

ASK ME ABOUT MEGA-E



Canine Megaesophagus Basics
Compiled from various resources

CANINE MEGAESOPHAGUS BASICS

WHAT IS CANINE MEGAESOPHAGUS?

Megaesophagus is the most common cause of regurgitation (as opposed to vomiting) in dogs. Megaesophagus literally means “big esophagus.” The esophagus is the tube that connects the mouth to the stomach for the transport of food. Dogs with megaesophagus have difficulty moving the food through the esophagus as a result of a defect in nerve and/or muscle functioning. Because the esophagus does not function normally, ingested food sits in the esophagus within the chest cavity and never makes it to the stomach. Instead, the food is regurgitated (NOT vomited) usually within minutes of swallowing (although sometimes the food may be regurgitated several hours or even days after eating). The most serious complication is that digestive fluid/food will at some point pool in the esophagus, which generally results in aspiration of digestive fluid/food into the lungs, leading to *Aspiration Pneumonia*.

HOW DO DOGS GET MEGAESOPHAGUS?

There are two forms of megaesophagus, congenital and acquired. In most practices, congenital is the more common form that is seen. Puppies with congenital megaesophagus typically regurgitate as soon as they are introduced to solid food. Breeds of puppies that are predisposed to megaesophagus include German Shepherd Dog, Irish setter, Great Dane, Labrador retriever, Shar-Pei, Newfoundland, Fox Terrier, and miniature schnauzer. The cause is unknown but there appears to be a genetic component in some of these breeds. A congenital disease, called a vascular ring anomaly or Persistent Right Aortic Arch (PRAA) is also possible. This condition is caused by fetal blood vessels from the heart which should have dissolved, but did not, and begin to strangle the esophagus. This is usually seen only in very young puppies, and should be ruled out with barium xray or fluoroscopy because surgery to cut the blood vessels may sometimes cure the megaesophagus. Acquired megaesophagus usually occurs in older pets. Common causes of acquired megaesophagus include hypothyroidism, organophosphate poisoning, Addison's disease, and myasthenia gravis.

SYMPTOMS:

- Regurgitation of water, mucous or food. (Regurgitation is throwing up without any warning; "vomiting" is associated with retching.)
- Loss of appetite or refusal to eat.
- Sudden weight loss.
- Swallowing difficulty, exaggerated and/or frequent swallowing.
- They will also try to clear their throat frequently with a "hacking" sound. Coughing.
- Sour and/or foul smelling breath.
- Many canines may be misdiagnosed with a gastro-intestinal problem.
- Aspiration pneumonia is a frequent complication. Difficulty breathing.

DIAGNOSIS

- CBC: SuperChem
- Urinalysis
- Stool for bacterial overgrowth?
- FULL thyroid, T3,T4, TSH, Free T3. Not just a T4.
- Myasthenia Gravis: Acetylcholine Receptor Antibody Titer (ARAT): Tensilon Test
- Adrenal: ACTH Stimulation Hypoadrenocorticism
- ANA—Antinuclear antibodies for immune mediated disorders like systemic erythematosis
- Serum creatine kinase (CPK)—certain muscle diseases
- Serum creatine phosphokinase
- Blood lead levels
- Xrays—Normal and/or barium. Be careful with barium xrays that the barium is not aspirated into the lungs. Find a vet who can do megaesophagus.
- Fluoroscopy
- Endoscopy
- Manometry—to test Lower Esophageal Sphincter Pressure in Achalasia
- EMG (Electromyography) neuromuscular disease
- NCV (Nerve conduction velocity)-neuromuscular disease

- Check for PRAA (Persistent Right Aortic Arch) in puppies. Using either barium xray or fluoroscopy. If present, surgery can be done to cut the blood vessel. Megaesophagus may or may not resolve.

MANAGEMENT

In general, dogs with megaesophagus cannot be cured but they can be successfully managed. With patience in choosing the best therapy for each pet, including feeding the “best” diet for each pet, many dogs will live relatively normal lives with a condition that was often fatal in years past.

- Your canine needs to be placed in a vertical feeding position immediately to avoid starvation and/or aspiration pneumonia. (Note: Not an "elevated bowl." Elevating the bowl does not place the esophagus in the proper orientation so that gravity will work.)
- Vertical feeding can be accomplished with the Baileys Chair. The canine must remain in the chair for 20-30 minutes post feeding to allow gravity to work.
- A low-fat or low residue canned food fed either in a milkshake consistency or in "meatballs" works best. (If using the meatball method, they must be swallowed whole.) Each dog is different and experimentation with food consistency is required.
- Multiple feedings, 3-4 meals per day, is also suggested.
- Fluids must be consumed in the vertical position as well.
- Medications may include an acid reducer (like Pepcid-AD or Prilosec) 1 or 2 times per day; motility drugs (metoclopramide/reglan, cisapride/propulsid) to help empty the stomach to minimize reflux from the stomach into the esophagus; and/or an esophageal "bandage" for esophagitis, (carafate/sucralfate). Antibiotics for aspiration pneumonia, or low dose erythromycin (Tylan) for antibiotic responsive gastroenteritis may also be required.
- Acupuncture may be helpful in treating pets with megaesophagus in an attempt to stimulate normal esophageal motility. Additionally, chiropractic manipulation can also be tried in an attempt to remove any blockages that could disrupt nerve supply to the esophagus.
- Various herbal, homeopathic, and nutritional supplements might be effective and are certainly worth trying in affected pets.
- During sleep, naps, etc. the dog's head needs to be elevated. While lying down, saliva, food, may pool in the esophagus and be inhaled into the lungs causing aspiration pneumonia. Try using an inflatable pro collar, Neck Hug from Wag Tail Farms. www.wagtailfarms.com.

The most devastating side effect of megaesophagus is having food, water, and saliva mistakenly go into the windpipe (i.e., trachea) and lungs (this leakage is called *aspiration*), causing pneumonia (i.e., infection of the lungs). Because the esophagus and the trachea enter the pharynx close to each other, this happens relatively easily. Some dogs have signs of aspiration (i.e., cough, labored breathing, and/or fever) despite the owner never seeing regurgitation. These dogs may regurgitate material into their mouth and then aspirate some of it without it ever being ejected from the mouth.

If only small amounts of material are aspirated, cough will be the primary sign. This cough may be moist or dry. If large amounts are aspirated and reach the lungs, pneumonia occurs, causing fever and labored breathing. Dogs can die from severe aspiration pneumonia. Sometimes nasal discharge occurs when regurgitated material is pushed from the pharynx into the back of the nose. If large amounts of material are aspirated and reach the lungs, the dog may develop an acute, severe pneumonia and die suddenly. Such sudden death may occur anytime, even if the dog has not been regurgitating for the last several weeks or months.

For further information check out: <http://marvistavet.com/html/megaesophagus.html>
<http://www.caninemegaesophagus.org/>
<http://pets.groups.yahoo.com/group/megaesophagus/>

Facebook pages:

Mega E Babies

Upright Canine Brigade

K9 Megaesophagus- 1 Click, 1 Share

Canine Megaesophagus Support Group
Bailey Chairs 4 Dogs

Contact: Sue at sueshank@aol.com 703-791-2107 or Debbie at bratmarine@comcast.net 703-754-1838

Megaesophagus Resources

<http://www.caninemegaesophagus.org/>

<http://www.baileychair.blogspot.com/>

www.baileychairs4dogs.com/

<http://vetneuromuscular.ucsd.edu/publications/Megaesophagus%20Brochure-1.pdf>

<http://www.petplace.com/dogs/megaesophagus-in-dogs/page1.aspx>

<http://www.veterinaryradiology.net/136/diagnosing-megaesophagus-in-dogs-and-cats/>

http://marvistavet.com/html/addison_s_disease.html

http://marvistavet.com/html/myasthenia_gravis.html

<http://www.doggedhealth.com/diseases-a-symptoms/diseases-a-conditions/vascular-ring-anomaly.html>

<http://www.vetstreet.com/care/persistent-right-aortic-arch-vascular-ring-anomaly-in-dogs-and-cats>

<http://www.upei.ca/~cidd/Diseases/cardiovascular%20diseases/persistent%20right%20aortic%20arch.htm>

<http://www.petplace.com/dogs/hiatal-hernia-in-dogs/page1.aspx>

Feeding A Megaesophagus Dog

Your dog will ultimately tell you how much to feed. Start with a volume that is about 1/4 to 1/3 of what a feeding used to resemble, regardless of type and consistency. PLEASE CONSIDER abandoning the "elevated" feeding and go to vertical feeding and sitting. many DVMs are becoming familiar with this process and recommending it upon diagnosis) and if gravity is the problem, they report huge improvement with how much and how often their dogs are regurgitating pay off.

So - regurgitation "happens" and you will soon learn if your dog is one for whom this is normal. It should not be a huge portion of the meal, but this does happen occasionally. Factors to consider for regurgitation issues:

1. Vertical feeding is the mantra. If you think your dog won't adjust, get over it. Your attitude is key. Arthritis or bad hips are generally NOT much of an obstacle. Adjustments can be made. Size of dog is NOT an obstacle.
2. Nothing by mouth unless dog is vertical or you get her that way immediately afterward. NO water, pills, treats, food. Only kisses.
3. Proper food consistency. Trial and error. Liquefied or meatballs swallowed whole? (Some - ONLY A TINY PERCENTAGE) can do okay with other types, but DON'T DO THIS AT FIRST -- TOO RISKY! Particles cling to the esophageal walls and irritate - more regurgitation. How is that going to be cleared out of the esophagus if it is not moving down?
4. Too much food at once! Cut the volume down and increase the number of feedings. You'll eventually figure out how much and how often.
5. If your dog doesn't handle liquid well, try the Knox blocks or ask your DVM about subcutaneous fluids.
6. Inadequate "vertical" time. 15 - 30 mins or more should do it. Some need more.
7. Bacterial overgrowth, such as helicobacter pylori, may have a huge effect on regurgitation. If other causes are ruled out by your DVM, ask to put your dog on a course of triple therapy to see if this cuts it back. It usually will within about three days if that is the cause. This can be the case with newly diagnosed dogs or much later
8. Regurgitation increases esophageal irritation, so it may "beget" more regurgitation. Generally, dogs should be kept on medications reducing the production of acid, such as Nexium or Prilosec and/or Pepcid. Reglan and Cisapride helps many, not others. For still others, it may make regurgitation worse, but not often. Motility drugs do not do anything to the esophagus. That is not moving. It helps the stomach empty faster to allow drainage into it from the esophagus. Esophagitis/gastritis can also cause regurg. Liquid carafate (sucralfate) acts as a bandage to heal these. Must be given 1 hour before or 2 hours after food or medicine. Can only be given w/ water, not broth, etc.].
9. Do not make changes quickly, without close observation. We find that people who do this can seldom find cause and effect. These dogs have good days and bad days, and you need to study them and keep a diary to see what is really going on. Changes should be made slowly and be circumspect before deciding on cause and effect. Try to change one thing at a time to be sure what is going on. Keep a diary!!!

10. Communicate with your veterinarian! While not all have had much experience with dogs with megaesophagus, that is changing. Most of them are willing to learn along with you and will go with what seems reasonable. He or she can always check online. If your DVM is not open to suggestions or seems not to have the time or inclination to do much other than recommend euthanasia, sometime even before your dog is suffering (just pessimism), you may need to look for another DVM. Most are NOT like that! Your DVM is your greatest resource.

11. If your dog seems "off" and is refusing food, seeming ill, or you are not comfortable with what you see, go to the DVM or emergency if during off hours. Aspiration pneumonia can kill your dog, especially if you are not "on it" within a few hours.

12. If you are already doing all of this and your dog is STILL having problems, consider a feeding tube. These save lives and are MUCH MORE MANAGEABLE THAN YOU MAY THINK. Some are temporary and can get your dog back on oral feedings. Some may be permanent.

As with many of the management options for Megaesophagus, they may or may not work with your dog. However, over the years, those that will be mentioned here have been suggested and utilized with success by many. We suggest that you discuss them with your veterinarian.

Water for MegaE dogs

Providing water for megae dogs who can't drink normally:

If your dog is having regurgitation issues and water needs to be withheld, most dvm's will teach owners how to administer subcutaneous (under the skin) fluids so that The volume going into the stomach can be minimized.

WE have started giving her gatorade mixed with some water and Thick It. She loves it.

Pedialyte Homemade Ingredients: 1 quart of water, 2-4 teaspoons of clear Karo syrup (or 1-2 teaspoons of fructose) 1 teaspoon of salt, 1/2 tsp baking soda
Boil water, add sugar (or fructose) and salt, then stir. Let it cool down.
Refrigerate what you do not use and do not keep it more than 48 hours; make a new batch.

For the cat version, do NOT use the sodium bicarbonate (baking soda) as it throws the pH of the body off. For the cats at the sanctuary, we use 1 tablespoon sugar and 1 teaspoon of sea salt to one liter of non-chlorinated water that was boiled. Keep in fridge

Marilyn Lentini, President Bichon Frise and Small Breed Rescue

Knox Blocks:

1 cup cold low sodium chicken broth
4 packages of Knox gelatin sprinkled over the broth, stir
Add 3 cups of boiling water and stir until dissolved. I then pour this into a 9x15 casserole dish and refrigerate until solid - approximately 2-3 hours.
I then cut the mixture into dice size cubes.
At first Panda thought these were too strange to eat. Now she loves them.
I give them to her (in an upright position) after she has finished her meatballs. This gives her the water content she needs.

There is a product called "thick-it" that changes water to almost a jello consistency, without taste or calories. Hospitals and nursing homes use this for patients who have had strokes and cannot swallow liquids without aspirating them, silently. (In other words, they do not even gag, when the liquid goes down into the trachea.)

Unflavored gelatin: I find the plain gelatin in the baking aisle or with the flavored jello. It's Knox and it comes in a box with 32 small envelopes in it. I make it the same way I make regular jello-mix in hot water til dissolved, then add cold water and refrigerate until it sets. then when Sadie's ready for a drink I just spoon out the desired amount and mix it with a small bit of cold water so it's just a little less thick, but still thick enough that she doesn't choke. That part just took some experimenting. I sometimes add a sprinkle of flavored jello to a batch of it for a special treat, but usually just make it up plain so she can get her water. Hope it works for you.

Here's the recipe for jello water

6 cups boiling water

8 packets of Knox gelatin

2 cups chicken broth

Add knox packets to chicken broth. Add to gelatin & chicken broth to boiling water. Stir to melt gelatin.

Put in pan and refrigerate. This recipe makes 64 oz. of jello.

Anesthesia for Megaesophagus Dogs

MEGA Tip of the Week: Anesthesia use during surgery for a dog with Megaesophagus

This tip of the week has been featured previously. However, since we have new ...followers continually and since our dogs with Megaesophagus do require dental cleanings and other surgical procedures, we feel it's important to share again.....

The following information is shared from the Megaesophagus yahoo support group files and Dr. Kathy Morris:

"When a patient with Megaesophagus requires anesthesia there are some precautions which are suggested to minimize reflux of stomach contents into the esophagus, therefore minimizing aspiration pneumonia.

- 1) Pre-treating one half hour before anesthesia induction with a drug to encourage the stomach to empty, if the dog can tolerate it may help.
- 2) Elevating the head end of the surgical table, or placing the patient on a slant, so that the head is above the rear end, minimizes reflux of stomach contents into the esophagus.
- 3) Leaving the Endotracheal tube in until the dog is very actively swallowing, to minimize aspiration, is important.
- 4) Maintaining elevation of the front end of the pet, preferably in a vertical position (body perpendicular to the floor), while recovering from anesthesia, allows any fluid that accumulates in the esophagus to "drain" into the stomach. Any fluid build-up in the esophagus can be easily refluxed and precipitate aspiration pneumonia in dogs with Megaesophagus. Some hospitals assign an assistant or technician to keep the pet elevated, others allow the owner to hold the pet as soon as it is extubated. Prevention of regurgitation, at all costs is paramount in these pets."

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ELEVATED REST is One of the Ten Simple Keys to Success

Possible Methods:

Armrest of chair or sofa - encouraging your dog by placing pillows in a ramp fashion so that the dog will lay down with chest to the pillow & head to the armrest. You may find that removing a sofa cushion or tilting it to form the ramp will create better slant (thus better results).

Do you crate your dog for rest/sleep? Place a row of bricks or a solid wood wedge to the front base of the crate, positioning the crate over the wedge or brick row. Most all dogs will rest facing out or forward towards the door of the crate instinctually.

Foam wedge: Have a foam wedge made, proportionate to the size, height & weight of your dog. Ensure that you have a cover for the wedge to discourage chewing and potential swallowing of the foam, saving yourself a trip to the emergency clinic! Super-sizing your crate will allow for foam ramps to be inserted.

Buy a large "woobie" (stuffed animal) and encourage your dog to place chest to the body - some of the bodies are shaped so that you can double them up, creating more 'lift'.

U-shaped Neck Pillow

This method can increase potential success to keep symptoms at bay, especially when combined with a foam wedge or other method to provide increased elevation to the chest - stomach region. The pillow can be kept on your dog using Velcro sewed to the pillow and attached to your dog's collar.

Inflatable Pro Collar

Neck Hug from Wag Tail Farms. www.wagtailfarms.com