

Professor Wills' FIP Awareness Fridays

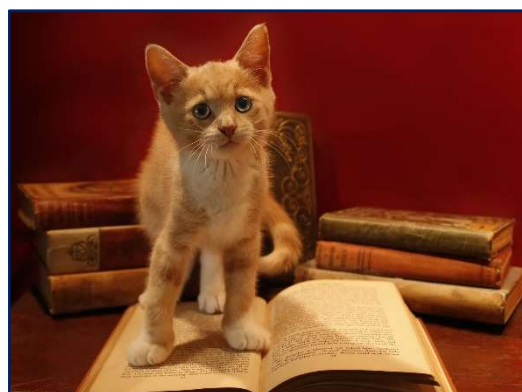
All of us at EndFIP® truly believe: PREVENTION IS BETTER THAN CURE and we know education and awareness are the best weapons we have in the battle against FIP. Since mid-January, I had the pleasure of leading the "FIP Awareness Fridays" program. Every week, a different topic was addressed in a pawsitively easy to understand format and now with the arrival of my favorite season, I will take some time off before re-starting this series on the Luca Fund for FIP Research page: <https://www.facebook.com/LucaFund/>



Before taking off to enjoy Spring and all its beauty, I asked my assistants to help me compile all my notes and organized them purrrty. Below is the result of our work which I hope you will find useful, if you missed some of my posts or if you simply want a refresher course about the topics we focused on.

As always, if you have a specific question or would like me to tackle a

particular FCoV/FIP related matter, please send an email to: reachus@endfip.com and don't forget to write on subject line "Attn: Professor Wills" so your email gets routed to the proper meowmber of our pawsome team.



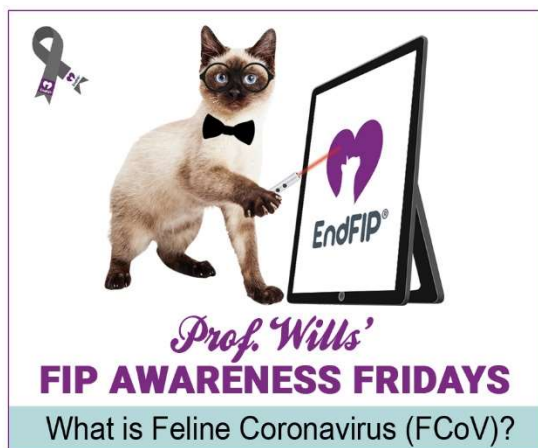
Cheers,

Professor Wills 

www.endfip.com

FIP Awareness Fridays Posts | First Quarter, 2019

Post # 1: Friday 18 January



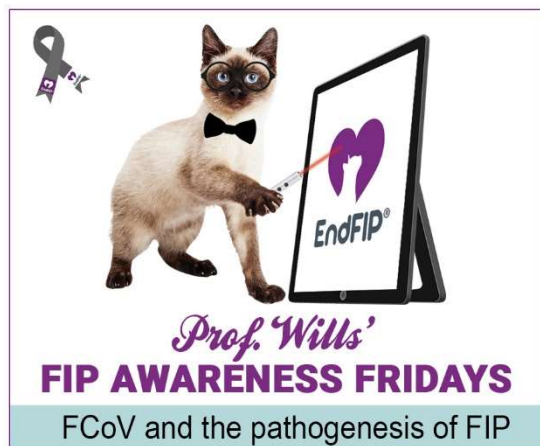
Hello everyone and welcome to the “FIP Awareness Fridays” program. The EndFIP® team thinks I am PURRRFECT to lead this series. I will do my best to make learning about FIP enjoyable. I know, it is a challenging task as behind each FIP loss, there is a sad and heartbreaking story... You think you know a story but you only know how it ends. To get to the heart of the story, you have to go back to the beginning and to permanently end a problem, you need to cut it at its roots. FIP is an unusual consequence - aberrant immune response - to infection with Feline Coronavirus (FCoV). In other words, FCoV is the root of the FIP problem, which is why the EndFIP® project targets FCoV. So... What is Feline Coronavirus (FCoV)?

Feline coronavirus (FCoV) is an enveloped RNA virus. The name coronavirus comes from the shape of the structure which resembles a crown (corona in Latin) when viewed under an electron microscope. The virus (crown) spikes are what attach to the cell when it infects a cat. For those of you who like fancy scientific information, FCoV contains the largest known viral non-segmented RNA genome. It has an enveloped virion which is composed of four major viral proteins: spike, envelope, membrane and nucleocapsid

We all want stories with happy endings, but for cats with FIP, the ending is rarely happy. In that spirit, I will spend the first few weeks of the program sharing information about Feline Coronavirus (FCoV) and how to prevent infection. Paws down: NO FCoV = NO FIP!

Want to learn more about FCoV. Visit: <http://www.endfip.com/etiology/>

Post # 2: Friday 25 January



Happy Friday! Last week, we learned what is FCoV. Today, let's paws and dig a bit deeper.

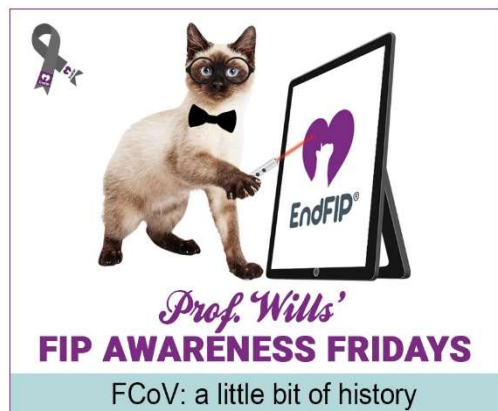
FCoV is a virus of the gastrointestinal tract. Most infections are either asymptomatic, or cause diarrhea/mild intestinal upset, especially in kittens as maternally derived antibody wanes at between 5 and 7 weeks of age. Feline coronavirus (FCoV) is endemic globally and perhaps you are wondering why some cats developed FIP whilst the vast majority of FCoV infected cats thankfully don't.

The pathogenesis (fancy word meaning the manner of development of a disease) of FIP is complicated: the reductionist view is that it is entirely due to mutation of the virus. Whilst this internal mutation theory is the most widely accepted, no consistent mutation has been identified. The holistic approach is that FIP occurs as a result of a number of factors, including viral load and the immune status and general health of the cat.

Want to learn more about FCoV and the pathogenesis of FIP. Visit: <http://www.endfip.com/virus-pathogenesis/>



Post # 3: Friday 1 February



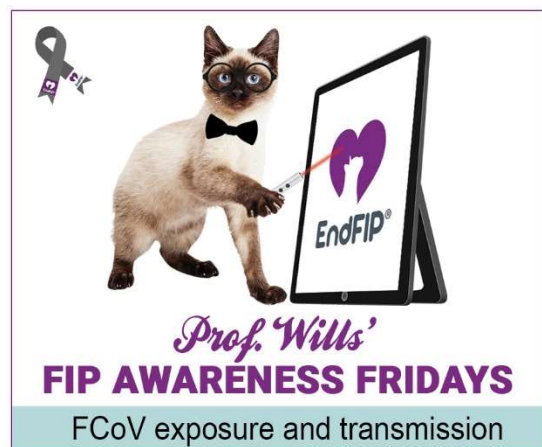
Can you believe February is already here? I hope this series is a pawsitive experience for you all. My first post mentioned the importance of going to the beginning of a story and today I want to take you back in history. A few decades to be purrrrrcise

In 1963, American veterinarian Jean Holzworth first described a peritonitis in cats which caused the abdominal cavity to fill up with fluid. The condition appeared to be infectious, hence the name Feline Infectious Peritonitis (FIP). Within a few years, it was recognized that the cause of the disease was a virus: the poorly understood feline coronavirus (FCoV).

FIP is an immune mediated disease and the name Feline Infectious *Peritonitis* is slightly misleading: FIP isn't inflammation of the peritoneum (the lining of the abdomen) it is a vasculitis (inflammation of the blood vessels). The clinical signs which the cat develops depend on which blood vessels are damaged, and in which organ(s) the damaged blood vessels supplied.

Want to learn more about FIP. Visit: <http://www.endfip.com/pet-owners/>

Post # 4: Friday 8 February



Hope you all had a pawsome week! Today, we will discuss how feline coronavirus is transmitted. That's right: How the kitties get infected with FCoV? The virus which causes FIP.

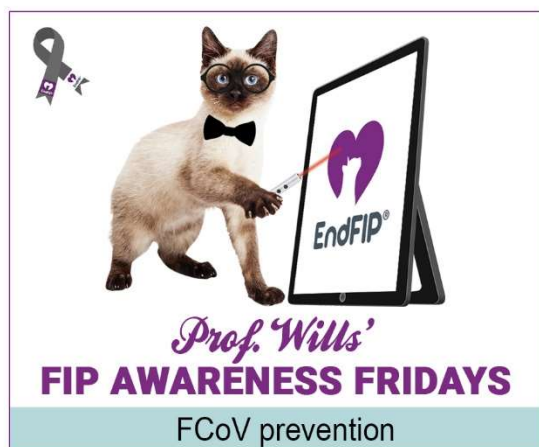
Feline coronavirus (FCoV) is shed in the feces. FCoV infection occurs when cats ingest (or inhale) the virus. FCoV is a very contagious virus and it only takes a tiny speck of cat litter dust from a litter tray previously used by an infected cat for the virus to spread. Therefore, exposure to feces in litter boxes is the most common mode of infection.

FCoV is a relatively uncommon virus in pet cats allowed access to the outdoors and kept in households of one or two cats, but in situations where there are a lot of cats (i.e. breeding catteries, rescue shelters, hoarding situations, etc.) FCoV is endemic, infecting almost all of the corresponding cat population.

Want to learn more about FCoV transmission. Visit: <http://www.endfip.com/virus-transmission/>



Post # 5: Friday 15 February



Love is in the air! This Valentine's Day weekend show your purrrfect kitties how much you love them by preventing them from getting infected with FCoV.

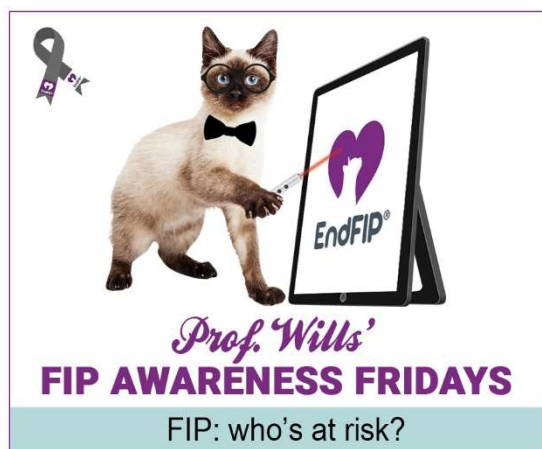
The single best way to prevent FIP is to prevent your cat becoming infected with feline coronavirus. FCoV infection occurs via oral-fecal route, therefore, your best chance of preventing FCoV infection of your cats is: preventing your cat(s) coming into contact with infected cat feces. Litter tray hygiene helps prevent FCoV transmission and minimizes the dose of virus to which a cat is exposed to.

General recommendations to prevent FCoV transmission:

- Have a least one litter tray for each cat that you have (ideally one per each cat plus one more)
- Place litter trays as far away from food and water as possible
- De-clump litter trays at least once per day (ideally twice or more)
- Make it as easy as possible for yourself to clean the litter trays as often as possible (site litter trays in places which you frequent throughout your day)
- Use a non-tracking (clumping) cat litter
- Use a dirt trapper mat beside the litter tray
- Vacuum frequently (at least once a day – ideally keep a hand held vacuum close to the litter trays and vacuum that area as needed)
- Sterilize litter trays with steam or boiling water and disinfectant at least once a week (ideally a mixture of household bleach and hot water in a 1:32 solution. Other options include steam and surgical spirits. Please make sure to avoid any disinfectant containing phenol which is toxic to cats, most pine-based disinfectant contain phenol).
- Trim the hair of back legs and tail (trim the "trousers" of long-haired cats to reduce the chances of feces getting trapped on them).

Want to learn more. Visit: <http://www.endfip.com/pet-owners-4/>

Post # 6: Friday 22 February



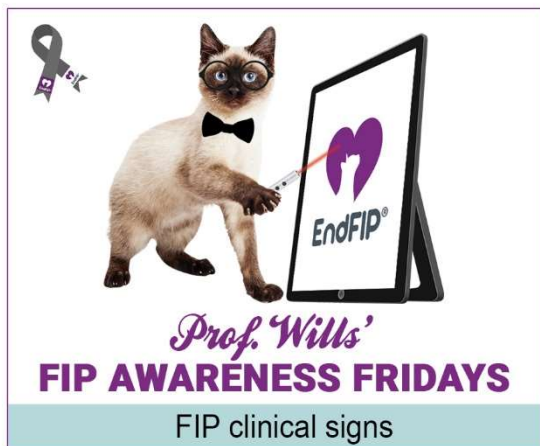
After a few weeks of learning about FCoV and FIP, purrrrhaps you are wondering: *Which cats are more at risk to develop FIP?*

In domestic cats males and females are affected equally. Cats of any age can develop FIP but as you would imagine, cats with the weakest immune system are most likely to develop FIP. This includes kittens, cats infected with FeLV (feline leukemia virus) and geriatric cats. The larger number of cases are in kittens and cats under 2 years of age.

In a cat under 2 years old, with a history of coming from a breeder or rescue shelter, FIP must be suspected when there are vague clinical signs, such as increased temperature (fever), being off food, failure to gain weight (as a kitten) or loss of weight (as an adult).

Want to learn more about this topic. Visit: <http://www.endfip.com/pet-owners-2/>

Post # 7: Friday 1 March



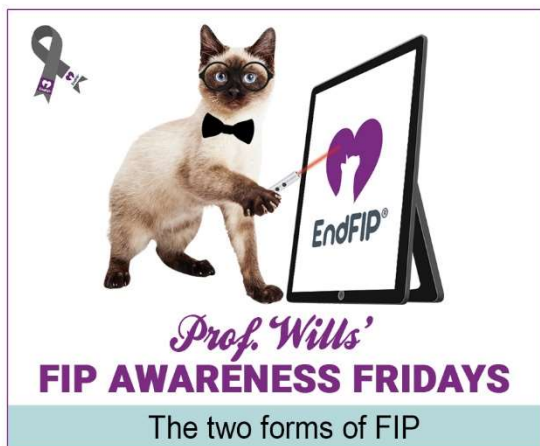
Hope you all had a nice week. March is here and soon Spring will arrive. Today we will discuss the clinical signs of FIP. Sadly, some of you witnessed and dealt with these signs when your fur babies were sick. My heart goes out to you. I pawsolutely believe FIP has NO right to exit!

There are two major forms of FIP. An effusive form, often called “wet FIP”, is characterized by high protein fluid accumulation in body cavities and a non-effusive form or “dry FIP” which is characterized by pyogranulomatous lesions in any body organ or system. Although FIP is separated into these two forms, there is really a gradient between these forms and sometimes signs of both forms can be seen. Signs common to both forms of FIP include fluctuating antibiotic

unresponsive fever, lethargy, anorexia, and weight loss.

Want to learn more about the clinical signs of FIP. Visit: <http://www.endfip.com/pet-owners-2/>

Post # 8: Friday 8 March



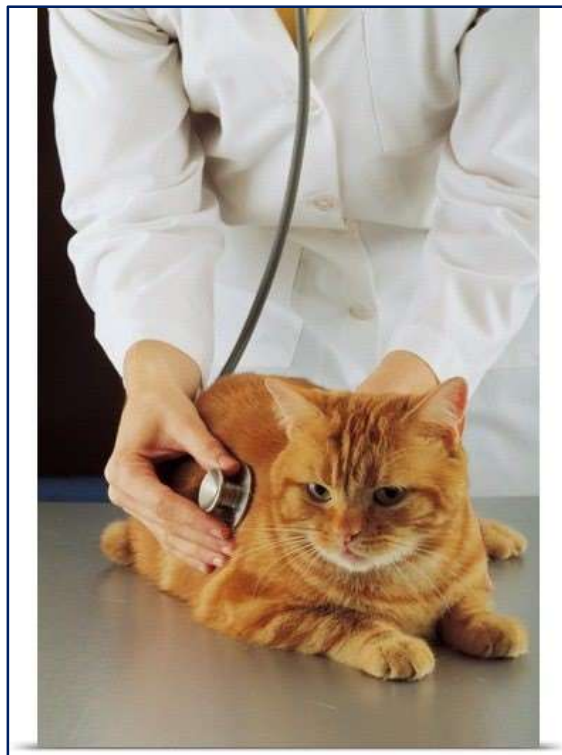
Hello everyone, last week we introduced briefly the clinical signs and the two forms of FIP. Today, we will pawsitively dig deeper and discuss the common symptoms of FIP.

Symptoms of FIP vary greatly from case to case depending on the strain and load of virus involved, each cat's immune system status as well as the organs and/or systems affected. In general, the wet form progress much quicker than the dry form and in both scenarios the cat's body condition takes a toll with the hair coat becoming rough or dull

and the sick cat becoming increasingly lethargic and depressed. Please see below for details:

Effusive or wet FIP

- Persistent and antibiotic unresponsive fever
- Poor appetite
- Lack of appetite
- Weight loss (gradual)
- Diarrhea
- Accumulation of fluid in the chest or abdomen cavities
- Gradual swelling of abdomen (appearing potbellied)
 - Breathing difficulties
 - Sneezing or runny nose
 - Lethargy



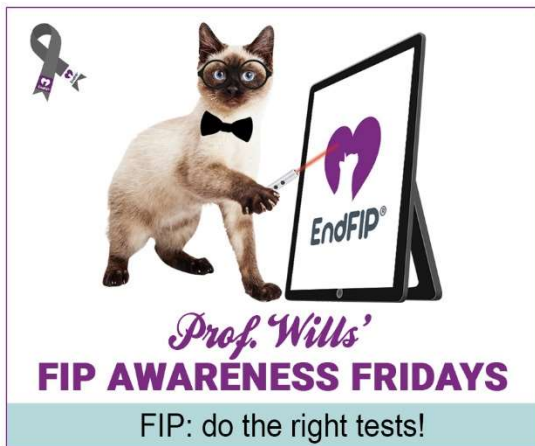


Non-effusive or Dry FIP

- Persistent and antibiotic unresponsive fever
- Poor growth in kittens
- Depression
- Anemia
- Jaundice
- Diarrhea
- Ocular signs, inflammation of various parts of the eye(s)
- Neurological symptoms (i.e. lack of motor skills/loss of ability to use hind legs, loss of vision, etc.)

Want to learn more about the common symptoms of FIP. Visit: <http://www.endfip.com/pet-owners-2/>

Post # 9: Friday 15 March



Happy Friday! Now that you learned about the two forms of FIP and their common symptoms. Purrrrrhaps you are assuming FIP is easy to diagnose. Sorry! Quite contrary, FIP is a notoriously difficult condition to diagnose, many other conditions present with very similar clinical signs. Because we can't rely on any specific test for a diagnosis, we must combine the history, clinical signs, laboratory test results, FCoV tests results and possibly imaging to come to a "probable" diagnosis.

The tests commonly used are:

- Chemistry panels
- Complete blood count (CBC)
- FCoV titer test on blood/serum with dilution <1:25
- FCoV RT-PCR on effusions
- Rivalta test on effusions

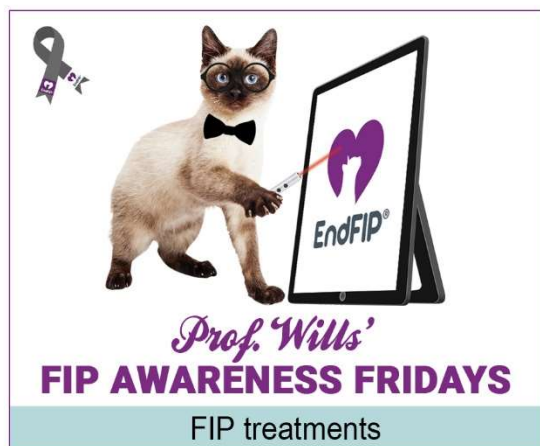
Please visit our files section where you will find the FIP Diagnosis Algorithm designed by Dr. Diane Addie as well as a document describing a recently developed procedure to diagnose Non-Effusive FIP.

Want to learn more about diagnosing FIP. Visit: <http://www.endfip.com/pet-owners-3/>

Looking at the eyes is extremely helpful. If you noticed the third eyelids are protruding more than is normal, that is a sign of gut infection, in most cases FCoV. Other signs of FCoV infection in kittens are mild flu-like signs. Please check whether the kitten is sneezing or if there is a discharge from the eyes.



Post # 10: Friday 22 March



I feel SO pawsome! Spring is finally here. The purrrrrfect time of the year, at least for me, a happy-go-lucky Siamese with no history of allergies. Today I feel like taking the day off and having a pawty but my bosses at EndFIP® told me I need to work so I will post something very brief to address treating FIP.

As FIP treatments are beyond the scope of this group, before signing off and going out to enjoy this beautiful Spring day, I would like to share with you the following link:

<https://www.facebook.com/groups/FIPcare/> If you have a sick cat at home and looking for pawsitively caring support, we recommend the FIP Advisory and Care Group. They provide

advice on FIP diagnostics, tests and treatment options for you cat in a professional and nurturing environment.

Want to learn more. Visit: <http://www.endfip.com/pet-owners-3/>



EndFIP®: A vision and a mission

- Bring awareness
- Raise funds for research
- Eradicate FCoV and end FIP

Help us accomplish our goals. Your donation is both needed and appreciated. EndFIP® is committed to exclusively support research that does not use laboratory cats and does not conduct experimental infection of healthy cats with a deadly virus.

www.endfip.com/donate

www.LucaFundforFIP.com

The Luca Fund for FIP Research is part of the global vision of the EndFIP® project. Your donation to the Luca Fund for FIP Research will be applied to studies conducted at Glasgow University School of Veterinary Medicine. The Luca Fund for FIP Research is a special fund of the American Alumni of Glasgow University. AAGU has been recognized by the IRS as a section 501(c)(3) charitable organization and all donations to AAGU are deductible as charitable contributions to the full extent permitted by law.



www.endfip.com