving some guidelines or some guidance to our team will certainly help with those situations they may run into that they're not familiar with. And again, for phosphate restrictions, it makes a patient feel better, they live longer and it will slow the disease progression. Clinical guidelines are also an excellent source of reference. And again, this is particularly useful if you've got a big team and there's a turnover of your team members and somebody else comes in and they want to know, well what does your practice do in this case? Well then you can offer them access to the clinical guidelines where they will be able to get up to speed as to what your practice recommends.

Paul Pollard:

Clinical guidelines are a guide to best practice and I think this is very important because what we want to do is we want to push the standards with which we as individuals practice, but equally with the standards to which the team practices. And one way of doing that is to create a guideline that everybody agrees to, to make sure that you're not just recording what you currently do, but what you've aspired to do based on evidence that we get from the experts such as Sarah or from webinars and congresses. So clinical guidelines should increase our clinical standards. And of course, clinical guidelines should be reviewed and adjusted with changing opinion, because the more we learn, our opinions can change so it doesn't... new drugs can come along, new tests can come along. So it's important that we review our clinical guidelines on a regular basis so that we can keep them up to date.

Paul Pollard:

So how to write a clinical guideline. And I'm pretty sure that there's a lot of information here and I'm going to whiz through it very, very quickly, but there's some tips about how to write a clinical guideline and the first thing that we need to do is we need to pick a topic. And I suppose my advice here would be if you haven't written a clinical guideline before, well then you should keep it really, really simple. So rather than writing a guideline on the management of renal disease, write a clinical guideline on how to introduce a renal diet to cats with renal disease or how to write a guideline for monitoring renal disease. How often do you monitor it?

Paul Pollard:

Whenever you've picked a topic, the next thing is to try and gather a team and do some research and this is a vitally important step because if you get this wrong, well then the rest of the process doesn't work. You need a team that is going to be engaged in the subject matter and nurses are invaluable in this. You have to really think about what are the roles of the nurses with the clinical guideline and get them involved whenever you can. And of course speak to reception as well because if the clinical guideline is something such as recommending renal diet, then the reception team should have an input.

Paul Pollard:

And ownership of the guideline is very, very important. We should have what is known as a bottom-up approach and what I mean by a bottom-up approach is that the clinical guideline should be written by the members of the team that are going to be implementing and using the clinical guidelines. So my recommendation would be to get the nurses and the clinicians on the floor to write the clinical guideline and then present it to management to see whether management are happy with it, rather than management writing a clinical guideline and then trying to get the team to implement it. It works better if you get buy-in and ownership from the members of the team that are actually going to be using the guideline.

Paul Pollard:

Supply references. References are very, very important and I know Sarah has mentioned some earlier, and I'm going to mention the similar ones later on, but references are very, very useful because if anybody questions anything in the guideline or you're not really sure where the science has come from, supplying references is just useful so that you can look it up very, very quickly. Whatever you've written your guideline on and you've got a draft of it there, I think it's important that you release it to a few members of the team and ask for feedback in case there is something within that that just doesn't make sense to them. If they don't understand it or if there's something that is incorrect, I don't think there's anything worse than you spending a lot of time and effort creating a work of art to launch it, only to get an email pinged back straight away saying that somebody has noticed a flaw in it.

Paul Pollard:

So release it, asks some colleagues to review it, get some feedback and then whenever you've got that, pick a launch date and a launch time and launch it to the team, explain the rationale behind it and let them know that there's going to be a review date. And again, that review date is very important because if the clinical guideline isn't working for whatever reason, it gives you a chance just to sit down and have a rethink and fine-tune it. And the final thing that's part of writing a clinical guideline, is to undertake a process audit and I'll talk a little bit about that later on because we've just recently done a process audit in our hospital and that is very, very important, and there's some great learning in undertaking a process audit.

Paul Pollard:

Now the good news is you don't have to remember any of the stuff that I've just said, you don't have to write anything down or take a screenshot or anything like that because all the information that you will ever need on how to write a clinical guideline is on the RCVS Knowledge website. And if you can't remember the address at the top of the web bar, if you just Google RCVS Knowledge, it'll come up there. And there's a useful CPD course for 20 minutes, which will walk you through the guideline process. There are some templates there, there's some consensus statements as well, which can act as a source of information for you to write your guideline. So it's a really useful first step and everything you need to know to write your first guideline should be supplied there. So have a look.

Paul Pollard:

And again as far as good places to look for information if you're going to tackle renal disease, ISFM consensus statement that Sarah mentioned, it's free to download. The IRIS website, another excellent resource. Again, Sarah's website, Vet Professionals. Have a look at that. And again the RCVS Knowledge website is packed with information so again have a look and start the process of writing a guideline.

Paul Pollard:

So we've decided we're going to write a guideline, we've got the key members of our team ready, we've got some nurse involvement and some receptionist input as well. We've done our research, we've gone to ISFM consensus statements, and IRIS website and RCVS Knowledge. And now the next step is to create a guideline to fit your practice. And this is where I struggle a little bit because there's something fundamentally wrong in me sitting here telling you how to write a guideline to fit your practice. Because the first thing about writing a guideline is it should be a guideline for your practice, not for my practice or someone else's practice because the guidelines should be specifically designed to take a look what is available with regards to resources and equipment and what fits in with your clients.

Paul Pollard:

For example, I was recently reviewing some guidelines for a charity practice, and whenever I was reading through their guidelines, their guidelines had to do with heart disease, their guidelines were fundamentally different to our guidelines purely because in a charity practice, their budgets on their resources would have been completely different. So it's wrong for me to tell you what guideline I would use for your practice, but it is very right for you to sit down and write that guideline yourself. And here's another fundamental flaw in me telling you how to write a guideline and it has to do with educational theory. So let me see if I can explain that just a little bit better than just waffling.

Paul Pollard:

Let's start off by this person. I'm going to ask, and I know nobody's going to know the answer to this, but does anybody know who this man is? Now if I was doing this live, I'd be asking for a show of hands. And I'd be fairly confident that there would be probably nobody in the audience who'd know who this man is. But this man has done an awful lot of research and this research is very, very crucial to guidelines and what we're talking about here. And it's world leading research. This gentleman probably doesn't know what a guideline is and I'm pretty sure he doesn't know anything about chronic renal disease in cats and he may not even have a cat. So how does his research tell us so much about writing guidelines? Well, this gentleman is an educational psychologist called John Biggs. And he has written some fantastic research.

Paul Pollard:

And one of the things that John Biggs says is that learning is constructed by what activities the students carry out. Learning is about what they do, not what we teachers do. So what that means from a clinical guideline point of view, is you are not going to learn how to write a clinical guideline by listening to me telling you how to write a clinical guideline. The only way that you're going to learn how to write a clinical guideline, the only way that you're going to get the most benefit out of Sarah's CPD and get it implemented within the practice is actually by sitting down and starting the process of writing a guideline. And I'd say the best thing to do is to go to the RCVS Knowledge website and click on that and walk through the process. It is very, very simple. But this webinar would be very, very short if I just said, well look, just go and do it. There are a few tips that we can give you, so let's see if there's some tips that we can give you.

Paul Pollard:

So whenever I've written guidelines in the past, there's a few things that I have learned. The first thing that I've learned, it is very important to write a clinical guideline and it also takes a lot of time to do it. And this time needs to be protected and this time needs to be designated. So it's not really something that you can do in your lunch hour. It's not really something that you can do on top of your already busy schedule. This is something that you need to go and speak to your boss, present the business case to them and say, "look, I really need some time to write a guideline on this topic because it is very, very important". And in order to convince your boss and order to convince your team members as to why a guideline is important, you really have to know what the values are for your team members.

Paul Pollard:

So in other words, if your team member is very, very keen to work to a better standard and produce or practice better quality medicine, well then convincing them that the guideline will do that will enable it to take place. Guidelines are very, very good at making us practice good quality veterinary medicine and whenever we practice good quality veterinary medicine, we learn, we generate more income as a result of that. So if you can convince your boss that there will be a financial bonus to writing guidelines and practicing better quality medicine, well then you may get the time allocated. And of course it will also drive animal welfare as well, which is very important. You have to get buy-in from the team. If you don't get buy-in from the team well then it's not going to work. So make sure that you get people involved in creating the guideline, make sure that those people are the ones that are going to help you implement it.

Paul Pollard:

Team education is very important and it's very important that if you can give people statistics and give people examples of why a guideline is going to work. Give examples of why Sarah said phosphate restriction is important. Then whenever you can give them examples and educate them, then the guideline is more likely to get embedded. And the final thing, again I've learnt this recently is whenever you release a guideline into the practice and say, "this is great, everybody take a look at it and please do this". That's really only the start of the process rather than the end of the process. You have to follow it up, you have to keep looking at it to make sure that it is embedded and that people are using the guideline, using a process audit and ask the team for feedback rather than just releasing it and hoping that it works. And I'll give an example of that later on.

Paul Pollard:

So things to consider. So if we are writing a guideline, I think I've already mentioned this, keep it simple. That is the key. If you release a 14 page document, covering a whole lot of different why's and whatnot's, and wherefores, it's just not going to take off. You need it to be really, really simple and the simpler the better. The simpler it is, the more likely it is to get embedded and then,

whenever people realise that guidelines are simple and they do have positive results then they're more likely to be accepted and your next one will be a little bit easier. If we're talking about renal diets and what can I do to ensure that my clients are using renal diets, well again, have a follow-up phone call, you know, give them a phone call in a week's time just to touch base with them. To make sure that they're getting on and see if you can just go over the tips and hints that you would have talked to them about just to make sure that they're sticking to it and compliance is better.

Paul Pollard:

Every practice management system should have a reminder set up, so again, if you diagnose renal disease and you talk to your clients about renal food, create a reminder just so that you can touch base with them just to make sure that compliance is good. Whenever you're getting these cats in for your consult, again, make that important question in your history taking. It shouldn't all be about weighing them, and how's your cat feeling and have you noticed anything different? You know, diet should be really, really important. Asking them how the cats are getting on with the diet.

Paul Pollard:

Encourage your clients, give them options and know their values. A lot of clients have found over the years that if you ask closed questions, is your cat vaccinated? The answer will be yes. Or are you giving the tablets? The answer will be yes because clients don't want to disappoint. They don't want to come across as being bad clients. So if you ask them are you feeding the diet, the answer will probably be yes. So have a little bit of empathy towards the clients and see if you can understand them a little bit more. Ask open questions. "Can you tell me about Fluffy's diet" and then listen. Rather than "are you managing okay with the diet", which is a very closed question. And again, audit your process, reflect and adjust, and consider benchmarking. Benchmarking is another useful tool to see how many of these patients six months down the line are still being fed renal diet or whatever benchmarking tool you want to use.

Paul Pollard:

And again, I love these two slides that Sarah came up with, her top tips for the acceptance of phosphate binders, appetite support tips for owners. They're fantastic and if you look through these very, very quickly, they are the basis of a guideline. There's no reason why these can't be used as a source for an excellent guideline that you can take back into your practice and start using immediately. And again, some people may not like the words clinical guidelines, but there's no reason why you can't say, "okay, we're going to have top tips for compliance on renal diets", or whatever wording you want to use. And this is the reason why it is important to adapt it for your practice rather than me telling you what you should do.

Paul Pollard:

So, quality improvement, how can we quality improve. Here is a real life example and this is to do with one that I've introduced maybe about three, four months ago. It isn't to do with renal diets or kidney disease. It has to do with heart disease in cats and we introduced this guideline into the practice a few months ago. And the reason why we introduced it is because my interest is in cardiology, and we were getting a lot of older cats coming in with heart murmurs. So we decided to introduce the guideline. This isn't the full guideline, this is just a very, very truncated just for illustration.

Paul Pollard:

But the guideline in very, very simple terms was, if a murmur was noted in an older cat, we should always recommend an echo so that we can find out what the state of the cat's heart is and how much underlying heart disease there is. Recommending an echo just isn't good enough. We found

that we also have to give a handout explaining the importance of sleeping respiration rate and respiration effort for the owner. So the owner would monitor this at home. And the handout will also explain a little bit about the disease process. And why the cat may be asymptomatic, the importance of that and equally how an echo works. So what I did was I created this guideline and I got some feedback from my colleagues. I put in some case examples, Tom, my cat has heart disease as well. So I put him in. And the reason why we did an echo with him is because he was drinking more. We took some bloods, his kidney values were high so we knew he had kidney disease.

Paul Pollard:

And he also had a little murmur, so we decided to do a heart scan. And of course his left atrium is massive. So we had to take a look at that as well and put him on some pimobendan. So we decided to write a guideline for heart murmurs. And then a few months down the line we decided to process audit. I took a look at all the cats who had been seen over the past few months who were 10 years or older, looked at the clinical notes, asked, or then check to see whether a murmur was noted.

Paul Pollard:

So the first one that I looked at was an 11-year-old cat presented for a health check. On cardiac auscultation, there's a grade 2/6 heart murmur was heard and this was the first time it was noted. And then whenever I read the clinical notes, this clinician said that they discussed the heart murmur. They recommended for the owner to monitor sleeping respiration rate and effort at home. A handout was given. The advice was for the owner was to call back in with some respiration rate values. And at that stage the owner was going to consider an echo. And whenever read this, I thought that's brilliant. We have just introduced a guideline, we have just implemented quality improvement and things are wonderful, and it just proves that guidelines work. So then I continued to look at some of the other notes that were made for older cats. And again, I was getting this with a lot of the other cases that were seen.

Paul Pollard:

But equally I got some of this as well. So we had a 10-year-old cat with a murmur. The clinical notes didn't discuss or recommend anything with regards to the murmur to the client. But a handout was given. The next one, a 12-year-old cat, was in for a health check, a murmur was detected and a dental was needed. And again, no handout was given to this client. So again, are we going to do dentistry in an older cat with a heart murmur without checking for heart disease. The next one was a 9-year-old cat with breathing issues with a Grade 1 murmur, and again no handout or recommendation was made. And then the final one, a 19 year old cat with a heart murmur and a gallop rhythm. And no handout was given, and no discussion in the clinical notes as to why this is the case and it just begs the question in the 19-year-old cat, was the owner not interested in investigating or was the vet not interested in investigating? And whenever I audited the clinicians that were involved, in these cases, these clinicians were more surgical-based rather than medicine-based. And then again, that's something that we need to bear in mind that we have to try to convince these clinicians as to the importance of investigating these cats with heart murmurs.

Paul Pollard:

And then the final one, which I thought was very, very interesting, was the second opinion 14-year old cat who presented, it was very, very unwell. It had an arrhythmia with some dropped beats and it also had breathing issues, it had labored breathing and it was certainly an inspiratory effort. And after discussion with the owner they opted not to investigate and it was put to sleep. And then whenever I saw this, I opened up the clinical records for the primary care vet who the client had seen recently. And the history at this vets were four months previously, the cat presented, it's mucus membranes were pink and moist. CRT was less than two seconds. There was no skin tent, but they

did notice that it did have a 2/6 heart murmur. Its abdomen was comfortable on palpation and it had a sore leg and was treated with pain relief. And it just makes me wonder whether this sore leg, could it have been a micro thrombus or if this animal had an echo at this stage, was there anything that could have been done? And again, it just shows you that these cats are being missed in our practices and other practices. And if we can get this guideline in place, it's certainly going to drive quality improvement, which is what we're all about.

Paul Pollard:

I think this is my final slide, just to let everybody know that all these resources are on the RCVS Knowledge website. There are some templates for you to walk through. There are some real case studies for you to download to read. There are some great articles and opinion pieces and there are some podcasts as well.

Paul Pollard:

And this is my final slide. In summary, in order to write a guideline, gather a team, do some reading. Come up with a plan and give it a go. Keep it simple, reassess it in a few months, and then tweak it if it isn't going according to plan. And finally, remember that good CPD isn't defined by what you hear. It is what you do as a result of what you hear. So please take your clinical notes, go away and make some changes. Thank you for listening.

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