

Transcript: Crowdsourced Treatment for Cats With FIP

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Dr. Julie Levy:

I'm going to jump right into what it looks like to treat cats with FIP in shelters because that's why you are here. And we'll talk a lot about some of the idiosyncrasies of this particular treatment. I'm going to kick it off and talk a little bit about the virology and the background and some work we've done with FELV. And then Nicole, who's a volunteer from Austin Pets Alive! and manages all the data in their FIP treatment program, is going to take it from there and talk about what it really looks like on the ground, getting the drug and treating the cats, and managing the volunteers who are going through a pretty tough process to save the cats that they love. So we're going to tag team this. You're looking forward to it. And the data, the fact that Austin Pets alive is very data-driven is what makes this possible.

So with that, we'll get started. This is how much overview you get. One slide is that feline enteric coronavirus is everywhere. Everyone in here, probably a third of your cats at least, are currently coronavirus positive, shedding virus in their feces. It's no big deal, usually does not make cats sick, but it's very highly contagious and it sheds more when cats are stressed. It's spread in the feces.

So indoor cats have more coronavirus than outdoor cats. We see a lower amount in feral cats than in-house cats because the feral cats are burying their poop and not using a litter box. You're not usually going to know if your cat has enteric coronavirus because it does not make them very sick. Sometimes there's mild diarrhea, sometimes no signs at all. During viral replication though, every time the virus replicates, there's a chance it's going to make a mistake and create a mutation that is deadly. And there isn't really a good test yet. We don't know what exactly that mutation is about and so we can't test for it necessarily. But for that reason, there is no reliable test for FIP. There are tests for coronavirus; that's useless to us. So all of you're running coronavirus antibody tests out there, just stop. That's a waste of money. It doesn't help you at all.

The PCR tests can be helpful depending on the site that you're testing. So if you have fluid or tissue and you're doing PCR in a reliable lab for FIP, that might give you some help, but really it's going to come down to a clinical diagnosis. Your vet is going to put all the signs together and make their best guess and we'll be wrong. Some of the time cancer can look like this, some inflammatory diseases can look like this as well. FIP, when it changes from this mild gastrointestinal virus into the FIP virus, it doesn't stay in the gut anymore. It goes everywhere in the body – to the brain, to the eye, to all the

protected sites it can get into as well as every organ system. And it causes lots of inflammation. And when the blood vessels get inflamed, that's when that fluid leaks out of the blood vessels.

And in some cats we see the wet forms are fatal usually within a couple weeks of illness. They might have the bad virus for a while, but once they get sick they usually only last for a few weeks. So you can give them prednisone and stretch it out a little bit more, but most are going to have a pretty dramatic flame-out and die quickly. And that's what's so sad. And most of the cats are kittens less than two years of age. So it's very sad to see someone get a new pet and it's a kitten and then it dies pretty quickly. The thing to know is the more replications this virus makes, the more chances are that mutation will occur. So if you have cats in a situation of high stress and they're making lots of replications of this virus rolling the dice more often, you'll see more FIP.

And where do cats live where they get stressed? Shelters, breeding facilities, anywhere that cats are held in concentrations, which is not normal. So oops, there is a great paper again out of Dr. Pedersen's lab where they looked at the shedding of several viruses including feline enteric coronavirus in cats in shelters. And they looked at day one what their levels were in the feces. And then a week later, and this is really scary to me, the viral shedding in the feces increase from tenfold to a millionfold in one week. If they came in with coronavirus, they went into a shelter and they said, oh my god, I'm going to shed tons of coronavirus. They're rolling the dice a lot more often. And then not surprising, but also frightening is that more than half of the cats that came in into the shelter negative for coronavirus were positive a week later.

So it's very easy to spread it. It lives for days to weeks in the environment. You can get it on your hands and spread it around. It's actually very hard to keep a facility coronavirus negative. So this is just the thing to know is we are going to talk about how to spend a lot of money and trauma on treating cats for FIP. Don't forget, this is our power. Our superpower is preventing cats from get it. So we know: keep cats in foster homes, don't overcrowd your foster homes. Try to reduce stress and get cats into their real homes as quickly as possible. Alright, so the FIP diagnosis until recently, this is really what we were facing was despair. And then this discovery of an antiviral drug that apparently cured FIP came on the horizon was published a few years ago, and it wasn't available anywhere.

And so cat people, cat owners went about getting these chemical companies in China just to make it and ship it all over the world illegally. If anybody has, how many have had a cat that they've treated and then how many veterinarians have helped people treat cats? We'll talk a bit about how veterinarians can be a helpful resource when the drug is not approved for this country. But very quickly worldwide, a Facebook group, FIP Warriors, popped up and news spread of this. And the way it works still today is the veterinarian says, I think your cat has FIP. There isn't really anything I can do except support you. I'll run lab work, I'll teach you how to give injections, but go to this Facebook page, tell them about your cat and they will have a plan for you. And we've

never said that before in our lives, in our careers, go to the internet to find out how to treat your cat and they'll be assigned an admin immediately.

I always tell people, you'll probably have the drug by tonight. You'll probably meet someone at a closed gas station and they're going to hand you an unlabeled vial. And then they call me back and they're like, yeah, it was just like that. Very spooky. But that's what's happened. So now tens of thousands of cats worldwide have been treated with these drugs. Most of them are doing very, very well. Cures is a word that we use, but this was a kitty who didn't get the drug in time. This kitten in Germany loved to go out with their family on the bike. The kitten died and this is the funeral pictures from the Facebook page and I contacted them and asked if it was okay to share the pictures. I really thought it just told the whole need.

Now the drugs not... there are no approved drugs in the US technically. Now remdesivir is approved for use in people, which means that veterinarians could prescribe it off label. I have not yet found a pharmacy that would sell it to us and if they do, it's going to be much more expensive probably than we want to pay in the rest of the world. There are some approved drugs and there's some off-label use of other drugs as well, but GS is not available legally anywhere because the patent is held by Gilead and they're not releasing it. So anyone making GS is doing so in violation of a patent, but lots of people are doing it and Gilead's not really caring too much. I think they would get in trouble if they try to say we want the kittens to die. And it's not a drug they're developing either; they're developing the sister drug, remdesivir. So the treatment is 12 weeks of treatment, daily injections and you can use pills now plus 12 weeks of observation. And we have prescribed laboratory tests that we do along the way and if things are going well, those laboratory tests will all be heading towards normal. It's really nice, even though we don't have a test for FIP, recovery is really signaled by these laboratory improvements.

So a quick recap of the data we're going to talk about now. It is all coming from Austin Pets Alive! here in Texas in Austin, and they have always had a mission to save the animals most at risk for euthanasia or dying in a shelter. So they've pulled from the bottom of the list. So it was not a surprise that they would have both an FeLV adoption program that other shelters send their animals to. And then when the drug became available to start using the drug for FIP as well. What is unique about this study, though, is we are studying cats, a little over half of which have FeLV as well because we've always known that cats that are FeLV positive and get FIP, they died even faster. And so there's a concern about whether we can treat the cats with FeLV.

Just to recap a little bit about the shelter, it is a private animal shelter in Austin. They take in animals largely from other shelters in the region or across Texas, sometimes even from out of state. And they're very high intake shelters. So about 10,000 cats and dogs last year really focusing on the hard ones. So it's not like they take in all the cute littles; they were sort of pioneers in developing neonatal kitten nurseries, ringworm treatment programs, FeLV adoption, distemper. They have a great parvo award that is

they published their data on parvo, high volume parvo treatment and the FeLV program is why I really got involved.

I was very interested in following those cats. Also, we wanted to do a study. There's so much controversy about what's the best test for FeLV and what do you make of discordant tests? How do you know which one is right? How many times should you test a cat to decide whether it's positive or negative? So I thought, well they've got a captive audience of lots of FeLV positive cats. We can just test those cats every month with all of the tests and at the end we'll have the answer. And to foreshadow how that went, we did do this study, funded by Maddie's Fund and Idexx. And our goal at that time really was to find the best test and make it easier for all of you to manage cats with FeLV. Our design was we wanted to track cats with a new diagnosis of FeLV, not one that we know was positive for a long time with all of the tests. We ran them every month and it was quite a big project. That's Natasha who only was successful because of her work was the lead on the project and she's picking up a cat from an airport to come into the study.

So cats came from in-state out of state other shelters and they were tested on the week they came in to be entered into the study. Most of them actually were adopted or into foster to adopt homes, private homes, A few cats would spend some time in the colony, but the goal was to get them out into homes and then they were all adopted. At the end of the study, we'd had a total of 13,000 test results that are still sitting in a giant Excel sheet waiting for me to do something with them. And then they had the ones that lived through the six months of observation where are all in homes now. And now we just call 'em up every six months and say, "Hey, you still have your cat?" And so now we've just turned it into the survival study, lifelong survival study.

And we also did another study. I sent a student down to Austin to look through their adoption records and to write up a research paper about their adoption program. And this gives you an idea of what they're dealing with. So in two years they took in 800 FeLV positive cats for their, I mean can you just imagine that number In most organizations? There's nothing else like it. They were able to confirm infection using their standards for 80% of the cats. So those are the ones and the other ones went into their negative adoption program. The positives went into the FeLV adoption program and they adopted out 79% of those cats. They also euthanized or some cats died, 17% of them, a few were still in the shelter at the time. And what was interesting they came out is they identified that nearly two thirds of the cats that died or were euthanized were due to FIP. So there's that co-infection again with FeLV and FIP. And at that time if FIP was lethal and then maybe it wasn't. So it's my pleasure now to turn this over to Nicole who's going to tell you what it's really like to have a large scale program of cats with FeLV and FIP.

Nicole Levy:

Thank you Dr. Levy. Oh, and it is just a coincidence by the way, we're not related. Not related, yes. So there's going to be some cat stories interspersed throughout here and most of these photos are actually no, all of these photos are FIP survivors. So that's Blueberry. She has been two years post-treatment now and she's still going strong. That's a recent photo of her. So how did Austin Pets Alive! get into this world? Really it's because of our fosters. We had fosters who started treating as early as 2019 and they basically were like, I'm treating whether you want me to or not because this cat's going to die otherwise. And the support has only grown since and we've figured out what we can do to work with those fosters that are willing to treat and help save those cats. So cats are either diagnosed in care or they're admitted via transfer.

I'm going to say a major caveat. We don't have a huge program where we can take a bunch of cats diagnosed with FIP, but we will do what we can when we can and then they're actually able to be treated using single source validated gs, which we're lucky to have subsidized by a donor. So our fosters are able to treat without cost concerns as well. And we do start with injections but quickly transition to pills. It's much easier to find willing fosters when you say we promise this is temporary and you won't have to keep stabbing the cat. We've treated more than 150 cats so far. Our vets are fabulous and they're great at diagnosing and helping set the guidelines for treatment. So they're looking for at least two of the following symptoms depending on the type of FIP we're dealing with. And then they're able to provide supportive care to guide that cat through treatment from there.

So this is Hawi. He's actually one of my personal adopted cats. He was a case of ocular FIP and he was treated for exactly the 84 days at 12 milligrams per kilogram with GS and he's doing great. He was actually diagnosed very late, so you can see his eyes were pretty swollen there to begin with. He lost his eyesight to FIP, but he's happy as a clam. He does not care in the slightest and he was able to be saved. So yeah, that was him recently, 700 plus days after starting treatment. So his cure date was in May of 2021 and he is FeLV positive. So we know we've bought him at least two years at this point, which as a FeLV adopter I will take.

So how exactly do we treat? And we will provide an email address where you can reach our FIP team at APA! if you've got questions about this. But basically our treatment protocol start at 10 milligrams per kilogram. That is higher than some places will start, but we essentially were seeing better results for our FeLV positive cats and we're like, well we have access to meds that work for us, so why would we not just set that as the baseline, which is what we've done. We do start twice a day when you're talking about critical cases and we tend to call wet form critical because we've seen those cats crash more quickly. So we start with BID decrease down to SID within about five days. We want them to start eating and we will increase the dosage really quickly if we see them decline or not respond.

We definitely do get our fair share of this cat is very critical when it was diagnosed. So we will try to throw the kitchen sink as much as we can and we change to oral form in

almost all cats within two to four weeks. We have the occasional foster that prefers pills that has a cat or I'm sorry that prefers shots that has a cat that is just like an angel for them. But for the most part we swap to pills and they're very well handled. So what does this mean In practicality, if you are fostering an FIP cat, you are committing to daily meds for at least 12 weeks and then we also need blood work because that is how we follow treatment to make sure that the cat's responding as expected and that it is safe to stop after that 12 week course.

The preferred schedule is going to be at four, eight and 12 weeks so you can really track the changes over time. But we also use an alternative schedule of six and 12. It's a little bit easier on the budget with blood draws and it's easier on the stress for the cats too. We vaccinate when necessary. It's always the vet's call if the cat's going to be living with a lot of other cats, hasn't had any vaccines yet, we choose to vaccinate. The FIP Warriors' recommendation tends to be don't vaccinate unless they really need them, just because of the stress to the system. So it's always a balancing act there. And then it has become standard practice that at 10 weeks is when you want to do spay or neuter or elective surgery assuming it's something that can wait for that timeline. Basically they're still being protected by the antiviral since they're in active treatment, but they've really already gotten over the hump and are doing well otherwise additional standard supportive care prednisolone to stabilize the cat at the start, gabapentin as needed for injection discomfort and then any other supportive care that you would prescribe to any cat that's not eating.

And there are some medications to avoid. So we've got a protocol for those. We don't like Depo-Provera at the beginning; it tends to cause complications. We can't see if the cat's responding or not. And actually if a cat has had a depo injection, they get started at a higher dosage than if they have not. And then if they are on the oral form, you have to make sure you're not giving famotidine or any acid reducing meds because they really need that stomach acidity to absorb those meds. So this is something that our fosters get, I won't read it to you, but basically we tell them this is temporary. Yes, your cat's very sick at the moment but truly after a couple of weeks they tend to be stabilized. You wouldn't know they were sick, you're just keeping up with meds to get them through the remainder of treatment.

Okay, this is Pecan Pie. He's actually currently available for adoption, FeLV positive if anybody's looking for a FeLV, he's a hugger, he wants to hug you when it's snuggle time And he is an FIP survivor as well. This one is Bernard Sampson. So he was a very critical case. He was treated actually for 86 days at 10 milligrams per kilogram and that was just a timing issue with his final blood work. So he basically did a normal course but what really mattered was getting him over the hump. So he was on that critical twice a day dosing. At first this was him being unhappy getting fluids. I legitimately had a conversation with the vets to say will french fries or no food kill him faster, because we thought he was feral so I wasn't supposed to be syringe feeding him. And the only thing he would eat was if you put pieces of McDonald's french fries on top of dry food, he would like eat a couple bites of it.

So he also had, not calici, he just had a kitty cold, he had a URI going on and so it was very touch and go at the beginning. But once he made it over that hump he told us he was good to stop getting the critical dosing because he said I'm going to bite you if you do another shot. So we switched him to pills on normal dosing and this was him 150 days later holding kitty court with actually another FIP survivor up in the top left there as well. The two of them got adopted together as a pair.

Okay, so there are 164 shelter cats in our dataset and this is where we're getting into a little bit of the data that she mentioned. About two thirds of the cats that have been treated are FeLV positive; three quarters are two years old or less. And what's interesting, and we don't really know why, but the FeLV positive cats trended older when they were diagnosed than the FeLV negative cats within median age of 15 months versus six months. But the male/female breakdown was similar regardless of FeLV status and we do see more male cats be diagnosed. This graph here, these two graphs show you FeLV positive versus FeLV negative cats and the type of FIP they were diagnosed with. So we do see wet the most, but it's interesting that we tend to see the ocular complications more often in FeLV negative cats just based on our data – but otherwise fairly similar distribution and those are not, there may be overlap because cat may have wet form and ocular complications but that distribution there.

Okay, so what sort of outcomes did we see for those cats that is, oh gosh, what's her actual name? We called her Squirt, I believe it's Sandy Cheeks and she got adopted with another FIP survivor as a pair as well. Another case study before we dive into those numbers. This is Hello. She was pretty clearly an ocular case. Those were some of the craziest eyes I had ever seen and so you can see the progression there. She still does have that little mark above her iris that just never resolved but her blood work and everything trended to normal. She was treated for 84 days at 12 mgs per kg and has been doing great otherwise. Okay, so those 164 shelter cats we cut off at May 15th of this year, so like 84-ish days ago so that they theoretically could have finished their course of meds and as of 8/7 there were most of the cats cleared already, just two that are still in active treatment and like about to be done. They were extended for some reason or another, a handful in observation, a handful where FIP was ruled out and then a portion that did not end up making it.

So we mentioned that we do monitor those lab results and this is just a little highlight. Basically we don't see significant differences in the FeLV negative versus FeLV positive labs. Two of the best markers in either case are going to be PCV and AG ratio where they're starting low and then you can see over time they trend back towards normal. So those are just two of, I want to say 15 lab values that we actually do chart and make sure they're trending correctly before we will stop a cat's meds. So that number of cats that didn't make it may seem like it's high but I wanted to dive into that a little bit more. Basically we excluded the cats that were ruled out and that's because they got a definitive other diagnosis or that are still in treatment; that gives us 153 cats in this first

cohort and total survival is high at 74% and nearly identical for FeLV cats and FeLV negative cats.

And then what the second chart is, is if we remove the cats that died of non FIP causes of death, so we're not doing necropsies, these are not 100%, but they got a cancer diagnosis at the end of treatment. It could have been anemia, we had one that got out of the house, got ran over by a car, that kind of stuff that happens. So if we exclude those non FIP causes of death, we see a big increase in survival up to 88% and actually with a somewhat higher survival for cats with FeLV at 93% than without FeLV at 80%. And that is part of why we have now set that 10 mgs per kg as the baseline dosing guidance.

Okay, so cats that survive may actually have gone through treatment twice. This is Mr. Big, he was adopted actually with Sandy Cheeks, one of the other cats on the earlier slide. He was a relapse case. It's rare we don't tend to be able to predict it. His blood work looked great when he stopped meds. He was initially treated at 12 mgs per kg. Put it on the slide too. I'm looking at my note card and seemingly doing great but then he relapsed at day five so we re-treated him higher at 20 mgs per kg and he's now cured and doing great. We do tend to see relapses happen pretty fast. The median time being 46 days is basically because it either happens within the first two weeks or it's way further down the line. That 12 week observation period is meant to catch most of those. But we do occasionally see what we would consider a reinfection, which is after that observation period. But you can see we're talking about 3 to 5% chance of relapse. And then in all of those cases the cat has been cured after a second round of treatment. So not the end of the world just means more meds for fosters.

And then these are some photos of him during treatment. So he was very critical at first. He was doing really well and then we really just saw him slow down a little bit. That was the only sign that we saw of relapse initially and then that is him 110 days after starting his relapse meds happy as a clam climbing on top of a random chair.

Diving back into those mortality numbers. Part of it is just the fact that a lot of these cats are critical when they're diagnosed. So that top chart shows you mortality within five days. Most common cause of death in those cases is going to be FIP. We saw that for both FeLV positive and FeLV negative cats. Your FeLV positive cats are more likely to have some sort of comorbidity like FeLV related anemia, a cancer or something else nice and complicated that went into that unknown classification there.

After five days, the cause of death is overwhelmingly going to be something else. It's going to be that non-regenerative anemia, cancer, something else, something we couldn't diagnose. So 88% of cats that survive the first five days of treatment, that's regardless of status make it through treatment and are fully cured and recovered. So really that supportive care is important to begin with and then especially with how many FeLVs we've treated, we do see FeLV associated anemia and lymphoma later down the line. But I think most of our fosters would say they're happy for the time that we could

buy before that secondary diagnosis even. Okay, I am going to pass it back over to Dr. Levy to look at some survival curves.

Dr. Julie Levy:

So this is back to that original study that we did where we're following the cats for their lifetime after testing them for intensively for six months. And we started that study back in 2016 and admitted cats through 2017 until we got to 130 FeLV positive cats. So we've then been following them continuously to see if they're still alive and we're at six and a half years now of follow up on these cats. One thing, the way you read these survival curves is the bottom is the time. So that's in years, six and a half years, and the vertical axis is the proportion of cats that are still alive or have a probability of still being alive. And you can see it just goes down as any starting population would have decreased survival over time from attrition. And then one of the important numbers that we look at is called median survival rate and that is the point at which half of the animals are still alive, or the people if you're talking about people.

And so the little arrow there pointing to median survival rate in the cats that have FeLV is two and a half years. So if you take all of your FeLV positive cats, half of them will live longer than two and a half years and half of them will live shorter than two and a half years. We have other really interesting deep dive data in this where we separated out based on their viral load at the time of diagnosis. So their quantitative PCR. And what's really amazing is if they have a low viral load at the beginning when they're diagnosed, they survive as if they don't have FeLV and then if they have a high viral load it just plummets. Their median survival rate is, or time is more like one and a half years. Unfortunately two thirds of the cats have the high level. So most of the cats do live a shorter life, as we have heard for many, many years.

So just kind of picture this mind of... this is FeLV without FIP. And then here's the curve we're working on so far with the cats that have been treated for FIP. The negative cats are the upper line and the positive cats are the lower line. But I want you to look at this; it's also in years and we're at three and a half years since they started in some of the cats. If you look at the 0.5, which would be six months, the first six months of treatment, your positive and your negative cats are the same. So what I'm taking to mean from that is they're responding to FIP treatment the same, but after six months you start to see the expected effects and attrition from FeLV. So it's a little bit faster here. We got a median of 1.8 years so far in the cats that we're following, but we're going to go back and try and get more follow-up data on more of the cats because that wasn't something we were trying to do as we were collecting this, but we'll go back and see.

So I think we're doing a talk about treating cats for FIP and we can see that these cats, even though they're immunosuppressed in some way, do the same until their FeLV catches up with them. What I'd like to do now is start testing cats and what you can all do too is start doing a quantitative PCR when you start your cats on FIP treatment if they have FELV and we can start to see if maybe we can predict their survival. It's just

co-infection like we can with a single FeLV infection because if their FeLV level is low and they survive just as long as the negative cats, it's good to know because for some groups or some individuals that may encourage them to do treatment if they can't treat everybody with FIP.

So that's the data, that's where we are now. This wasn't all put together as a study to start with. This was, as Nicole said, some volunteers who had some cats that got FIP and had heard about treatment and wanted to, in fact the very first cat was treated by Natasha who was the person who was running the FeLV program at the time. And when she heard about this she was like, I'm going to pick the cat I can give shots to and we're going to see how it goes. And so all this success is due to her encouragement and the organization's support.

So current study caveats, there's not a practical FIP confirmatory test and this is a shelter. So they're doing even less lab work than we would do like internal medicine workup they're getting, it's a diagnosis of suspicion but there's no necropsies. We don't really know for sure these cats all had FIP or if they did die what they died of.

There was a lot of variability in these cats and diagnosis because APA! gets cats from other organizations, there's often a lag time before they start getting treatment, and a significant portion of these cats come in like on death's door critical and some of those just didn't get treated in time. They're the ones that die within the first couple of days. But then you also saw an example of a cat that looked like a dish rag, skeletal, and he's still alive and recovered well. So we don't parse things out according to how sick the cats were at the time they came in and there was quite a bit of variable dosing and laboratory testing because the foster homes were organizing this and paying for some of it and some of them are more compliant than others. And so if these were being managed in a study per se, we would have more precise data.

But study strengths I would say is we are following these cats prospectively and so we actually are on the lookout for how they're doing, rather than looking at a bunch of records from the past. And we are tracking all of the cases regardless of their outcome. So again, we're saying if we think they have FIP and they get treated with GS, they're going to be in our dataset and we might talk about some of them as a removed segment like Nicole did, but we're not going to hide any cases. You're going to see the worst it can possibly be. We're not sugarcoating this and it is a very unique population – shelter cats treated in a shelter environment, real world, and a huge portion of them have FeLV. So it's quite unique what we're doing. So in conclusion, what we would conclude is that cats with FeLV have approximately the same response as cats without the supportive care is key to their survival.

So we cannot park these cats in foster homes and not support them. They need to be in constant contact with us and we, especially early on, need to give them the supportive care they need. Relapse is rare and right now we can't predict it, but you can come back

and treat them again and they seem to do well and working with the current resources. So APA! has a protocol, they continuously refine it as they learn about it and get more feedback on their cases. So it's always an iterative process to get better and better. They're trying to understand more about the dosing requirements so that they know earlier who needs more and who doesn't need that much. And we of course want to always be working on reducing the shelter associated risks for creating FIP in the first place. This is a big deal, hard on cats, hard on the wallet, and it would be better if we managed cats in shelters in a way that didn't put them at risk.

So let's really work on keeping cats out of shelters, keeping them out of crowded foster homes and into good single cat families as soon as possible and then really commit to supporting our fosters through this. This is hard, we didn't really talk about it, but a lot of you have used it. The drug stings a lot. It can cause wounds and so that it can cause a human animal bond problem during treatment that we have to be aware of, but this is what we have to share. This is a QR code that does that go to FIP Warriors. There's two FIP Warriors now there's always a split in groups. So FIP 5.0 is the original big one. There's another one, Global FIP, which actually they put together that NICE website FIP guide for vets that I really like. There also is a Facebook group of FIP Warrior Vets, something like that where if you just want to talk to your colleagues you can get advice there. So with that we have time for questions, right?

Nicole Levy

And you are welcome to email FIPteam@austinpetslive.org. But really it's like if you want us to share more with protocol, have questions, stuff like that, we are very limited on intake but we will do what we can to support.

(Q&A continues in video starting at [36:56](#))

Transcript was very lightly edited for clarity.