



FIP WARRIORS®

COMPOUNDED GS-441524 CANADA TREATMENT COMPANION

**General Guidance for Treating FIP Using
Veterinarian-Prescribed GS**

Compiled by FIP Warriors®
Under the Supervision and Approval of Dr. Niels Pedersen, DVM PhD

DISCLAIMER

Please be advised that this guide is to be used for informational purposes only. It does not offer any guarantee of warranty of any kind.

We are primarily cat parents whose cats are/were affected by FIP for which available effective treatment is newly available in Canada via vet-prescribed compounded GS-441524. We are simply sharing information that is otherwise available on the internet.

Please discuss and confirm ALL medications and treatment decisions with a licensed veterinarian before proceeding with FIP treatment.

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INTRODUCTION

*Since February of 2024, imported GS-441524 has been available in Canada through the Emergency Drug Release Program (EDR). Since November of 2024, veterinarians in Canada have been able to prescribe **pharmacy-compounded GS-441524**.*

Currently, it is available in two oral formulations; capsules and oral suspension (liquid).

THE ANTI-VIRAL GS-441524, OR SIMPLY "GS", CURES 85-90% OF CATS PROPERLY TREATED WITH IT

- Dr. Niels Pedersen's, life-long research and dedication lead him to discover that GS cures FIP
- GS and Remdesivir (which you may have heard of for treating Covid in humans) are closely related and nearly chemically identical
- ANY VETERINARIAN can prescribe GS and have the order filled in one of the participating compounding pharmacies
- For support please join: <https://www.facebook.com/groups/fipwarriorscanada>
- Veterinarians please join: <https://www.facebook.com/groups/572767364988893>

HOW IS FIP DIAGNOSED?

- As there is no single definitive test for FIP at this time, looking at the symptoms the cat is presenting with, blood work results, cat's age, breed, environment (is it a stressful environment?) along with any diagnostics such as x-rays, ultrasound, fluid PCR testing on ascites or pleural fluid, a diagnosis can be reached with confidence.

DO NOT RELY ON TITERS OR ANY CORONAVIRUS TEST - THEY CANNOT AND DO NOT DIAGNOSE FIP

- Vets may decide to treat diagnostically - which means putting the cat on GS without a FIRM diagnosis. If improvements occur, you are likely on the right track. Waiting for extensive diagnostic results before starting treatment can be catastrophic so it's recommended to start as soon as FIP is being considered.

The exact dosing is determined by several factors:

- TYPE OF FIP
- CAT WEIGHT
- CONCENTRATION OF GS MEDICATION
- CO-MORBIDITIES THAT MIGHT REQUIRE HIGHER DOSING

DURATION OF TREATMENT

- Treatment is generally 84 days, however this is not automatic as some cats may need to be treated longer based on their blood work and clinical state.
- Do NOT stop treatment without doing final blood work reviewed by your vet and care team.
- After a cat has been cleared to begin the 12 week observation period, (ended treatment), cat is then monitored for 84 days for any signs of relapse. Relapses could present as the original symptoms which lead to the FIP diagnosis or any other signs of cat not feeling well. Alert your veterinarian and care team should anything of concern arise during observation.
- If no relapse occurs during the 84 days of the observation period, the cat will then be considered cured.



GENERAL DOSING GUIDELINES FOR COMPOUNDED ORAL GS

Compounded oral GS options state the **TOTAL** amount of GS in each pill, capsule or mL of oral suspension. 50% of the total amount is considered the **BIOAVAILABLE** amount*

THE RECOMMENDED PHARMACY-COMPOUNDED ORAL PROTOCOLS AS FOLLOWS:**

- 15mg/kg for Wet or Dry FIP
- 20mg/kg for Ocular or Neurological FIP
- 25mg/kg for Severe Ocular or Neurological FIP

IF CAT IS FIV+, FELV+ OR RECEIVED A SHOT OF DEPO-MEDROL, CONSIDER ADDING 5MG/KG TO THE DOSAGE. FOR MULTIPLE CO-MORBIDITIES, DISCUSS DOSAGE WITH YOUR VET AND CARE TEAM.

IMPORTANT INFORMATION ABOUT GIVING ORAL GS

- Ideally, the cat should fast overnight prior to taking oral meds and for one hour after taking them. (A small squeeze treat or pill pocket can be used to give pills or capsules.)
- Do everything possible to NOT miss any doses.
- GS should be given every day within an hour on either side of the set time.
- Dose should NOT be split unless dose is SO high that giving all at once makes the cat nauseous.
- Pills and capsules should not be crushed or dissolved; it's best to give them whole.
- Some kitties may need 2 doses a day, 12 hrs apart, for the first 3-5 days of treatment.
- Although vomiting is not a common side effect, if the cat vomits please follow this guidance:
 - Vomiting within 0-1 hours after pills = give another full dose
 - More than 1 hour after pills = no need to redose
- Dose needs to be adjusted up for weight gain or if new symptoms are observed.
 - Please alert your veterinarian and care team to all weight gain.
 - Dose is NEVER adjusted down for weight loss.
- If your cat has a feeding tube, please obtain instructions from your vet regarding administration of oral GS.

HELPFUL LINKS ON PILLING FOR PET OWNERS

Using a towel to wrap your kitty like a burrito to administer medications can be helpful

<https://www.dropbox.com/s/7qj7ejcm34i5z7f/Pilling%20A%20Cat%202.mp4?dl=0>

<https://www.dropbox.com/s/dpq79akactll06c/CatTakingCapsules.mp4?dl=0>

<https://youtu.be/3bJ5qs9kOw0?si=jfSlgQysX3xeKZE7>

* <https://pmc.ncbi.nlm.nih.gov/articles/PMC10458979/>

** <https://pubmed.ncbi.nlm.nih.gov/36366527/>

GENERAL DOSING GUIDELINES FOR INJECTABLE REMDESIVIR (REM)*

*CURRENTLY ONLY INJECTABLE REMDESIVIR IS AVAILABLE THROUGH THE EDR (EMERGENCY DRUG RELEASE) IT'S HIGHLY LIKELY THAT COMPOUNDED INJECTABLE GS WILL SOON BE AVAILABLE THROUGH PHARMACIES

INJECTABLE REMDESIVIR states the **TOTAL** amount of medicine per mL in each vial.

RECOMMENDED REMDESIVIR **INJECTABLE** DOSING IS:

- 12mg/kg for WET FIP
- 20mg/kg for DRY FIP
- 20mg/kg for OCULAR or NEUROLOGICAL FIP
- 26mg/kg for SEVERE/SEIZURES

RECOMMENDED GS **INJECTABLE** DOSING IS:

- 6mg/kg for WET FIP
- 10mg/kg for DRY FIP
- 10mg/kg for OCULAR or NEUROLOGICAL FIP
- 13mg/kg for SEVERE/SEIZURES

IF CAT IS FIV+, FELV+ OR RECEIVED A SHOT OF DEPO-MEDROL, CONSIDER ADDING 5MG/KG TO THE DOSAGE. FOR MULTIPLE CO-MORBIDITIES, DISCUSS DOSAGE WITH YOUR VET AND CARE TEAM.

IMPORTANT INFORMATION ABOUT GIVING INJECTABLE REM OR GS

- If the cat is on **INJECTABLE REM** or **GS** and part of the dose leaks after injecting, re-administer 1/2 the total dose
- If the cat is on **INJECTABLE REM** or **GS** and most of the dose leaks after injecting, re-administer the full dose
- Leaks of **INJECTABLE REM** should be cleaned off of the fur and skin with mild soap and water and rinsed well

HELPFUL LINKS ON INJECTING FOR PET OWNERS

Using a towel to wrap the cat like a burrito to administer medications can be helpful.

How to get medication in syringe:

<https://m.youtube.com/watch?v=jCG3Aupy6z4>

Shots and purrito wrap:

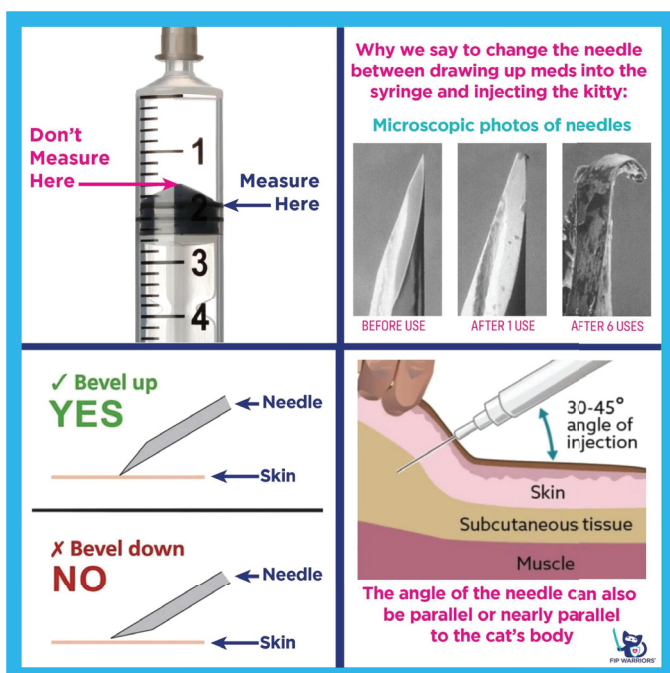
<https://www.youtube.com/watch?v=hCUMeGEO79Y>

Dr. Pedersen demonstrates shots:

<https://www.youtube.com/watch?v=okZ4V3JbCgo>

Purrito:

<https://www.youtube.com/watch?v=9LiyxRXoJtA>



SUPPORTIVE CARE

SUPPORTIVE CARE IS CRITICAL TO AN FIP PATIENT'S SURVIVAL

- ! The cat must maintain a minimum temperature of 99.5°F, do NOT feed if body temp is below 99.5°F. Normal cat temperature is between 99.5-102.5°
- ! The cat MUST get between 200 (adult cats) - 250 (kittens) calories a day
- ! If the cat is not eating on its own, cat must be syringe fed. The following is recommended for syringe feeding:
 - Tiki cat baby thrive (available at most pet stores)
 - Tiki baby functions mousse, (available at most pet stores)
 - Tiki cat veterinarian solutions (available through your vet by rx)
 - Gerber baby food - Stage 2, meat only (available at your local grocery store)
 - Hills A/D Urgent Care (available through your vet)

NEVER SYRINGE PLAIN WATER DUE TO RISK OF ASPIRATION

THE FOLLOWING MEDS CAN BE HELPFUL - PLEASE ASK YOUR VET:

- **PREDNISOLONE** (steroid for the first 1-2 weeks of treatment at guiding vet's discretion)
NO DEPO MEDROL SHOULD BE GIVEN (For cats with cardiac issues, discuss with vet BEFORE using steroids.)
- **CERENIA OR ZOFRAN** (pill form) anti nausea medication - FIP can cause nausea even if the cat is not vomiting.
- **MIRATAZ** (transdermal) an appetite stimulant to be used as needed.
- If the cat is dehydrated please discuss adding subcutaneous fluids to treatment with your veterinarian.

SUPPLEMENTS & ADDITIONAL MEDICATIONS:

- **L-lysine is NEVER recommended during FIP treatment.** Cats with FIP are immune compromised and the use of L-lysine during treatment may negatively impact their immune system making them more susceptible to other bacterial, fungal and viral infections.
- Probiotics can be beneficial during treatment. Visbiome, Provable, ProFlora or Fortiflora Pro are all good options. (Please consult with your vet and care team when deciding to add any supplements)

Please discuss the use of any and all medication and supplements with your veterinarian and care team.

FOR CATS WITH WET FIP - TO DRAIN OR NOT TO DRAIN

- **BELLY FLUID: DO NOT HAVE ABDOMINAL FLUID DRAINED.** Please discuss with your vet & care team.
- Draining all the abdominal fluid is very risky and can cause your cat to go into shock which may not be survivable.
- If fluid must be drained it should be no more than 20-30% and only if your cat's belly becomes so full that eating, bowel movements or breathing are affected.
- **CHEST FLUID ABSOLUTELY MUST BE DRAINED** if cat's breathing is labored. This fluid can be drained completely.
- Consider running cytology on the fluid as well. This will provide information such as the protein content and composition of the fluid. PCR tests on FIP fluid can result in up to 30% false negative results which is why not much attention is paid to negative results if other factors are pointing to an FIP diagnosis.



WHAT REQUIRES A TRIP TO THE EMERGENCY VET/VET OFFICE

- ! Labored breathing, excessive panting, persistent cough
- ! Gums that are not their normal pink such as white, gray, or blue
- ! Seizures, loss of consciousness, or any strange behavior
- ! Diarrhea, if continuously bloody or cat crying while pooping
- ! Excessive sleepiness (cat can not be awakened, is unresponsive)
- ! Vomiting, if persistent, bloody, or kitty is continuously dry heaving
- ! Pain. If kitty is crying or is painful to the touch
- ! Body temperature below 98 degrees fahrenheit (37 degrees celcius)
- ! If cat has not urinated in 24 hrs (sometimes they will urinate in other places like their bed or blanket).

If you observe any of the above in your cat, head to nearest ER immediately. If you are working with an Admin care team, reach out if any of the above things are happening with the cat so they know you are headed to the ER.

COMMUNICATION IS KEY

Please reach out to your veterinarian and care team about any changes in your cat's overall condition.

For example:

- Cat is not gaining weight
- Cat is refusing to eat or eating habits have changed significantly
- Changes in cat's gait, wobbly walking, kitty is unable or hesitant to jump
- Eye cloudiness or discharge or change in pupil size
- Any changes to your cat's skin
- If cat is sneezing or coughing
- Litter box issues such as incontinence or inappropriate urination (peeing outside the box)

Cat should be weighed often, ideally every 2-3 days around the same time using the same scale.

It's recommend to use a digital baby scale (available at fipshop.ca Amazon, or elsewhere)

- Please check in with your vet as needed and your care team at least once a week to update and review progress.
- If you are taking your cat to the vet or if any new medications are prescribed, please alert your care team before starting them as some medications are not recommended with GS.



BLOODWORK & RECOMMENDATIONS FOR TRACKING PROGRESS

Blood work (CBC and a chemistry panel) is recommended to be done at the following times:*

- Week 4 (Day 28-30)
- Week 8 (Day 56-60)
- Week 12 (ideally between day 80-82 so results are in by day 84)

*If this bloodwork schedule is not feasible for financial reasons please let your vet and care team know so other arrangements can be made.

DO NOT STOP TREATMENT UNTIL YOUR VET & CARE TEAM HAVE REVIEWED WEEK 12 BLOOD WORK RESULTS

THE FOLLOWING BLOOD WORK VALUES SHOULD BE IMPROVING THROUGHOUT TREATMENT:

- **Neutrophils and Lymphocytes** around a 50/50 ratio or below 8,000 for each.
- **Eosinophils and Monocytes** in normal range
- **Total Protein** in normal range
- **Albumin** at at least 3.0
- **Globulins** under 5.0
- **A/G ratio** at or close to 0.8 (MINIMUM 0.6)
- **Bilirubin** in normal range
- **Liver and kidney** values in normal range
- **Anemia** resolving

BLOOD WORK AND CLINICAL SYMPTOMS SHOULD ALL BE CONSIDERED WHEN MONITORING PROGRESS

SURGERIES/PROCEDURES/SPAYING, NEUTERING

- Please discuss with your vet (and alert your care team) if your cat is not spayed or neutered.
- 8 week blood work must show improvement and cat should not have any concerning clinical symptoms.
- Ideally procedures are done during week 9-10 (day 60-70) of treatment to ensure a full 2 weeks of GS follow.
- Alternatively, the cat can wait until after the observation period is done or extend treatment by 2 weeks post-surgery.

VACCINES DURING TREATMENT, OBSERVATION AND BEYOND

QUESTION: WHEN IS IT OKAY TO VACCINATE MY CAT?

Before making a decision, please discuss the risks/benefit of vaccinations with your veterinarian.

ANSWER: (FROM SEVERAL FIP WARRIORS VETS):

"There are many different answers, but if a cat has received ALL of its kitten shots including a rabies vaccine, then the cat can wait a year from cure date to revaccinate or even skip vaccinating altogether."

"Personally, I am making all my patients wait a whole year then will booster their vaccines and go every 3 years for boosters. If a cat goes outdoors daily that increases health risks so then I'd probably want to vaccinate more often."

"If cat has zero (0) rabies vaccines and needs one, I would still wait 6 months from cure date. If as a kitten, 2-3 FVRCP vaccines and a rabies vaccine were given prior to getting FIP they are good for a year or more."

"If kittens with zero (0) or only one (1) FVRCP and zero (0) Rabies are responding well to FIP treatment, strongly consider an initial FVRCP vaccine and 3-4 weeks later, an FVRCP booster. I would use a mild immune booster - such as *ProBoost* <https://www.fipshop.ca/product-page/proboost-thymic-protein-a> - around the vaccines and I would do vaccines at 10 days apart of anything else like deworming or anti-flea treatment."



IMPORTANT ADDITIONAL NOTES

- **You should see some positive changes within 24-48 hours**, most clinical symptoms resolve within 2-4 weeks.
- If you do not see any changes in first few days please alert your vet and care team.
- During treatment it is very important not to make any changes to your cat's lifestyle and try to minimize stress as much as possible. Big parties, overnight guests, trips & vacations as well as the trips to the vet or anywhere else (if you travel with your cat) should be done only when absolutely necessary.
- It is not recommended to vaccinate, have surgeries or deworm unless there is a specific need. Always discuss and assess that with your vet and care team.

SUPPLIES SUGGESTED FOR USE DURING TREATMENT

These can be purchased through fipshop.ca or elsewhere:

- Kitten or cat scale
- Quick read-digital thermometer and lubricant to use with the thermometer
- Needles, syringes, alcohol prep pads, sharps container if starting with injections
- Churus or your cat's favorite squeeze treats/pill pockets
- Syringes for assisted feedings if needed

ENDING TREATMENT/GRADUATING INTO OBSERVATION

- The observation period following FIP treatment is 12 weeks or 84 days.
- Once cat has received 84 days (minimum) of treatment and been cleared for observation (based on blood work results and clinical improvements), monitor the cat for any signs of relapse or illness **over the next 12 weeks**.
- During observation, please continue to monitor cat's weight, appetite and energy level.
- If during this time you see ANY changes including fever, loss of appetite, lethargy, loss of balance or any other prior symptoms of FIP please reach out to your vet and care team immediately.
- Please note these symptoms do not always mean a relapse but should not be ignored.
- Bloodwork is recommended halfway through treatment as well as at the end of the observation so the cat can confidently be declared CURED of FIP.

CURED CAT - WHAT NOW?

- As your cat is now considered cured of FIP, you can go back to annual wellness visits and discuss resuming vaccines with your vet.
- No further medications or supplements are required UNLESS prescribed or recommended by your vet.

ADDITIONAL RESOURCES / LINKS

<https://everycat.org/>

<https://www.fiptreatmentsupport.com/>

<http://sockfip.org>

<https://www.zenbycat.org/>



WHY MOLNUPIRAVIR (EIDD2801) & EIDD-1931 ARE NOT RECOMMENDED OVER GS-441524 AS THE FIRST LINE OF TREATMENT FOR CATS WITH FIP EVER

1. Knowledge of its usage is far less than for GS-441524.
2. There's a narrow range of dosages that are high enough to be effective for a given cat but not so high as to be toxic. The high toxicity means there's little room for error when dosing.
3. Potential adverse effects include cytopenia, especially neutropenia, rarely pancytopenia, reduced appetite/nausea, increased ALT enzyme activity and, potentially, renal compromise as well as mutagenic side effects with unknown outcomes.
4. It can cause immunosuppressive side effects aka low WBC - it shouldn't be a first choice of treatment unless the cat has already been treated with GS at doses >60mg/kg (30mg/kg absorbable) and showed resistance.
5. Molnupiravir (EIDD-2801) has been shown to impair bone and cartilage growth. For this reason, it's not recommended for use in human children and therefore not in young cats and kittens either. Ongoing studies will evaluate if bone and cartilage impairment/toxicity is found in cats. There is a report of a cat that was treated with Molnupiravir in 2021 and showed open physis at 2 years of age - well past the point this should occur.

Veterinary feline experts who specialize in FIP, still refer to GS-441524 as the "gold standard" when it comes to treating cats for with FIP. This is due to a number of factors, including a lack of studies on Molnupiravir/EIDD-1931 and the potential side effects of EIDD-1931. It is much safer to increase the dose of GS-441524 than it is to increase the dose of EIDD-1931. There is also evidence in humans treated for COVID that resistance to Molnupiravir/EIDD-1931 develops more quickly than with GS-441524. (Dr. Sally Coggins, FIP Update 2024)

"It doesn't appear to have the same safety margin as GS-441524...We can't just keep giving more if it's not working, whereas with GS441524, quite often we will escalate doses considerably higher than those maintenance doses. With Molnupiravir, we need to be a lot more judicious in terms of the actual dose that the animal's receiving."
– Dr. Sally Coggins, FIP Update 2024

"My preference is still GS-441524. I do still think that's the better and probably safer drug. So if it's not cost prohibitive, keep them on GS-441524 orally" – Dr. Sally Coggins, FIP Update 2024

USE OF EIDD SHOULD BE RESERVED FOR:

- Cats failing to respond to treatment with GS-441524 or Remdesivir despite adequate dosage (ideally assessed with TDM)
- Cats relapsing after treatment with GS-441524 or Remdesivir at adequate dosages.

Sources:

<chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.stokespharmacy.com/wp-content/uploads/2024/05/FIP-Update-2024-Vet-Vault-clinical-podcast-Sally-Coggins.pdf>

<https://www.stokespharmacy.com/wp-content/uploads/2024/05/FIP-Update-2024-Vet-Vault-clinical-podcast-Sally-Coggins.pdf>

