

Behaviour Tips: So your vet prescribed a Selective Serotonin Reuptake Inhibitor (SSRI) for anxiety, what should you know?

What are they, and how do they work?

Selective Serotonin Reuptake Inhibitors (SSRIs) are commonly used in companion animal behavioral therapy for a variety of diagnoses including anxiety disorders, separation anxiety, reactivity, obsessive-compulsive disorders, aggression, and phobias. SSRIs work by blocking reuptake of the neurotransmitter serotonin, increasing its concentration at neurons present throughout the body. Since SSRIs work on receptors throughout the body, they are able to be used in the treatment of a wide variety of behavioral disorders. Commonly recommended SSRIs include fluoxetine, paroxetine, sertraline, fluvoxamine, citalopram and escitalopram. Fluoxetine is the only SSRI to come in a formulation especially for pets.

The serotonin tracts' distributions are associated with calm and outgoing behaviors, and the facilitation of social interactions, coping mechanisms, and adaptability. These traits are promoted when given an SSRI. This class of medication is also commonly used to help promote learning by decreasing the anxiety that interferes with it. Interestingly, SSRIs are considered 'translational' compounds, meaning they facilitate the translation of new gene products into proteins that enhance learning.

Examples of SSRIs used in veterinary medicine include fluoxetine, sertraline, paroxetine, citalopram, and escitalopram. You may have noticed that some SSRIs are said to be used "off label". This means that they are used outside of their intended use. When used off-label in dogs for the same concerns as humans, these medications are generally effective.

Adverse events are rare and we know a lot about toxicity of large dosages in dogs thanks to human studies.

While these medications will help decrease your pet's anxiety, it is critical to implement behavioral modification techniques to teach your dog new behaviors now that their anxiety is no longer interfering with their ability to learn. SSRIs will NOT accomplish what an entire treatment plan composed of medication and behavioral modification can. Medication administration will allow your pet to succeed at behavioral modification training! Please reach out to positive reinforcement trainers in your area for guidance on this process.

How do I know the medication is working?

If the medication is working, you will notice that your pet appears calmer with less scanning, vigilance, tension and startle.

They will be more attentive to you rather than to their surroundings and sleep better with fewer disturbances. Overall, there will be a lightening of spirit, and fewer concerns. To properly assess the medication's effectiveness, your pet must be treated for a minimum of 8 weeks. It takes 3-5 weeks to begin the translational molecular changes needed and it can take up to 8 weeks to tell whether a medication is working for your pet or if you need to try something different.



Side effects/Adverse events

Due to their selective receptor actions, SSRIs typically have few side effects. However, uncommon side effects do still occur. Some side effects may be managed, while others may require discontinuing the medication. It is important to be aware of these side effects and to reach out to your family veterinarian if any are recognized in your pet.

The most common side effects noted are increased sleepiness, gastrointestinal signs (e.g. mild diarrhea, occasional vomiting, changes in appetite, etc.), increased thirst, elevated heart rate, and panting. Signs typically resolve within a few days of starting treatment. If they do not resolve, your veterinarian should be contacted to reevaluate your pet's treatment plan.

More serious side effects include seizures and other persistent neurological abnormalities (e.g. staggering, noise sensitivity, agitation, etc.). These signs may require discontinuing the medication and should be reported to your veterinarian or an emergency clinic promptly.

SSRI Withdrawal

Similar to humans, sudden discontinuation of SSRIs may result in signs of withdrawal. These may include dysphoria (restlessness), irritability, increased

noise reactivity, anxiety, and lethargy. To prevent these side effects, gradual withdrawal is recommended.

Serotonin Syndrome

A more serious, rare side effect is something called serotonin syndrome. This is when a dog or cat has a burst of serotonin, with clinical signs resulting from an excess amount of serotonin accumulating in the central nervous system. This serious adverse event can occur



if you increase the dose of your dog's or cat's current SSRI in excess of what that patient can tolerate, if your dog or cat starts taking a new drug that interacts with the SSRI (and many medications affect serotonin), or your dog or cat accidentally eats a large amount of their medication. The most commonly reported reason for serotonin syndrome is that the dog ate the entire bottle of theirs or their human's medication.

Signs of serotonin syndrome include nausea, vomiting, salivation, and hyperthermia (drastically increased temperature). Clinical signs are dose-dependent. Higher concentrations of serotonin may result in tremors, muscle rigidity, hyperthermia, diarrhea, seizures, and ataxia (the animal may seem wobbly and disoriented). Serotonin syndrome is quite rare, but it is important to contact your veterinarian immediately if any of these signs occur or if there are any concerns.

To allow for early intervention, your pet's pulse rate should be monitored both when resting and after activity to establish a normal range. You can do this by feeling for a pulse on the inside of your animal's thigh, using a stopwatch, and counting the beats over 60 seconds. If the pulse rate increases above 160 beats per minute, the SSRI contact your veterinarian immediately.

Drug Interactions

It is important to be aware that SSRIs have the potential to interact with other medications. Because of this, it is essential to inform your veterinarian that your pet is on an SSRI when they prescribe new medications to ensure that there are no interactions. Never give your pet additional medications or supplements without first consulting your veterinarian.

Summary

Long term treatment with SSRIs decreases anxiety, helps patients to think more clearly and learn new tasks better, improves decision making and quality of life, and can decrease stressful responses, in general. Treatment may or may not be life-long depending on the condition and the patient, but weaning and medication changes should only occur in consultation with your veterinarian.

Although this is informative and helpful, please discuss any behavioral/medical concerns with your local veterinarian. For all cases where you still have concerns, seek specialist services (www.dacvb.org). At AVC you can contact the AVC Behavioural Medicine Service (AVCBehaviouralMed@unpei.ca).

For more detailed information on the use of behavioral medications, please refer to Dr. Karen Overall's Protocol for Using Behavioral Medication Successfully: <https://www.karenoverall.com/protocol-for-using-behavioral-medication-successfully/>

