



Craig's Ms. Lulupants ... EPI pup enjoying life in Australia



EPI MANAGEMENT FOR AUSTRALIAN DOGS



Managing EPI is all about finding the right balance of things. While signs may vary from dog to dog, generally the four main factors to address are:

- Enzymes
- Diet
- Antibiotics for SID “small intestinal dysbiosis” formerly called SIBO “small intestinal bacterial overgrowth” (if needed)
- B12 (if needed)

Exocrine Pancreatic Insufficiency (EPI) is the inability of the acinar cells of the exocrine pancreas to produce and secrete the 3 necessary enzymes needed to digest food.

- *Amylase* for digestion of carbohydrates
- *Lipase* for digestion of fats and oils
- *Protease* for digestion of proteins

At this stage, options for replacement enzymes are very limited in Australia. Despite this Australian dogs can be treated successfully with readily available products. Enzymes must be animal derived; plant-based enzymes do not contain sufficient quantities of the required enzymes needed to survive the acids in the digestion system. What works better is either raw pancreas or a commercially available product called CREON®

ENZYMES

EPI dogs require animal derived enzymes with every meal. Porcine-derived enzymes are the most effective.

COMMERCIAL PANCREATIN PRODUCT

CREON® is encapsulated enteric coated little spheres of pancreatin made for human consumption and is used in the treatment of Cystic Fibrosis. It is used for the same purpose in dogs as in humans....to facilitate digestion. There are three varying strengths of CREON available in Australia, 10,000, 25,000 & 40,000. What is recommended as a *starting point* is to use one CREON 10,000 **per meal** (not per cup as recommended with porcine pancreatic powders only available overseas), except for toy/miniature dogs in which case you might want to start with half the contents of one Creon 10,000 capsule. **Creon 10,000 is available without a prescription from pharmacies. Creon 25,000 and 40,000 are only available with a prescription from your vet.** You may then choose to have the prescription filled at a discount

pharmacy. **Note:** In October 2015, we became aware of another prescription pancreatin product called PANZYTRAT® 25,000 that is almost identical to Creon 25 000. This may also be an option (more information as it comes to hand).

If you decide on pancreatin CREON capsules (please share with your vet!):

For a much discounted CREON you can try either:

www.chemistdirect.com.au or www.chemistwarehouse.com.au or www.chemistking.com.au

CREON DOSAGE & ADMINISTRATION

Dosing varies from dog to dog. In the human instructions, they stress to not break open the capsules, however, this product was designed to appropriately break down in accordance with a human's digestive pH level. Dog's digestive pH levels differ from humans and therefore a little trial and error may be needed to find what dosing technique works best for your dog.

1. Start with one CREON 10,000 per meal. Give this dose for 3-5 days while closely observing the poo output... if not improving, increase the dose via ½ capsule (you will have to open the capsules and split the contents) increments. Repeat until you find the dose that produces poo output that is brown in colour, log-like in form, and the elimination is 1-3 times day.

2. The dosing methods are:

- a. First try giving the capsule whole with food. No incubation (letting the food stand with the enzymes in it) is necessary.
- b. Or break open the capsule, sprinkle CREON pellets on the food and serve immediately. DO NOT INCUBATE.
- c. Or give capsule whole 5-10 minutes prior to serving a meal. Maybe tuck in some cream cheese or soft meat.
- d. Or try giving capsule whole 5-10 minutes after serving a meal.

Most successful methods appear to be: "b" and "a" respectively. Because dogs tend to gulp their food, there is little concern about these enteric coated pellets being chewed and causing mouth bleeds whereas humans chew their food, hence the instructions not to open the capsules in the human instructions.

RAW PANCREAS ENZYMES

On the other hand....raw pancreas is an effective alternative providing you can find a dependable source which can be very difficult in Australia due to food hygiene laws. The following are useful considerations when using raw pancreas:

- Raw beef, lamb or pork pancreas may be used.
- Raw pancreas dosage is 85g-115g of raw pancreas per meal.
- Quantity required may vary from dog to dog.
- Raw pancreas must be minced or preferably blended in a food processor prior to being added to food.
- Raw pancreas may be frozen in cubes for future use and thawed naturally. NEVER heat on the stove or in the microwave as it will destroy the natural enzymes.
- Raw pancreas has a maximum 3 month freezer shelf life.
- Raw pancreas "may" be susceptible to bacterial contamination.
- Raw pancreas potency may vary from one animal host to another or from farm to farm, suppliers and distributors.
- Sometimes it works, sometimes it does not work as well as CREON, and some dogs may not like raw pancreas.

- Sometimes raw pancreas is used successfully as a combination or in addition to the commercially prepared porcine enzyme products. If you decide on raw pancreas:

[Side note: There is a compounding pharmacy in Perth, WA that will compound Creon microspheres into strengths not commercially available. Please contact them directly for more information: www.maylandscompounding.com.au]



This is Archie, a German Shepherd who weighed in at a shocking 16.8kg when found at a shelter by Gretchen & Brian and after EPI treatment, is now a whopping 34kg! Don't ever doubt what a lot of love, patience and good veterinary care can do. Please know that there is hope ... dogs with EPI can and do turn around and flourish with proper treatment.

ENZYPLEX POWDER FOR DOGS

IMPORTANT: *Enzyplex Powder for Dogs* is an Australian made plant-based enzyme *supplement* for mild digestive conditions only. It is NOT a treatment for EPI **and has been deregistered as a treatment for EPI** from the Australian Pesticides and Veterinary Medicines Authority (APVMA) at the request of its manufacturer (deregistration date: April 2016).

It contains **insufficient** amounts of enzymes required for normal digestion and *is not a replacement for a functional pancreas*. It is not potent enough to fully address the EPI condition and over time may encourage SID/SIBO to proliferate if used in this way. If your Australian vet recommends Enzyplex for EPI in the first instance you are STRONGLY encouraged to share the information contained in this brochure with your vet. **CREON** is the recommended commercial product capable of successfully treating EPI in companion animals in Australia.

Background: For over 20 years Enzyplex has been marketed as a treatment for EPI most recently by Ceva Animal Health Australia Pty Ltd. In 2015, EPI4Dogs contacted Ceva to request its deregistration with the Australian Pesticides and Veterinary Medicines Authority (APVMA) as a medicine and rebrand it as a general use mild digestive aid and to discontinue marketing it in association with EPI. In September CEVA advised they would deregister it and in April 2016 *Enzyplex* this was actioned by the Authority. As of October Ceva continue to advertise the product as a treatment despite all current research pointing to the contrary. **Enzyplex should not be used as a treatment for EPI** for the reasons stated above. It is unnecessary in the treatment or management of symptoms even as a dietary supplement.

DIET

The majority of EPI dogs do better on a low- fibre (commercial term is *grain-free*) diet. See suppliers for stockists. Start with a diet with 4% or even less fibre content. While some can tolerate (or even require some amount of grain) the vast majority of commercial pet foods contain many forms of fibre, sometimes too much of the wrong kind of fibre not suited to your dog, and it will have trouble adequately digesting the food and also invite SID (small intestinal dysbiosis). Until stabilised EPI dogs require 150% of normal food intake. Smaller sized but more frequent meals are ideal in the early stages to allow the animal's system time to recover and adjust. Your dog's diet is not limited to all low fibre, often meaty bones may eventually be added as a regular addition. Unless there is another health concern that requires low fat, EPI dogs (once receiving proper enzymes) should not have fat restricted but rather do better with normal amounts of fat in their diet. EPI dogs often also do well with supplementation of a medium chain triglyceride fat such as coconut oil for healthy skin and coat along with fish oil.

B12 & FOLATE LEVELS

B12 & Folate levels will be tested by your vet taking a blood sample. The dog should be "food" fasted for 12 hours prior to the blood being drawn. A dog should have a B12 level in the upper mid-range level. If B12 injection regimen needs to be implemented, the B12 serum needs to be a simple serum of either cyanocobalamin or hydroxycobalamin delivered by subcutaneous injection until upper mid-levels are achieved. This needs to be followed up with a maintenance program of B12 either by periodic B12 injections or via a special B12 pill that includes the intrinsic factor to facilitate the oral given B12 into the blood stream. The pill product used by the EPI community is called Wonderlabs *Trinfac B* <http://www.wonderlabs.com/itemleft.php?itemnum=6881> (in 2015 they began marketing a product called 'PET Factor B-12' however it is exactly the same product albeit sold in smaller bottles). The same version of Trinfac is also available by the UK company Chemeyes , LLC <http://www.chemeyes.co.uk/#!/product/prd1/627635261/trinfac-b---100-caps>.

High folate levels may indicate SID(SIBO) however please know that sometimes SID is in play with normal Folate levels. Always consider physical signs to determine possible SID. Please discuss with your vet. Note: Some dogs with chronically low B12 require B12 injections (again, please consult your vet). Should your dog require ongoing B12 injections *Troy Viatmin B12 100ml* is available at a number of online pet suppliers.

ANTIBIOTICS

SID (small intestinal dysbiosis) almost always accompanies the initial EPI diagnosis. The current protocol is to give the enzymes a week or two first to see if that is enough support for the gut flora imbalance to correct itself. Sometimes this works, most times it doesn't - but worth trying. If after a couple of weeks on enzymes and SID signs are still present with any of these; yellowish-colouring to the stools, continued loose/soft stools, intermittent sloppy stools, gelatinous stool coating, flatulence, lack of appetite, stomach noises, low or low normal B12 then treat with an antibiotic. Tylosin (Tylan) is now the drug of choice (see recent research: <http://www.epi4dogs.com/sidsibo.htm> to support this recommendation. Left untreated, SID can wreck havoc with the EPI treatment plan, and if left untreated long-term can cause permanent damage to the intestinal lining, etc. A minimum 30 day/twice daily course of Tylan is recommended with food, but often a 45 day course is even better. IF you do not see any positive results (better poo) within 7-10 days on the Tylan, it is recommended to switch out the Tylan for Metronidazole (also known as Flagyl) for the remaining 30 days/twice daily. Tylan has no known reported adverse affects.

Tylan Soluble 100 may be purchased with a prescription by your vet through their Elanco representative.

Mfg: Elanco Animal Health (a div of Eli Australia Pty, Ltd)
 112 Wharf Road, West Ryde, NSW 2114
 Telephone toll free: 1-800-226-324



TYLAN DOSING TABLE						
	Weight of Dog		Amount of Tylan to be given 2x/day			
	lbs (approx*)	kgs (approx*)	tsps	Mgs per tsp measurement	New dosing recommendation (25mg/kg)	Maintenance – as low as 5mg/kg **
Little Dogs	4	2	1/64	47	50	10
	10	5	1/32	94	125	25
	20	10	1/16	188	250	50
Medium Dogs	30	15	1/8	375	375	75
	45	20	1/8	375	500	100
	55	25	1/8	375	625	125
Big Dogs	60	30	1/4	750	750	150
	75	35	1/4	750	875	175
	85	38	1/4	750	950	190
Really Big Dogs	90	40	3/8	1125	1000	200
	100	45	3/8	1125	1125	225
	110	50	3/8	1125	1250	250
Giant Dogs	120	55	1/2	1500	1375	275
	160	70	5/8	1875	1750	350
	200	90	3/4	2250	2250	450
Aria the Tiger	400	180	1+1/2	4500	4500	900

Recommended dosage table is also available at the following page: www.epi4dogs.com/sidsibo.htm
 Tylan is forgiving. Better to give a little more than a little less) but always confirm dosage with your vet.

TYLAN DOSING METHOD

Tylan Soluble comes in a powdered form in a 100g bottle, despite the name, do not liquefy it. Tylan is very bitter. Some mix directly in the food, as some dogs will eat it, others will not and then you will have to camouflage the Tylan such as creating a food pocket out of something like cream cheese, or pouring the designated amount in an empty gel-cap (size 00 works well for all dose sizes), the gel-cap method being the preferred method. Always serve Tylan with a meal or else as an antibiotic it might give your dog an upset tummy.

TREATS

Give NONE! Until after your dog has been stable (normal poos) for a few months. Then “try” treats, by first giving a small test treat (for example dried liver bits) within an hour of an enzyme meal. If poos remain fine, then try a very small treat away from any enzyme meal. How many treats, if any and when can they be given will depend on the individual dog. Avoid commercially prepared ‘biscuits’ that are likely to contain fillers (cereals/grains).

STOOL QUALITY

Aim for #2 or #3 on the Purina Fecal Scoring Chart (Poop chart) here <http://www.epi4dogs.com/poopchart.htm>

PROBIOTICS

Probiotics are often used when trying to eradicate SID and you are having difficulty finding the best food to work in concert with the Tylan.... Hence try a probiotic to help alter the gut flora imbalance. ALWAYS give any probiotic 2-4 hours away from whenever an antibiotic is given. If giving an antibiotic with a meal, then try giving the probiotic in a little dollop of yogurt mid-day or just before bedtime. Always start with ½ the recommended probiotic dose and work up to a full dose over the course of a week or two. Not all probiotics will agree with all dogs.

DIGESTIVE CYCLE

An average dog's digestive transit time is anywhere between 12 -24 hours, however, with EPI dogs, the average transit time can range anywhere between 12 - 72 hours (shred half a raw carrot and serve with a meal to help identify your dog's current transit time) This will help you determine if said meal (particular change) is making things better or worse

STOCKISTS

LOW FIBRE COMMERCIAL FOODS

There are now more low-fibre (often known as grain-free) foods on the market. Please check out the Dog Food Options page www.epi4dogs.com/dogfoodoptions for some ideas.

Australia's largest supermarkets now stock a limited range of Grain Free products. Aim for a fibre content of less than 4% as a guide. Some Australian online retailers of these foods are as follows:

PetCircle www.petcircle.com.au

Natural Pet Store www.naturalpetstore.com.au

My Pet Warehouse www.mypetwarehouse.com.au

Dog Food www.dogfood.com.au

For Tylan supply please consult with your vet in the first instance. Regular users may find Petceutics to be an economical source <http://www.petceutics.com.au/tylan-sol-powder-100g.html>

PLEASE REFER TO WWW.EPI4DOGS.COM FOR MORE IN-DEPTH EPI INFORMATION

Andrea, one of our fabulous Aussie members has created a one page Australian EPI Quick Guide the latest version of which can be downloaded at the following page

<http://www.epi4dogs.com/epiquickguide.htm>

EPI4DOGS.COM encourages all members to share this information with your vet. Working with your vet in responding to the latest verifiable management techniques is best for you and your dog.



www.epi4dogs.com