

EPI

Exocrine Pancreatic Insufficiency

Untreated or misdiagnosed dogs with EPI, suffer needlessly, are put to sleep or die a painful death either by starvation or organ failure. And yet EPI is very manageable if recognized and properly treated.

Pandy, courtesy of rescue mom, Janis



The Condition

Exocrine pancreatic insufficiency (EPI) is the inability of the pancreas to secrete the necessary digestive enzymes, Amylase to digest starches, Lipase to digest fats, and Trypsin and Protease to digest protein. When these enzymes are not available to help digest nutrients, the nutrients cannot be used by the body. The body in essence starts to starve.

In addition, due to the lack of proper digestion of nutrients, exocrine pancreatic insufficiency is often accompanied by structural and functional changes in the tissue lining of the small intestine that further impairs nutrient absorption. Almost all dogs when first diagnosed with EPI also have a secondary condition called SIBO (small intestinal bacterial overgrowth) and/or 82% of these EPI dogs will also have B12 deficiency (low cobalamin). With EPI, it is imperative to treat the entire dog or else optimal results will not be achieved.

Possible Symptoms

(Exhibited after 85%-95% pancreas is atrophied)

- Gradual wasting away despite a voracious appetite
- Eliminating more frequently with voluminous yellowish cow-plop feces (sometimes grayish)
- Eating their own stools, or other inappropriate substances
- Increased rumbling sounds from the abdomen
- Increased passing amounts of flatulence
- Some dogs exhibit personality changes
- Some dogs experience intermittent or watery diarrhea and/or vomiting
- Some dogs do not show any typical signs

Testing

A trypsin-like immunoreactivity (cTLI) blood test www.cvm.tamu.edu/gilab/assays/TLI.shtml will show the dog's ability to produce digestive enzymes (lipase, protease, amylase). The normal range is between 5.75 – 45.2. A reading of 2.5 or below is clinical EPI. A dog must fast at least 12 hours prior to blood test. The cTLI test costs approximately \$125/+. When running the TLI test, it is also recommended to run a Cobalamin (B12) with Folate blood test at the same time.

Treatment

Treatment of EPI may be regulated after some trial and error in finding the right balance of Enzymes, Diet, Antibiotics (if needed for SIBO) and B12 (if needed). The most efficient treatment is powdered porcine pancreatic enzymes (usually for life) administered with every meal measured per volume of food and an individual dog's needs. Incubation for 20 minutes is not required, but some dogs fare better with this extra step. It also helps avoid possible mouth sores. Some enzyme products are: Pancrezyme, Viokase, PartnerHealth Enzyme, or for cost savings there are generic USA Pancreatin 6x or 8x available at EnzymeDiane. Many will also need antibiotics (Tylan is preferred 30-45 days, or Metronidazole, or Amoxycillin) for a minimum of 30 days to reduce SIBO if suspected and/or B12 shots for Cobalamin Deficiency. With an EPI dog, the Cobalamin level needs to be in the

mid-high range. If in low but normal range, it will still need to be treated www.epi4dogs.com/b12.htm A diet change to a low fiber food of 4% or less in a commercial kibble, canned, raw, home-prepared or hydrolyzed/prescription diet is also recommended. Foods with insoluble fiber should be very limited. Fat restricted diets are not required. www.epi4dogs.com/dogfoodoptions.htm

Any breed, not just German Shepherd Dogs (GSD) can have EPI. Misdiagnosed, these dogs suffer greatly and may eventually die a painful death. Many are surrendered out of frustration or euthanized because of enzyme expense. Please know there are many other reasonable alternatives! Vets can call the TAMU GI lab: 1-979-862-2861 for an EPI consultation if needed.

Claire, courtesy of adoptive mom Susan, prior to EPI diagnosis



Claire, 6 months after treatment for EPI



For EPI Management, Resources, Updates and Support please visit: www.epi4dogs.com and www.epi4dogs.com/apps/forums

Where does EPI come from???

Previously EPI was suspected to be caused by autosomal recessive genes. In preliminary data from a 2008 research study at Texas A&M and Clemson University, and a 2010 published Helsinki study on EPI, it is now confirmed that EPI is not autosomal recessive but rather more complex. It is most likely a multiple genetic condition that may possibly have some environmental factors. A larger genetic study is currently underway at Clemson University in SC. With EPI, traits may vary in degrees of severity and signs may be exacerbated by physical, emotional and/or environmental stress.

What is being done

We now suspect unidentified carriers everywhere and in all breeds. At this point in time we can only test to confirm an EPI diagnosis, so we are hoping to identify these genetic markers and stressors to eventually eliminate this horrible condition.

Hope, courtesy of her rescue mom, Jodi



Genetic researchers known for their expertise in EPI; Dr. Leigh Anne Clark and Dr. Kate Tsai, formerly of Texas A&M University (TAMU), currently at Clemson University in South Carolina have found an allele indication in some of the EPI population and significant associations with 3 other alleles. They are furthering their EPI genetic research working with the latest SNP technology to handle the complexities of multi-loci genes and are looking to expand their research into other breeds .

EPI was previously thought to appear mostly in German Shepherd Dogs - - do not make this mistake! EPI is now surfacing at an alarming rate in all breeds. Every dog is at risk. Please be aware of and help educate others about EPI only then can we stop this needless suffering in our beloved companions.

For additional information on the EPI genetic research study, please contact Dr. Leigh Anne Clark at: lclark4@clemson.edu

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For complete information about EPI visit:

<http://www.epi4dogs.com>

**Learn about symptoms, treatments, options
and many available resources in managing this
devastating condition.**

EPI

Exocrine Pancreatic Insufficiency

*Stop needless suffering in our canine companions
Recognize EPI symptoms in ALL breeds
Avoid misdiagnosis
Effectively treat and manage EPI*



Liz Brown's Corgi, "Sadie" ...doing well after EPI treatment