



## Spring Newsletter



### Spring is nature's way of saying, "Let's Pawty!"

It's time to celebrate the end of winter and the beginning of fresh flowers and sunshine. Springtime is undoubtedly the most loved time of the year when we have a sense of wonderment and renewal. It is that time of the year when the entire world sways to the rhythms of the heart induced by the beauty of nature. You just feel happy and content.

With the awakening nature and all its beauty, springtime also brings "kitten season". Most likely you'd never heard this term before unless you have work for an animal shelter or rescue organization. Kitten season begins in early spring and runs through fall. It is the annual high-breeding period when babies are born to cats who have not yet been spayed or neutered.

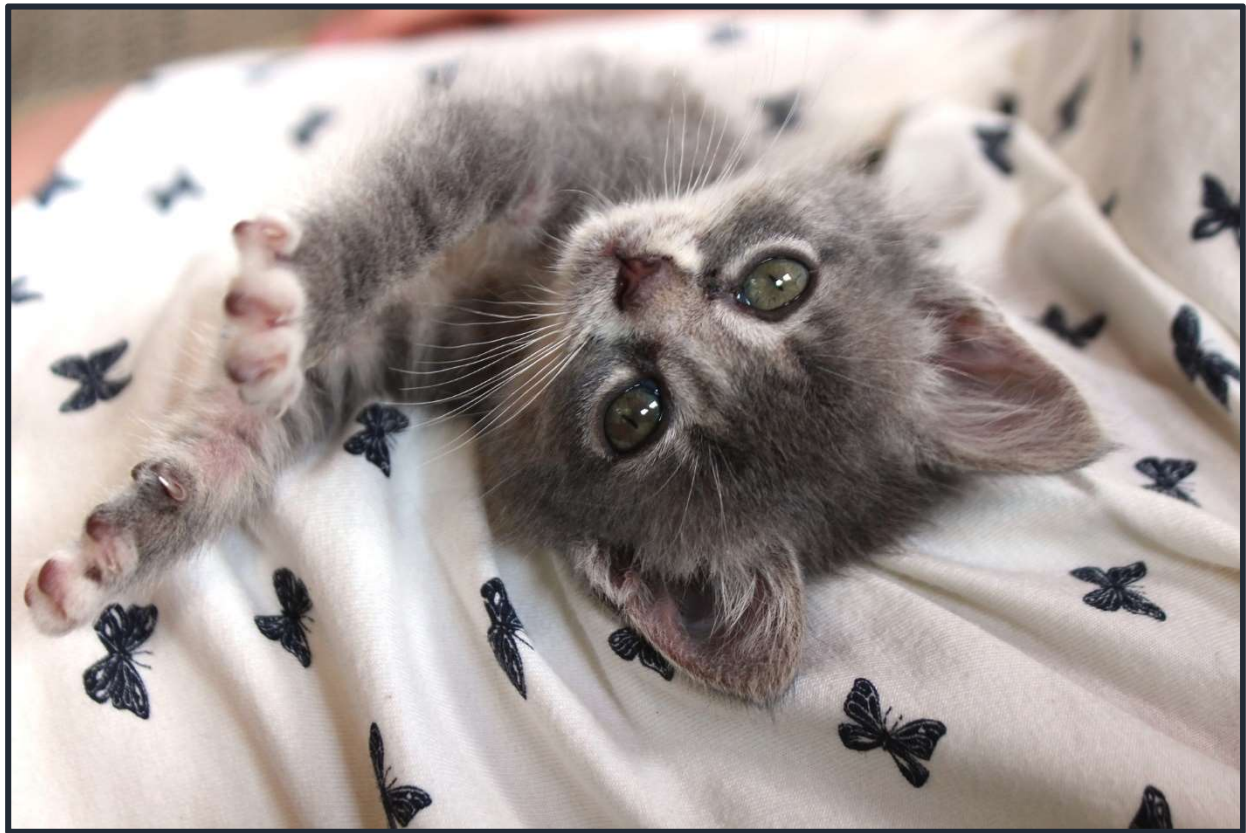




In our minds, “kitten season” is all about the cuteness of sweet, fluffy kittens happily romping around in between flowers on a sunny day, but for shelter workers, kitten season can be the worst time of the year.

Before addressing how to prevent kittens in cat shelters from becoming infected with feline coronavirus (FCoV) the virus that causes Feline Infectious Peritonitis (FIP), all of us at EndFIP® would like to take a moment to recognize and praise people who work or volunteer at animal shelters and in rescue groups.

All of you face unspeakable cruelty and neglect so extreme most people can't begin to comprehend. You repair broken bodies and broken lives every day and in most instances with limited resources. You deal with the emotional ups and downs that surround animals and our relationship with them. Selflessly, you carry on and perform life-saving work every day and we want you to know you are deeply appreciated.



THANK YOU for rescuing me and for making the world a nicer, kinder place!

### ***What is Feline Infectious Peritonitis?***

Feline Infectious Peritonitis (FIP) is a devastating viral disease of cats that occurs worldwide and can affect many systems of the body. It is a progressive disease which carries a high mortality rate. FIP affects both wild and domestic cats and may be the leading infectious cause of death of cats.





In 1963, American veterinarian Jean Holzworth, first described a peritonitis in cats that 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, a coronavirus. Feline coronavirus (FCoV) is undoubtedly one of the most poorly understood feline viruses and the disease it causes (FIP) is unquestionably the most feared disease in any multi cat environment and the most shattering diagnosis for a pet parent to come to terms with.

Most cats infected with FCoV never develop FIP. However, for reasons that we don't yet fully understand, instead of clearing FCoV infection, an unfortunate few cats develop the disease.

### *Why are cats so prolific and why do kittens arrive seasonally?*

An un-spayed female cat typically experiences her first heat cycle (estrus) sometime between five and nine months of age. She will repeatedly come into heat, approximately every two weeks throughout the entire breeding season as she is an induced ovulator (her eggs lie in waiting until 30 to 50 hours following copulation, at which time they are released from her ovaries). She will do whatever it takes to find herself a tomcat and in certain situations she will breed with multiple males.

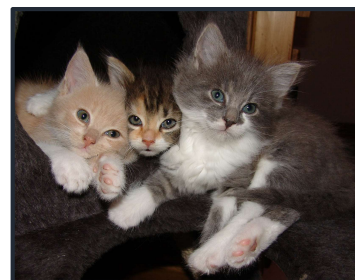


The queen has evolved into a seasonally polyestrous animal, meaning she comes into heat only during a particular time of the year and during the breeding season she is capable of having multiple pregnancies. Queens quickly come back into heat after giving birth, even before their kittens are weaned.

The feline breeding season begins in early spring and lasts throughout the summer months. The rest of the year, the reproductive cycle goes into a state of dormancy, commonly called “anestrus”. In case you are



wondering why it is so important to spay a female kitty before she ever comes into heat, please be aware that if allowed to breed naturally, a queen might easily produce in the range of 50 – 150 kittens over the course of ten years. Sadly, we all know many of these kittens will never find loving homes and when resources are limited, tough decisions are made.



## *Prevention of FIP in cat shelters*

The single best way to prevent FIP is to prevent cats becoming infected with feline coronavirus. FCoV infection occurs via the oral-fecal route. FIP is a major problem in cat shelters thus an understanding of feline coronavirus (FCoV) shedding and rigorous hygiene protocols are the most effective ways to prevent this disease. Stress reduction is also an important factor, since the development of FIP is often preceded by a stressful episode in the cat's life.

The main source of virus is the feces of infected cats and infection is by accidental ingestion of such feces, FCoV is also very readily spread by fomite transmission. Feline coronavirus is a fragile virus, surviving a few days outdoors, but can survive up to 7 weeks in dried up feces in cat litter particles.



As mentioned above, the key to prevention of FIP is to prevent FCoV infection. Largely, this is done by keeping infected and uninfected cats apart, and by excellent hygiene. Please **DO NOT** keep more cats than you have facilities for. Infectious disease is the scourge of cats, and overcrowding is a ticking time bomb.

In many situations, a good network of cat fosterers, each housing only a few cats, is a better system than having a large, central cat shelter: should there be an outbreak of infectious disease (any infectious disease, not just FIP) it will be easier to contain in a foster network situation.

## *Protocol for minimizing FCoV introduction or spread*

- **Reduce the number of cats in any area**
  - In rescue facilities cats should be kept singly (if not possible – not more than 2 cats per cage)
  - Cats should be kept in small groups according to their antibody or virus excretion status
    - Antibody or virus negative cats together
    - Antibody or virus positive cats together
- **Prevention of kitten infection**
  - Rescuers of pregnant cats should follow the “early weaning and isolation” protocol outlined below
- **Reducing fecal contamination of the environment**
  - Have adequate number of litter trays (1 tray per 1-2 cats)
  - Have adequate number of scoopers (1 x each tray)
  - Litter trays should be declumped at least daily (using its own scooper)
  - Use non-tracking litter

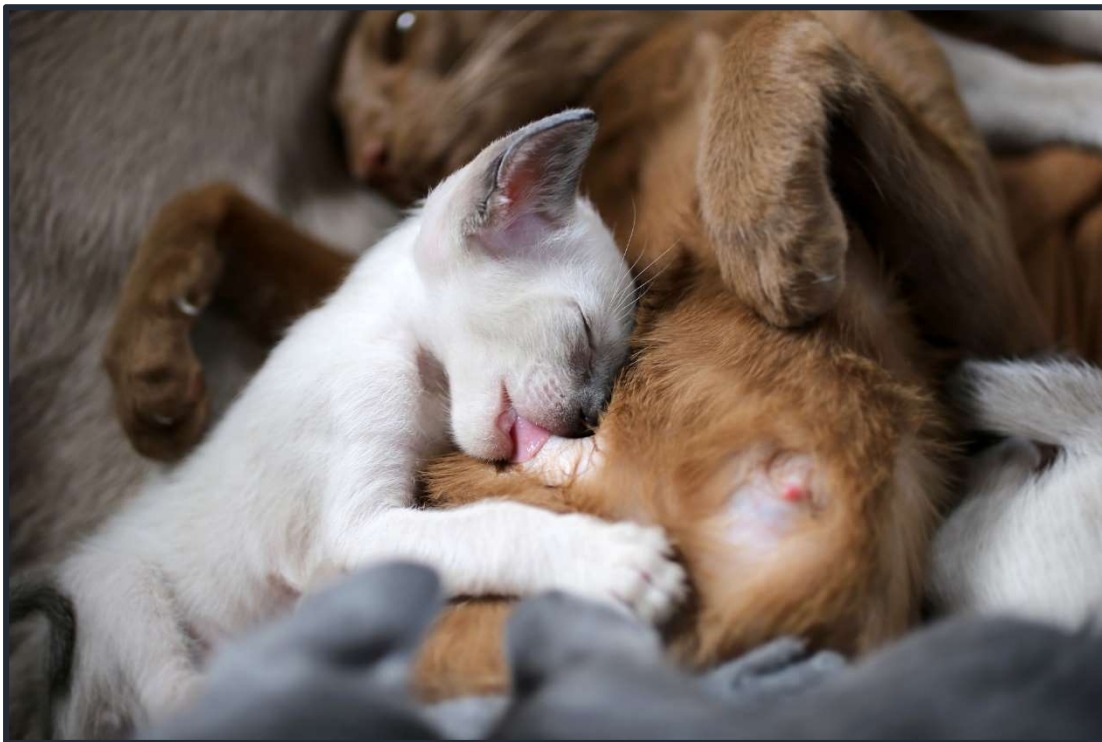




- Remove all litter and disinfect litter trays at least once a week
- Place litter trays away from food dishes
- Wash food and water dishes in hot water (ideally in dishwasher hot cycle – 140F / 60C)
- Wash bedding in hot water (140F / 60C)
- Vacuum around litter trays regularly
- Clip fur off hindquarters of long-hair cats
- Disinfect pens between occupants using 1:32 dilution of sodium hypochlorite (household bleach) and hot water
- Allow pens to lie empty (if possible)
- Vacuum floors diligently and clean with cat friendly disinfectant and steam clean (if possible)
- Please train your personnel and/or volunteers to use disposable gloves and change them regularly (every time they move from cleaning one pen to another)
- Please train your volunteers to notify the employee in charge of the cat facility if any signs of disease are noted in the cats
- Please isolate sick cats to prevent spread of infection (not just FCoV)

### *Keeping kittens safe from FCoV infection*

Feline coronavirus (FCoV) does not cross the placenta to the unborn kitten. Kittens are born FCoV free and are protected from FCoV infection by antibodies they receive in their mother's milk. When these antibodies wane at around 5-7 weeks of age, the kittens become susceptible to FCoV infection and the attendant risk of FIP.



Below is a detailed and ideal protocol to implement to keep kittens safe not just from FCoV, but also from other infectious diseases, while in your care. Every shelter or rescue organization have its own set of challenges, logistics and resources. Please use this protocol as a guideline and adapt it to better fit your specific situation. In some instances, due to financial constraints, very few of the recommended strategies can be feasibly implemented; but, at a minimum detailed hygiene practices must be followed.

## Ideal protocol for prevention of FCoV infection in kittens

- **Prepare kitten pens**

- Disinfect pens between occupants using 1:32 dilution of sodium hypochlorite (household bleach) and hot water
- Vacuum diligently removing any microscopic dust sized particles of infected cat litter
- Color code and dedicate litter trays, food and water bowls to kitten section and disinfect frequently with sodium hypochlorite (1:32 dilution – meaning 1 cup of bleach and 31 cups of hot water). Please make sure to rinse dishes thoroughly in hot water upon disinfecting
- Provide nice, clean, newly washed bedding avoiding any type of chemical smells



- **Practice barrier nursing**

- Deal with the kitten section before tending other cats, meaning, deal with the least infected area of the shelter and gradually move up to the most infected area (i.e. known FCoV shedding cats)
- Clean hands with disinfectant before going into the kitten section
- Have shoes and coveralls (clothes) dedicated to the kitten section
- Very large shelters should have disinfectant foot baths between each major area

- **Early weaning and isolation of kitten**

- Test queen for FCoV antibodies either before or after kitting
- If queen's antibodies titer is greater than zero, the kittens should be removed to another clean pen when they are 5-6 weeks old, or at least keep the queen's litter tray out of the kittens' reach
- If the queen has an antibody titer of zero (FCoV free), she can remain with the kittens until they are older
- Keep kittens isolated from any other FCoV infected cat(s) in the shelter
- At 10 weeks of age, test kittens for FCoV antibodies

Fostering is an excellent option for keeping rescued kittens away from infection as long as fosterers are properly trained and also limiting each fosterer to just one or two litters at a time at their home. By following, even if partially, the advice regarding feline coronavirus (FCoV) prevention, you should find that the prevalence of other troublesome infections will also be reduced.





As we all brace for the impact of “kitten season” it is worthwhile to note that by far, the biggest cause of kitten death in rescue shelters is feline parvovirus, FPV (also known as feline paulekopenia virus, feline entiritis virus and old-fashioned names such as feline distemper, typhus or cat plague). Feline parvovirus is especially nasty because it is mega-tough (not as fragile as FCoV) and can last in the environment for up to a year (not as FCoV which last up to 7 weeks). Very often kittens or adult cats with FPV are just found dead, without even having shown signs of illness. Fortunately, the vaccines against FPV are very good and can be used from just a few weeks of age. However, once again, excellent hygiene practices are the major way to save animals from this killer virus.



On a closing note, we all agree there’s nothing cuter than a kitten; but those who work with homeless animals dread this time of year. Let’s help to slow down this cycle of cat overpopulation and homelessness by doing our part and embracing: spay/neuter and adoption.



We are honored you decided to join the EndFIP® community. EndFIP® has a vision: every cat a healthy cat. We are committed to impart worldwide awareness and understanding of feline coronavirus and we will continue to encourage people to respect the seriousness of FCoV infection and inspire them to create lasting solutions to prevent feline coronavirus (FCoV) infection in multi-cat environments.



We hope you enjoyed this newsletter and will give us your feedback, which is truly a gift that help us improve every day. We are available at: [reachus@endfip.com](mailto:reachus@endfip.com)

[www.endfip.com](http://www.endfip.com)

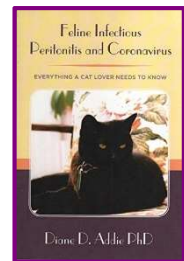


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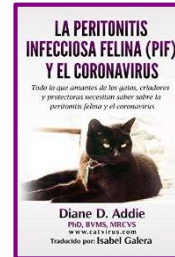
[www.endfip.com/shelters/](http://www.endfip.com/shelters/)

Buy Diane Addie's book Feline Infectious Peritonitis and Coronavirus which is available at Amazon.



Dr. Addie's book is an invaluable resource for every cat lover who wants to learn about Feline Infectious Peritonitis and Coronavirus. [Buy now.](#)

Dr. Addie's book is also available in Spanish at Amazon. [Buy now.](#)



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](http://www.endfip.com/donate)

[www.LucaFundforFIP.com](http://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](http://www.endfip.com)