



## **HORMONES DON'T LIE, THEY TAKE CONTROL!**

- There are many different hormones that help your dog deal with the stress at hand to keep him safe from danger.
- These hormones help him mobilize his body for the flight or fight response, control and are controlled by every organ in his body, whether he can eat, drink, procreate, and even down to how thick his blood is at any given moment.

## **WHAT DOES THIS HAVE TO DO WITH PANIC OR AGGRESSION?**

There are two parts of the Autonomic Nervous System (ANS) that get body parts flowing in one direction or another.

- **The sympathetic nervous system is the “action” part of the ANS.**
  - It prepares the body to fight or flee from danger (real or imagined).
  - It also generates alertness, arousal, muscle tension in preparation for action, as well as inhibits salivation and digestion, accelerates heartbeat, and starts the endocrine system for the secretion of certain stress hormones.
  - Many of these hormones even blunt physical pain—you can't be worrying about your injury yet—you still need to continue fighting for your life.
- **The parasympathetic nervous system takes over when one is calm.**
  - It performs the relaxing tasks—eat, sleep, or chew on a bone.
  - In addition, the parasympathetic nervous system supports growth, and energy storage—the exact opposite activities that the sympathetic nervous system allows.
- **The sympathetic and parasympathetic nervous system cannot be turned on at the same time.**
  - It's all or nothing with these two parts of the ANS.
  - You can't be eating a big six course meal while running for your life!

- **There are many different stress hormones that are released by the endocrine system that work hand in hand with the sympathetic nervous system.** All are important and fascinating in how they help your dog's body cope. Two of them in particular:
  - **Epinephrine** (the more common term is adrenalin) and Glucocorticoids (such as cortisol)
  - **They do three incredible things:**
    - ✦ Activate the body to deal with a present danger
    - ✦ Help the body recover from the stress
    - ✦ Prepare the body for the next stressor
- **These hormones ensure the dog isn't taken unaware by more dangers coming down the pike.**
  - Different amounts of adrenalin and glucocorticoids will be released depending on the intensity of the stressor your dog encounters.
- **Depending on the severity of the reaction, these hormones (and others) will take anywhere from 2-6 full days** to come back down to homeostasis or what is normal. If stress is chronic and recurring, then it can take days - 5, 8, or even up to 21 days depending on the situation.
- **Adrenalin works faster than glucocorticoids** (both hereafter called the generic term of "hormones") and acts like a fast rush (an adrenalin rush so to speak).
- **So, during an extreme anxiety response (aggression), your dog is still trying to cope, still trying to keep himself safe.**
  - **However, he may be trying in this wildly ineffectual way (especially if the fear is imagined),** utilizing many contradictory coping responses all at once and might not notice when the threat is over.
  - **You may have seen your dog flailing, lunging and wildly barking at his provoking stimuli,** so completely out of control that even when the stimuli is no longer in sight, his behavior remains the same.
  - **In fact, he may start to view everything and anything as a continued threat** to his safety.

**Because of the constant increase of stress hormones, due to the many stress-inducing events, your dog's body never gets a chance to come back down** to a normal and relaxed state.

- Such chronic stress can cause a dog to over-react with aggressive displays faster and with more intensity and with less perceived provocation.
- Glucocorticoids and the sympathetic nervous system also raise circulating levels of glucose (sugar), these hormones are essential for mobilizing energy during stress.

- One thing you don't need in your aggressive dog is for him to be constantly "mobilizing energy," and thus having his sympathetic nervous system (flight or fight) in high gear all of the time.
- **A human example:**
  - You just miss getting into a car accident.
  - Hormones have activated your body to avoid the danger.
  - Once you are safe, you feel your stress hormones pumping and your heart racing, preparing your body for the next danger.
  - A few minutes go by and you start to relax, and you feel relief and calmness for averting the danger.
  - Now your hormones are helping your body to recover from the stress response.
  - Then whammo! Another car swerves in front of you—another near miss.
  - Your hormone levels are even higher now because they didn't have a chance to come back down to normal.
  - Your heart is racing even faster.
  - Your heart is racing faster, and the myriad of stress hormones are coursing through your body.
  - Then another and another car pulls in front of you and there is no way you can pull off the road and no way you can stop these idiot drivers from trying to kill you.
  - You are now so sensitized to cars coming toward you, that you may start to become more "proactive" and start driving more aggressively yourself.

**People who suffer phobias know that exposure to their object of fear can be crippling.** Humans can understand, to a certain extent, the basis of their fears and seek professional help.

**A dog cannot do these things**—he must rely on us to understand and aid him in overcoming his learned fears.

**The sympathetic nervous system and the parasympathetic nervous system cannot be turned on at the same time.**

- The basic idea is that the dog can't be nervous/afraid and relaxed at the same time, so it is imperative that you put the dog in situations where he can be relaxed.
- If his fight or flight system is in gear, he won't be calm around his provoking stimuli.
- Your Dog's reactivity is NOT his choice!
  - Therefore, punishment will only worsen anxiety and make things worse!
  - Pure Exposure will not make things better, but instead sensitize the dog further, making matters worse.