Clinical Governance in Equine Practice: Practical examples of quality improvement

Podcast transcript: Tim Mair on the challenges and benefits of introducing clinical guidelines into equine practice

Introduction: Welcome to Clinical Governance in Equine Practice: Practical examples of quality improvement. The following session was recorded at Ashbrook Equine Hospital during the RCVS Knowledge Equine Roadshow, kindly sponsored by the Horserace Betting Levy Board and accredited by the British Equine Veterinary Association.

Tim Mair, President of the British Equine Veterinary Association [BEVA] and Equine Veterinary Director of CVS, looks at the problems and benefits of introducing clinical guidelines into equine practice. Real life examples demonstrate how to find and devise your own guidelines while monitoring their effect in practice.

Tim Mair: Okay, so we're going to consider now practice guidelines. It's a topic I have a little bit of a love hate relationship. I think practice guidelines can be really helpful, but as we go through I'll hopefully explain that how you prepare them and how you introduce them are vital, because if you don't do that properly, they will fail. So it's very easy to spend a lot of time and work developing a guideline which then doesn't achieve what you're aiming to achieve.

So I'm going to cover basically what a guideline is and how to produce one. And then we'll look at a few examples in equine practice relating to colics, castrations and so on. So John said that if you make the definition of something complicated, then it alienates people. So I'm gonna immediately do that with some definitions of clinical guidelines. So there's a couple of definitions from human healthcare.

This one from The Institute of Medicine in the US, so, clinical guidelines are systematically developed statements to assist practitioner and patient decisions about appropriate healthcare for specific clinical circumstances. So do you understand that? And this one from the Annals of Internal Medicine, statements that include recommendations intended to optimise patient care that are informed by systematic reviews of evidence and the assessment of the benefits and harms of alternate care options. So basically guidelines are produced, and they're introduced, in order to help clinical decisions in order to help, hopefully, do what's best for the patients and in our case the clients as well. And they rely on input from published evidence but also input from expert opinion and also local opinion. And as we'll see as we go through, that local opinion and the people who are going to use the guidelines, are the most important people to involve in producing them.

So what are the guidelines? Well, it's basically a document, it's a manuscript, with advice and recommendations and it's there to help the clinician or help the team treat patients with specific conditions. It's not there to tell them what to do, it's there to give them advice and guidance on what is possible and what may be the best available evidence for treating a particular condition.

So it is a tool, it's not a protocol and there's some confusion about difference between guidelines and protocols. Protocols is something you have to follow, guidelines are not. They're there to advise and

help people make decisions. They're also really useful from the point of view, bridging the knowledge practice gap. So we all work in our own little bubbles. We're all doing what we think and what we hope is best practice and doing the best for our patients.

But what we decide is best practice may be completely different from the practice down the road or practice somewhere else who may have different way of doing the same thing. So there's lots of ways that we can, different ways that we can manage clinical cases and we all think we're doing the best thing, well we hope we are, but often we don't know what else is available. And keeping up to date with the literature can be really difficult, so this is where guidelines can help.

So, NICE, The National Institute for Health and Care Excellence, obviously in the UK NHS system commonly, frequently publishes clinical guidelines and these are some of their key principles underlying the guidelines. So their aim is to improve the quality of care for patients, obviously. They assess how well different treatments and ways of managing specific conditions work. So they're comparing different ways of treating or managing conditions which may, some may be more applicable to your local circumstances than others, but they are based on the best available research evidence and also on expert consensus.

And they need to be developed using a standard process. And a standard way of analysing evidence. And we'll talk a little bit about how we develop them. They are advisory, they're not compulsory, so they're not a protocol. They are guidance, they're guidelines. So again they can be really useful for linking what we're doing in professional practice with the published evidence or scientific evidence, when it's there, in veterinary medicine, especially in equine medicine, often there was a distinct lack of evidence, published evidence, but they can help ease the burden of reviewing and doing, synthesising all this evidence yourself and bring it into one place which is easy accessible to the clinician working at the coalface. And the ultimate aim is to improve patient care. So we need to consider what guidelines are not. So they do not replace clinical expertise or knowledge.

They are used in conjunction with clinical expertise and patient circumstances as well. Obviously every patient is different, every owner is different and they all obviously as we know, need to be taken into consideration when we make decisions about clinical care. So they are not protocols. So some of you will be familiar with Rachel Dean, who has published in the *Veterinary Record*, over the last few months, a series of articles on evidence-based medicine. And this is one that she published a couple of months ago, which I thought was quite useful and interesting. And she's saying let's not create new veterinary vices. And you had this quote from her that a group of specialists are possibly not best placed to write about how to treat a condition in first opinion practice. And I think that's really relevant. So when it comes to developing guidelines involving people who are working, as I say on the coalface in first opinion practice in developing and writing those guidelines is critical.

We can't just have a group of experts to say, this is our advice, this is how you should do things. It won't work. It needs to come from bottom up rather than top down. So in human healthcare, this is how clinical guidelines are developed. So if you have, basically, your starting point is, we need guidance on specific condition. And then there are two ways that you can then assess how to do that. One is to develop a systematic review. So look at all the published evidence, involve experts and come up with a consensus, some guidelines, and we'll talk about that in a minute. The problem in veterinary medicine is that that evidence is often lacking. So there's a distinct lack of evidence. So when it comes to trying to write a systematic review, you just find there isn't enough published evidence that you can do it.

So the alternate ways to develop a clinical guidance guideline. So the first step is to create a group of people who are interested in helping. Then you appraise what evidence there is, systematic reviews or other published evidence. Then you incorporate the opinion of experts and if possible first opinion vets.

And so on, and if possible, in human healthcare, they involve patients at this point as well to produce the clinical guideline that you then introduce.

So how do guidelines help, well they help at several levels, help individual vets and they help teams of vets to practice evidence-based medicine. As I say in conjunction with your expertise in clinical judgment. Support less experienced team members, so recent graduates, locums and so on, having some useful guidelines can help them develop their clinical skills and develop, look how to manage clinical cases more appropriately.

And it also really encourages team discussion. So when we talk about how you develop a guideline involving the whole team is really important and that can then gel everybody together. So you're all singing off the same hymn sheet and it does help develop that team approach to clinical work. And then at the organisational level, again it supports clinical team members, gives them confidence and gives consistency within and between practices. And ultimately the hope is it helps our patients and our clients by providing the best evidence-based practice.

So we've already heard a little bit about RCVS Knowledge and the tool kits and the material available on the website. This is from RCVS [Knowledge] website and it really just shows how guidelines fit into the whole scheme of quality improvement. So if we have a significant event, as we've heard about already this morning, then that may be a stimulus for saying actually we could use a, it would be useful to have a guideline here to help prevent these events happening again.

Or we could perform a clinical audit. We're seeing how we're not achieving what our goals in terms of managing a specific condition, then again, this may be something that we want to develop a guideline about. Or benchmarking, so we're again, if we're comparing our results on managing a condition with other people's results and we're saying we're not doing as well as maybe we should. Maybe we need a guideline to help promote and improve our outcomes. And then when you've got the guideline, then you can use that and audit against it to see how the improvements hopefully have been made by using the guidelines. So the RCVS Knowledge website has a toolkit. It tells you exactly the steps you need to take to develop a clinical guideline. So initially you obviously need to say what is the guideline about, who is the guideline relevant to?

If it involves clinical examinations, then what measurements would need to be taken, if it involves diagnostic tests, then what tests and investigations should be performed, if it involves treatments and what treatments are recommended and then what follow up care as well. So just to follow as a standard straightforward series of questions that you need to answer when you're developing the guideline. Then add references and then importantly put a timescale on this. We need to review this at some point in the future to see whether the guidelines are working to see whether they need to be changed. We'll see whether there's new evidence that's available that we need. Then need to change the guideline and then any notes.

So as I mentioned already, the benefits from the guideline really are only as good as the guidelines you're producing. So you acquire appropriate methods of guideline development. So this is a free web based tool called 'AGREE II' which you can get for free on the internet. And this is an assessment tool used to assess guidelines and it can be really useful as a kind of almost a checklist once you've thinking about either making, developing a guideline or you've developed a guideline to run through the recommendations on this web based tool, to make sure that you've developed it appropriately because I've said unless you do that, it's likely to fail. So this is the 'AGREE II' website, AGREE stands for the Appraisal of Guidelines for Research and Evaluation and 'AGREE II', it's basically an updated version of the original project that was out there and it looks quite complicated, but actually it's really straightforward and sensible as you work through it.

So it includes 23 core items and two overall assessment items. And they organise them into what they call six domains of practice guidelines quality. So here are the six domains you can see listed on the left here. So scope and purpose, the stakeholder involvement, the rigour of development, the clarity presentation, applicability, editorial independence, and then finally an overall assessment. So this is domain one for example, which is scope and purpose. And really they're looking at the overall aims of the guideline, specific health questions, the target population, what processes are you using to gather and put this evidence together, the methods to formulate the recommendations or update them, the extent to which the guideline was developed by their appropriate stakeholders.

And again, this is the people working in the field that need to be involved in developing them and make sure that it represents the views of the intended users of the guidelines. Language, structure, format, barriers and facilitators that may, it may either help or hinder the implementation of those guidelines into practice. Make sure they're not biased or confused with competing interests. And then finally, there's an overall assessment of the guideline, whether you would recommend it for use in your practice or whether it needs changing or what.

So if we look at a few examples, in published literature, in some professional associations, some of them will produce what's called consensus statements. So these are basically produced by a group of experts within an organisation who look at the evidence for particular clinical condition. And then synthesise it, summarise it and produce guidelines.

This is just one chosen at random I saw in *Gut*, which is a journal produced by British Medical Journals and it's from the British Society of Gastroenterology, and they were looking for developing guidelines for the management in inflammatory bowel disease. You can see there's lots of authors on this because this is a massive undertaking. And in this consensus statement, they reviewed over 88,000 publications. Imagine it, Joe, you can do that. And they use what's called a Delphi consensus process to kind of bring all the opinions together involving 81 multidisciplinary clinicians and patients. And they came up with 168 evidence and expert opinion based recommendations. So that's a massive undertaking. Thankfully in veterinary medicine, we don't probably have to do that. The American College of Veterinary Internal Medicine published consensus statements. This is a description of what they are. So they're up to date information on the pathophysiology diagnosis treatment of clinically important animal diseases, and they're derived from evidence-based medicine wherever possible.

As I said, that is often lacking. But where that evidence is missing, then they use expert opinion. And with most consensus statements, once they've produced this draft to a group of experts, , they then put it out for comment from the membership of that organisation. So in this case with the ACVIM, who then come back with comments, recommendations for changes and so on, and then that draft is amended and finally published. So here's one that's relevant to equine. Again, published from the ACVIM in the *Journal of Veterinary Internal Medicine*, which is their professional journal about strangles. So guidelines for the treatment control and prevention of strangles. And these are revised updates so they published a consensus statement previously and then it's subsequently been updated because of new information, new evidence around the management of horses with strangles.

This is one from the ECEIM, so The European College of Equine Internal Medicine, on equine metabolic syndrome. Again, it's published in the Journal of Veterinary Internal Medicine. So a consensus update to the guidelines on how to diagnose, how to manage horses with metabolic syndrome. Then BEVA, for its *Equine Veterinary Journal*, has recently started producing what they're calling BEVA guidelines for clinical practice. So again, these are produced by a group of experts and then we go out to the membership with the draft consensus statement or clinical guideline and say, what do you think? Do you want to change it? The things we've missed, things we want to add. And that's actually done at Congress every year. So once you've got those comments back, then you modify that paper and then it

gets published hopefully. So the first one, which John was involved with, I don't think it has been published yet, has it?

Audience member: It's been epbublished.

Yup. Okay. On the use of analgesia and the further ones coming in the pipeline on joint therapies and wound treatments. Then of course we have, each individual organisation has its own guidelines and consensus guidelines. So BEVA has some, which I'm sure everyone would be aware of. So if you look on the BEVA webpage, you'll see various bits of guidance, for example, on medicines guidance and advice about using the cascade. And there's advice about the use of antibiotics and we'll discuss that a little bit in a minute.

Then our kind of contemporary association in the States, the American Association of Equine Practitioners, they also have guidelines, for example, on parasite control. So advising their members on what they consider to be best practice for achieving parasite control in horses in their own individual practices. And these consensus guidelines, they can be used by individual practices as a formal basis for formulating your own guidelines.

So you may want to modify what's published because it may not be totally applicable to your own local circumstances. So again, you'll all be familiar with the Horserace Betting Levy Board, who incidentally have sponsored today. So thank you to them. They obviously published their codes of practice for control of infectious diseases in breeding horses on a yearly basis and they're updated every year. So you'll be all familiar with the infectious diseases that they cover, such as contagious [inaudible] and so on. And these are updated on an annual basis and can be really helpful from a practice point of view on how to deal with outbreaks of these infectious disease. Although they're aimed at breeding stock, they equally apply in many circumstances to our horses and the general population.

In *Equine Veterinary Education*, I have to mention it because I'm editor of *Equine Veterinary Education*. We also publish some guidelines. For example, this is one that's based on the WHO [World Health Organisation], clean hand saves lives [Save Lives: Clean Your Hands] campaign so looking at hand hygiene and how it applies specifically to equine vets. And it discusses some of the evidence base behind different ways of achieving hand hygiene and they come there and produce these posters which are really useful to put in practice. So this is one just showing hand hygiene prior to surgery.

So how to clean your hands, how to disinfect your hands prior to surgery. And this is one more about general biosecurity. And this may be something that we as equine vets don't do very well. So they're certainly suggesting, and as we've already heard, hand hygiene is really important in human medicine in terms of reducing the spread of nosocomial infections.

But in general practice, how often do we wash our hands between touching horses? So they're suggesting that we need to look at this before we touch a patient. After we've undertaken the procedure, after we've been exposed to body fluids after touching a patient, we should be considering hand hygiene. And interestingly, Caroline Crewe, who recently did a PhD with the Animal Health Trust,[AHT] and Joe was supervising, she was looking at biosecurity in the general horse population and the awareness among horse owners and yard owners about biosecurity. And one of the things that struck me about her results is how commonly yard owners would say that they never see their vets undertaking biosecurity measures. They never see the vets washing their hands. Compare that with farm animal vets where obviously we're really used to undertaking routine biosecurity, cleaning up before and after attending a farm. So maybe this is something that we as equine vets need to improve upon.

So then homing down onto practice guidelines. And so these are guidelines that needs to be specific to your own practice and your own local area. As I say, they may be based upon published guidelines, consensus guidelines, BEVA statements and so on. But they can then be modified to your own local

circumstances. And it is really part of evidence-based medicine. So you're combining what is best external evidence, published evidence with your individual clinical expertise and the local knowledge about local factors with your patient values and expectations because that's gonna vary from case to case and it's all very well producing what you think is best practice. But if it's unaffordable by your patients then it's totally irrelevant.

So how do we develop a practice guideline? Well first decide obviously what the guideline will address. And these steps are all explained on the RCVS [Knowledge] website toolkits. [Quality Improvement: Guidelines]

Allocate team members to research and review the evidence. So you're looking at publication, expert opinion, also local expertise. Hold a meeting review to discuss the evidence and again, follow the RCVS Knowledge guidelines template. Then when you've come to an agreement, create a draft guideline and then the most important thing is to give it to all the relevant team members for their opinions. Encourage feedback. You really need them to feel engaged in this process of developing the guideline so that it will subsequently get used. And then once everyone's reviewed the guidelines released the final version and set a date for, for implementation and also a date for review.

So you need to check how you're doing maybe in six months' time decide whether the guidelines working, whether it's not working within these changes. Then when you come to implementing practice guidelines communication's going to be vitally important.

Talking to colleagues, supporting team members in its use, encouraging feedback all really highly important in terms of making a guideline that's going to work. So this is just one example of a guideline that we produce in our practice. This is guidelines on them, surgical management of cases. So as our practice grew over the years, we've got more different specialists and surgeons involved in the hospital. It became clear that everyone's doing something slightly different in terms of managing colic cases before, during and after surgery. So we decided it would be really confusing to our nurses, confusing to our interns because they may be doing one thing for one surgeon then something else for a different surgeon. So it creates confusion and that's a recipe for error. So we decided, well we need to review what everyone's doing, come up with some guidelines.

We're not expecting every case to follow these guidelines, but they are purely guidelines and a kind of, an overview of how we think we should be managing these horses and it's a really good way of bringing everyone together and developing that team because you involve the surgeons and nurses, the interns, everybody to come up with the final guideline. One of the things that, in terms of managing horses after colic surgery, one of the big problems is postoperative reflux, especially in horses that have small intestinal surgery. And one of the big question marks in equine medicine or surgery is if the pro-kinetic drugs, which are supposed to stimulate equine motility work. The commonest use is lidocaine, but if you look at the literature, there's a mass of conflicting literature out there as to whether or not lidocaine is effective. It always has a big influence on the cost.

It's not a cheap drug to treat a horse post-surgery with, lidocaine. So when you start to produce the guidelines, it raises questions which you can't answer and that then is a stimulus to think, maybe we need to do an audit or maybe we need to try and develop or, or encourage trials. So this is the lidocaine question is something that Debbie Archer, who's not here yet, has taken on board and has spent a lot of time developing a multicentre, multinational controlled randomised trial to see whether lidocaine actually is effective at managing horses with post-operative ileus. And the results of that will be highly influential and what we do in the future. Something as simple as when you start feeding a horse after colic surgery, again, we found there's a massive difference between different surgeons. Some wanted to starve these horses, especially after small intestinal surgery for days after surgery. Some wanted to start surgery a lot quicker.

So April, who was one of our interns at the time, is currently at Liverpool doing Residency. She did a study and there was virtually nothing in the literature. There was virtually no trials out there to say when is the best time to stop feeding. So an alternative then is to go and get expert opinion. So she surveyed equine surgery and medicine specialists and asked the questions using a series of scenarios of commonly encountered colic surgeries. When would you start feeding a straightforward case after a small intestinal strangulation with no resection or a small intestinal strangulation with resection. And then you can get, start to build up a little bit of a consensus on expert opinion. So for example, for small intestinal strangulating and small colon lesions, most of the surveyed surgeons and specialists were saying between 24 hours and 48 hours, I start feeding in an uncomplicated case and so on. So this can be then useful for developing your own guidelines.

Castration. These are pictures from the BEVA Trust and British Horse Society who run a series of, what they called, education and castration clinics around the country. Basically helping lower value horses to get castrated. But it is a one of these probably the most commonly performed surgery procedure and equine practice. There was a high complication rate. There's lots of different techniques, there's lots of different aftercare protocols and there's no consensus. So again, this stimulates why we need information. And John, at Nottingham [School of Veterinary Medicine and Science at the University of Nottingham]?, in collaboration with BEVA, sorry there has been a few prospective studies, but the information is limited. So that was a stimulus for developing the castration audit that John has kindly helped us put together. Hopefully over the next few years as we get data back from this, we'll start to build up some information about what are the most appropriate, what is the complication rate using different techniques using different protocols and so on.

And these are just some slides taken from the app that he's produced. So again, this goes going back to this slide just to show how guidelines fit into the whole series of QI tapes and tools available to us. Briefly on antibiotics well, you'll be, I'm sure everyone's familiar with the BEVA PROTECT ME guidelines. They've been on the BEVA website for several years. They're currently being updated actually because some of the dose rates here are approximately not correct because since they were produced, more information has been published. And just to note that often the labelled dose rates for antibiotics are not what's currently recommended. So these are things that need to be updated all the time. And it has suggestions for common clinical scenarios, what antibiotics you would use and then obviously divides them into first line alternatives and protected antibiotics.

So we're all aware that antimicrobial resistance is a massive issue in human healthcare. It's a massive One Health issue. Every time we use or dispense or prescribe antibiotics, we're probably adding to that problem of antimicrobial resistance. So antimicrobial stewardship and reducing and making sure that we only use antimicrobials when we actually need to and we're using the right antimicrobial at the right time for the right dose, for the right duration. These are all vitally important to us because if we don't do it, it's likely that we'll have regulations imposed upon us. So this is really helpful from the point of view of trying to do antimicrobial stewardship and antimicrobial guidelines. It's part of the antimicrobial stewardship. We need to monitor what we're doing. So we need information to make sure, to see that we actually are using the right antibiotics or reducing our use of antibiotics.

So I've got a few graphs here from some work we've done at CVS. We looked at antimicrobial use in 12 equine practices within CVS and we looked at that total use of antimicrobials of each individual antimicrobial class over a five year period. So from 2014 to 2018 inclusive. And this, we didn't have complete data sets from every practice. So this is the, these graphs are simply from the practices we have complete data sets for each five years. And so you can see in terms of the total amount of anti-microbials. So all the anti-microbials was all summed up together. There's been reduction really over the last five years. So there's been actually a 50% reduction in the total usage of anti-microbials between

2014 and 2018 are probably more important than the total use is, is our use of critically important anti-microbial.

So they're the ones that are most important in human health care. One of those is the fluoroquinolones and this the most commonly used drug in equine practice, and perhaps that will be enrofloxacin. So again, this is the results where enrofloxacin, so we had a peak in 2015 but then there's been a decline and there's been a 38% reduction in total enrofloxacin usage over those five years. Another class of critically important anti microbials was cephalosporins. So this is cephalo…., again, we had a peak into those 15 followed by quite a dramatic reduction. So it's actually been a 95% reduction. So that's great. We can all pat ourselves on the back. We're doing a great job, we're not using as much antibiotics, but we're still using masses of antibiotics in that current practice. And we need to monitor what we're doing and we need to impose or make sure that we're following guidelines to maintain our antibiotic stewardship.

So one thing that BEVA has done in conjunction with the University of Liverpool is run this questionnaire. This survey is just closed. This is very similar to a survey that was run 10 years ago and it looks at prescribing behaviours of equine vet. So what antibiotics they're prescribing under what circumstances, including dose rates and stuff. So the idea, hopefully we'll be able to compare what we're doing now with what we were doing 10 years ago and hopefully see that there's been a shift and an improvement in our antimicrobial use.

And then looking forwards, RCVS Knowledge are interested in developing an audit, looking at antimicrobial use and antimicrobial resistance specifically in equine practice, which hopefully we'll be able to launch next year so that we can, again, we can all be collecting data to show to ourselves what we're doing, and look for areas that we can improve in terms of developing antimicrobial stewardship policies.

So we've discussed problems and barriers of course, time to produce the guidelines, although that's going to be everywhere. We need to make sure that we find some, some dedicated time and make that time available. The lack of evidence in the published literature is a big problem. Look at independent and external review. Everyone's going to be biased, lots of people have conflicts of interest and then we need to make sure that we bear those in mind when producing guidelines. As we said, simply making guidance available to clinicians doesn't ensure they're used.

We need to involve those clinicians in the development, engage them. There's a general fear that if you don't stick to the guideline, you're going to get into trouble. Well, that's not the objective of guideline at all. That's a protocol. A concern that guidelines limit clinical freedom and innovation. Again, this is not the objective, but if you've got a guideline and you want to stray off it, you need to think to yourself, well, why am I doing it? Am I justified in doing it. Is it the right thing to do in this situation?

Updating guidelines we talked about and then local factors need to be considered. So you can adjust your guidelines to your own practice circumstances. So just finish with a couple of quotes. And this applies to I think to basically to evidence-based medicine and the application of guidelines.

So by failing to prepare, you're preparing to fail. The guideline is vitally important and as I say, involving everybody at the start has got to be the best thing to do. Take nothing on its looks, take everything on evidence. There's no better role. Again, evidence-based medicine. I've personally strongly support evidence-based medicine. I know there are limitations, but we need to be generating that evidence in order to improve what we're doing.

And then when it comes to talking about specialists, I think this is a nice quote, given one well trained physician of the highest type and he will do better work for a thousand people than 10 specialists. Specialists are great, but they are narrow. They can't see the wood for the trees sometimes, which is

why you need to involve the whole team, the whole practice, the vets on the ground, the nurses, everyone within the practice when you're developing these guidelines that way you'll have the most effective outcomes and that's it. Thank you. Any questions?

For free courses, examples and templates for quality improvement in your practice, please visit our quality improvement pages on our website at rcvsknowledge.org