



Missouri German Shepherd Rescue (MoGS)
Doggie Health & Wellness Team
Wellness Wednesday Series on Canine Health



Understanding EPI

EPI stands for **exocrine pancreatic insufficiency**. The pancreas has 2 parts to it, the endocrine and exocrine systems. The endocrine system regulates and releases insulin and glucagon, while the exocrine portion is responsible for digestive enzymes. This article will hopefully help you understand EPI and its horrible consequences if left untreated. The picture to the left is of **MOGS alum Bianca**, who is believed to have EPI.

What does the pancreas do?

- Endocrine system – regulates and releases insulin and glucagon in the blood.
- Exocrine system – secretes enzymes to **digest carbohydrates, fats, and proteins** so the body can absorb the nutrients

Exocrine pancreatic insufficiency means.....

- The digestive enzymes are not being released so fat, carbohydrates, and proteins are **not being digested properly**
- Poor break down of nutrients = **malabsorption** of nutrients

What causes EPI?

Several different factors can be involved with causing EPI

- **Pancreatic Acinar Atrophy** – *most common*
 - Normally the acinar cells secrete the digestive enzymes from the pancreas so when these are absent or damaged the ‘insufficiency’ occurs
 - Some *hereditary factors* (autosomal recessive gene) believed to be involved....thought to be reasoning why **German Shepherds are prone** to EPI disorders
- **Chronic pancreatitis**
 - Damage to pancreas from chronic pancreatitis can damage both the exocrine and endocrine portions of the pancreas and cause malfunction of cells
 - Damage of either or both portions can lead to EPI or even diabetes (poor insulin regulation)
 - Hence the importance of watching what your dog eats.....
- **Hypoplasia** – Rare. Congenital defect

Signs of EPI

- Diarrhea or loose stools
 - Usually yellow or gray color
- Weight loss and can't keep weight on
- Poor coat quality





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- Vomiting
- Abdominal discomfort
 - May also seem nervous, irritable, and may 'lash out' because of pain

How to diagnose EPI

- Above signs and symptoms are present
- Bloodwork – serum trypsin-like immunoreactivity (cTLI)
- Stool sample – analyze enzymes found in stools to determine what is being digested
- Improvement on supplemented enzymes and/or diet change can also solidify diagnosis

Treatment of EPI

- Once EPI has been diagnosed, the dog will need to be on life-long medications which can be expensive.
- Diet change is also usually recommended
 - proteins and carbohydrates that are more easily digested
 - lower in fat
- Dogs can live a long and happy life if properly managed



If you are wanting more in-depth information on EPI please go through the following links:

- Article that goes into more detail on how the digestive enzymes work
 - <http://veterinarymedicine.dvm360.com/quick-review-canine-exocrine-pancreatic-insufficiency?id=&pageID=1&sk=&date=>
- http://www.merckvetmanual.com/mvm/digestive_system/the_exocrine_pancreas/exocrine_pancreatic_insufficiency_in_small_animals.html
- <http://www.globalspan.net/epi.htm>
- Resource for people with dogs that have EPI....forums, drug/supplement info, talk with others, diet suggestions, etc
 - <http://www.epi4dogs.com/epiarticles.htm>
- The above website also has a Facebook page so you can follow recent updates and ask others questions
 - <https://www.facebook.com/epi4dogscom-424586920926094/timeline/>