



# PULSE

news from Paws To People, Bridges to Cures

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## Doggy Scope, Anyone?

DOGWatch, Cornell University College of Veterinary Medicine, January, 2018, Vol. 22, No. 1

You finish a rousing game of fetch and bend down to pet your dog. Phew! A blast of foul air greets you!

Bad breath is not just a socially unpleasant trait in dogs—it can indicate a health problem. Any abnormal odor is reason to examine the dog's mouth and/or schedule a veterinary visit. Treatment of the underlying condition will result in better breath and, most important, better health.

### Causes for Bad Breath

**Conformation:** The way your dog is built may be behind the bad breath. Brachycephalic dogs—those with shortened muzzles and faces like Boxers and Pugs—tend to sleep with their mouths open a bit. As the mouth dries out, the breath becomes less pleasant. Encouraging your dog to sleep with his head on pillows may help. Doggie breath mints only provide temporary relief.

**Unsupervised Snacking:** Dogs are attracted to goose poop, sheep and deer droppings, and other foul things. Some dogs roll in these "delights" while others eagerly snack on them. These treats can cause bad breath, but it is temporary and usually goes away after a drink or a little time.

**Trapped Debris:** Foreign bodies, like a piece of wood stuck across the roof of the mouth on the hard palate or a string wrapped around a tooth, can also contribute to poor breath. Your first hint of a problem is often pawing at the mouth, even before bad breath develops. Removing these items may require veterinary assistance.

**Cancer:** Cancers of the mouth often cause bad breath due to the diseased tissues. You will likely notice other signs first—pawing at the mouth, drool with some blood, and poor appetite. You can look carefully if your dog is tolerant, but sedation may be required for a thorough exam of the mouth.

**Disease:** Chronic health conditions such as diabetes and kidney failure, can also cause poor breath quality. Diabetic dogs who are poorly regulated will build up substances called ketones. These can cause a "sickly sweet" odor to the breath. Dogs with severe kidney disease may build up toxins that lead to an ammonia-like odor to the breath.

**Bad Teeth:** By far the most common cause for bad breath in dogs is a dental problem. Puppies who are going through teething may have bouts of mild bad breath but that passes as the adult teeth come in.



### Check His Mouth

Most dental problems are more involved than switching over to adult teeth. You should look carefully at your dog's mouth.

Are gums red and somewhat inflamed? This would mean gingivitis.

Is there a buildup of plaque or tartar on the teeth? The incisors and canine teeth in front may look fine, but the premolars and molars toward the back of the muzzle may have a heavy buildup of plaque.

Plaque provides a medium for bacterial growth. This leads to inflammation and possibly even an abscess along with damage the tooth roots as bacteria invade the gum line.

The same sequence can occur with broken or cracked teeth as there is an opening for bacterial growth. As well as bad breath you may notice a swelling by your dog's eye from an abscessed tooth.

Along with bad breath, most dogs with dental problems will show additional signs. Your dog may paw at his mouth, drool more than usual, and may have some blood in the drool, hesitate to drink, especially if the water is cool, and may avoid eating or just eat soft foods and treats.

Luckily, dental problems leading to bad breath are both treatable and preventable. The first step is a thorough dental examination by your vet. This may include taking some X-rays to look for root problems and abscesses. A dental cleaning and polishing along with removal of any cracked or broken teeth, plus treatment of any abscesses will start your dog off with a clean mouth and relatively fresh breath.

It is then up to you to follow up with preventative care at home. Ideally, that means daily tooth brushing or use of a gauze and gel to clean teeth daily. There are additives you can put in your dog's water and even dental hygiene oriented diets. You can experiment and find which solution works best for you and your dog. Bad breath can be handled!

## Vegetables for Your Dogs or Cats? Absolutely!

17 May, 2017 Abridged <http://petpav.com/vegetables-dogs-cats-absolutely/>

Adding vegetables to your dog or cat's daily diet (if they allow it) is healthy and offers variety, minerals and fibers. How many vegetables should you give your dog or cat? Where dogs can eat around 30% of plant foods in their daily diet, cats only require around 5-10%.



Dark green vegetables have chlorophyll which is great for cleansing. Green vegetables contain chlorophyll which is cleansing and detoxifying. Chlorophyll is a great liver ally, assisting in the removal of toxins and heavy metals from the body and also shows anti-carcinogenic potential.

Vegetable Choices that are safe and encouraged: You can experiment with most vegetables. Try any of the following: carrots, celery, chard, spinach, avocados, kale, squash, watercress, cabbage, turnips, broccoli, peas, green beans, cauliflower and asparagus. And yes, brussel sprouts!

Sweet potatoes are higher in sugar content and should be used in smaller proportion to any above-ground vegetable choices. Carrots are great for our pets teeth. And celery is high in fiber, water and low calorie! Consider steaming or boiling veggies such as broccoli, cauliflower, and cabbage, as they are much easier to digest when cooked.

Vegetables that are unsafe your pets: Never feed your pet onions or garlic as they are toxic in all forms. These cause damage to the red blood cells, ultimately causing them to burst. Rhubarb and wild mushrooms also contain toxins.

If you want to change your pet's diet to a healthy, holistic, species-appropriate diet or are embarking on a natural homemade or raw food diet, consult your veterinarian.



## EVENTS

**February 18--Paws To People Board of Directors' Meeting** 1pm at Nick & Jimmy's Restaurant. 5021 Pan American Freeway, NE. ABQ



**Ongoing--Recycle** Bring your empty **Earthborn** dog and cat food kibble bags (any size), cans, and treat bags to Boofy's Best for Pets 8201 Golf Course RD NW. **Now also accepting Wellness** brand bags! Recycled bags generate rebate that funds benefit Paws To People.

### Spring Clean for a Cause

Don't waste them anymore! Want to declutter your closet? Need room for the new season styles? Just want to help two great local nonprofits...



Recycle your gently used shoes into funding dollars to save the lives of people and pets and at the same time, support sustainable food education in Albuquerque.

Pair your shoes up and drop them in the bin at one of our Business Sponsors. It is just that easy. But you must hurry, this campaign ends March 11.



**Ongoing--Gently used Shoe Drive Ends March 20.** Benefits Paws To People and [Sanctuary@ABQ](http://Sanctuary@ABQ.org). Drive earns us a finder's fee that will let us direct more donation dollars toward projects that better the lives of people and pets. It is easy to help: just bundle up those old shoes in pairs (tie laces or rubber band) and drop them off in a collection bin at one of our partner businesses:

Boofy's Best for Pets 8201 Golf Course Road NW, ABQ  
Good Shepherd Animal Clinic 4601 Menaul Blvd. NE, ABQ  
Monterra Apartment Homes 4217 Louisiana Blvd NE, ABQ  
Susie N Cleaners & Alterations, 9500 Montgomery Blvd., ABQ  
Foot Solutions, 4811 Hardware Dr. NE, ABQ



### On-going--One Community Auto

One Community Auto shepherds your donated car, truck, RV, or boat (any condition, operational or not) through rejuvenation and resale and donates a portion of the profit to Paws To People. It is easy to donate. One Community Auto manages the complete process from donor contact, sale and payments. They are bonded and insured. Contact us to learn more: [info@BridgesToCures.org](mailto:info@BridgesToCures.org)

### New Paws To People Zazzle store.

Always wanted a Paws To People shirt? How about a Heart Ornament with our favorite dog, Siku, featured? Look for new items appearing frequently. Visit [https://www.zazzle.com/paws\\_to\\_people](https://www.zazzle.com/paws_to_people).



### Other ways to help is to support P2P:

#### New! Givingbean Coffee

<http://www.givingbean.com/store/partner.php?partnerid=cbfd0>  
Giving Bean roasts and ships coffee directly to your home or office for a fresh-roasted difference, but...The difference isn't only in the taste....each bag helps the funding efforts of Paws To People. Giving Bean also offers loose tea, chai and more! P2P earns 40% profit per bag of coffee or tea with in-person fundraiser and earn 25% profit with online sales year-round.

When shopping at Amazon sign up for **AmazonSmile**, indicate Paws To People Organization as your charity of choice and every time you shop, you help save lives. There is no additional cost to you.



Committed to helping define a new translational approach to medicine by building bridges in order find innovative solutions to how we detect, prevent and cure diseases in animals and humans that take too many too soon.

For information or to join the fight ... visit our website: [www.BridgesToCures.org](http://www.BridgesToCures.org)  
follow us on [Facebook.com/PawsToPeople](https://www.facebook.com/PawsToPeople)  
or email us: [info@BridgesToCures.org](mailto:info@BridgesToCures.org)



## The Only Downside to Stem-Cell Therapy May be Its Cost

*Of all the advances in canine rehabilitation over the past decade, one of the least used, but possibly most useful, advances is stem-cell therapy.*

DOGWatch, Cornell University College of Veterinary Medicine, January, 2018, Vol. 22, No. 1

Stem-cell therapy takes undifferentiated stem cells and injects them into joints, tendons, and ligaments to help regenerate healthy tissues and improve arthritic joints. These stem cells come from your dog's own fatty tissues or bone marrow aspirates so there are no problems with rejection. Stem cell injections may be combined with PRP (platelet-rich plasma) injections as well for a double effect.



### Big Help with Injuries

Stem cells can help most injured or arthritic dogs. Because the cells are undifferentiated, they can adapt to an environment and develop into the type of cells needed in that area.

These cells tend to reduce inflammation where they are injected. They can help to heal injured tissues or simply regenerate new, undamaged tissues. The injected cells may even stimulate stem cells in the area to grow and develop so you get extra benefit. As these cells grow, they encourage the growth of blood vessels to supply the area—very important since some connective tissues, like cartilage and tendons, are limited in vascularity.

Bone-marrow cells can be injected immediately, while fat cells generally are sent for processing (generally a two-week time frame). Fat-cell origin cell can also be "banked" at the processing site, so they are available for future treatments for your dog. No studies have shown a benefit of one type of stem cell over another.

Stem-cell therapy is not an immediate "miracle" cure. Generally eight weeks are allowed for the cells to reproduce and differentiate in situ. During this time, your dog must be rested, so the cells can settle in and do their work. Then a gradual program of rehabilitation follows for maximum return to activity.

Dr. Kerry Brown DVM and owner of Village Veterinary Hospital in Canastota, NY, finds stem-cell therapy another weapon in his arsenal for orthopedic problems. "We use it primarily with chronic, late-stage degenerative joint disease, where we've tried everything else. I feel we have seen some good responses. We tend to use it in combination with PRP (platelet-rich plasma)," he said.

Currently, as Dr. Brown notes, stem-cell therapy is brought in as a last resort. However, studies have shown that it can be helpful early on with orthopedic problems as well. A recent study of the Veterinary Orthopedic and Sports Medicine group in Maryland showed that using stem-cell therapy could result in healing without surgery for dogs with partial cruciate ligament tears. The study also looked at using bone marrow vs. fat stem cells and found no statistical difference.

So what are the biggest issues facing stem-cell use? First, it is not inexpensive. Initial costs are highest for collecting and processing the stem cells. Stem cell banking fees are charged, but are not unreasonable, once the initial work is done. Repeated treatments are expensive.

Dr. Brown feels that there might be a way to reduce costs by combining surgery for fat collection with other surgeries. "An ideal plan might be to harvest stem-cells at spaying or neutering, as the falciform ligament is an n source, and then banking it until it is needed in the future." Certainly, for breeds prone to orthopedic injuries, this might be a good option.

### In the Future

Some pet-insurance plans will not cover this. However, some plans that do not cover stem-cell injections under their regular plan will offer riders that cover intensive rehabilitation care.

Stem-cell therapy is not guaranteed. While one dog may show a miraculous improvement, another may not. Additional rehabilitation therapies are recommended with it, such as physical therapy and underwater treadmill. There are still questions to be answered about the use of stem cells. Is its use adequate alone or best if combined with PRP?

The future is brighter for dogs with orthopedic injuries and stem cells are going to be part of that future.

## Why Do Cats Leave Their Mouths Open After Smelling?

26 January, 2018 <http://petpav.com/cats-leave-mouths-open-smelling/> Abridged.

Cats are interesting pets and do many things that entertain us. What's better than seeing your cat jump like an acrobat, roll on her back with her arms up or just give you that meaningful stare? One of the most adorable expressions is when your cat leaves her mouth open after smelling something.



The actual act is called the "flehmen rection" and occurs when your cat's mouth opens to draw air to the Jacobson's organ.

Cats often keep their mouths hanging open to help them check out their surroundings. When cats discover an interesting scent, they open their mouths to try to identify the aroma. The cat wrinkles her nose and her upper lip pulls back, creating a funny face. As your cat considers the scent, she sucks in air and transfers it to a Jacobson's organ, also known as the vomeronasal sac, which is behind the teeth in the roof of a cat's mouth. This organ processes the scents and sends signals to the brain.

The intriguing smells are usually related to territoriality issues such as cats smelling urine marks left by other cats. They also kick into gear when a female cat in heat leaves scents in an area. Male cats are more likely to display flehmen, but mother cats depend on it to keep track of their kittens. The behavior may also be used to distinguish certain food they love or even catnip!

The reason cats look dazed for a second or two, after taking in the smell, is because they can learn a lot of information about their surroundings. They mark territory using the scent glands on their cheeks and paws. The glands secrete pheromones, which are chemical substances that stimulate a behavioral response, such as an avoidance or even an aggressive reaction. When cats "spray" it's another way they are marking their territory.

Cats aren't alone in investigating with their mouths. Other species perform similar acts to the flehmen, including snakes that stick their tongues out to explore their environment and elephants that reach out with their trunks.

## Dog Communication

**A good sniff is worth 1,000 woofs**

Of the five senses, smell is a dog's predominant sense. While the human nose is equipped with roughly 5 million olfactory receptors, dogs have many millions more—dachshunds have roughly 125 million olfactory receptors, beagles have 225 million, and bloodhounds have up to 300 million. Smell is how dogs define their environment.

When another dog comes along and smells feces or sniffs another dog's rear, the sniffing dog can tell:

- If the dog is male or female;
- Approximately how old the dog is;
- Whether the dog is in good health;
- The mood or temperament of the dog;
- Diet
- Sexual status.



## Drug-Resistant Heartworm

Station WGNO from Metairie, LA, reports that a yellow Labrador retriever is the first US pet infected by a new drug-resistant strain of heartworms. The dog was on monthly heartworm prevention and contracted the heartworms in 2014. The story was just published in *Parasites and Vectors*.

The Department of Infectious Diseases at University of Georgia's College of Veterinary Medicine confirmed that the heartworms were drug-resistant and named the strain "Metairie-2014."

The new strain is helping researchers at UGA better understand and help solve the problem of drug-resistance in heartworms.

## New Endoscopic Probes Visualize Living Animal Cell Activity

8-Feb-2018 Johns Hopkins Medicine



Newswise — Johns Hopkins researchers report they have developed two new endoscopic probes that significantly sharpen the technology's imaging resolution and permit direct

observation of fine tissue structures and cell activity in small organs in sheep, rats and mice.

If clinical trials affirm the instruments' value in humans, the researchers say, the scopes could one day reduce our dependence on invasive biopsies for diagnosing cancer and other diseases.

"These tools are able to look into organs, such as the bile duct, pancreas and lungs, giving us a faster and safer way to diagnose a variety of diseases," says Xingde Li, professor of biomedical engineering at Johns Hopkins School of Medicine. Because the probe can capture images of live tissues within the body, the researchers were able to monitor changes in the metabolic activity of cells, which could be indicative of cancer, stroke or heart disease, without using a chemical label—a major advancement from similar techniques that lacked the sensitivity to capture such subtle, but distinct, dynamic changes.

The probe was also able to monitor structural changes in various types of tissues, which could be useful in diagnosing conditions where biopsies are not an option. One such application is in the prediction of preterm births. In mice, the researchers were able to assess the mechanical strength of the cervix by monitoring changes in the collagen structures within the tissue and predict which mice would give birth prematurely.

The probe, he estimates, costs less than \$1,000 to produce, and would drop with mass production.

Li hopes that if clinical trials approve the instrument for use in humans, the new probe will reduce dependence on biopsies to diagnose heart disease and cancer. This is especially important, he says, for probing organs such as the pancreas, which is not only hard to access with current endoscopic probes, but is also dangerous to biopsy.

"Ultimately, we want to be able to get images good enough so that we don't have to remove tissue from the patient," says Li.