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Can Pets Get Cancer from Owners' Smoking?

By Jennifer Coates, DVM

THE DANGERS OF SECOND HAND SMOKE FOR PETS

You must have been living on a desert island for the last few decades if you are not aware of the danger that smoking poses both to smokers and to the people who come in contact with second hand smoke. Less well known, however, is the effect that a smoke filled home can have on pet health.

First some definitions.

Second hand smoke is smoke that is exhaled or otherwise escapes into the air and can then be inhaled by nonsmokers, including pets. Third hand smoke is the residue from smoke that remains on skin, fur, clothing, furniture, etc. even after the air has cleared. Both second and third hand smoke can be referred to using the term "environmental tobacco smoke," or ETS.

Now let's take a look at the scientific studies that reveal a link between environmental tobacco smoke and serious diseases in cats and dogs.

THE EFFECTS OF TOBACCO SMOKE ON CATS

A study published in 2002 demonstrated a greatly increased risk of *malignant lymphoma* (also called lymphoma or lymphosarcoma) in cats with exposure to ETS. The relative risk for malignant lymphoma in cats with any household ETS exposure was almost 2 1/2 times higher than that seen in cats who lived in smoke-free households.

For cats with five or more years of ETS exposure, the relative risk climbed to 3.2. In other words, these poor cats were more than three times as likely to develop lymphoma as were cats who lived in a home where no one smoked.

This study and others also strongly suggest a link between oral cancers in cats and third hand smoke. It is thought that cats groom the toxins contained in tobacco smoke out of their fur, which damages tissues in their mouths.

This eventually leads to oral cancer.

THE EFFECTS OF TOBACCO SMOKE ON DOGS

Dogs can become seriously ill after long term exposure to second and third hand smoke as well. Two studies, one published in 1992 and the other in 1998, determined that cancer of the respiratory tract was more common in dogs who were exposed to environmental tobacco smoke. Interestingly, the type of cancer the dogs got was influenced by the shape of their heads.

The risk of nasal cancer increased by 250% when dogs with long noses were exposed to tobacco smoke. On the other hand, dogs with short or medium noses tended to develop lung cancer under similar conditions.

When you think about it, these findings aren't all that surprising. The extensive nasal passages of long-nosed dogs are good at filtering out the toxins contained in cigarette smoke, which protects the lungs to the detriment of the nose. These same toxins pass right through the relatively shorter noses of other dogs and then become lodged in and damage the lungs. Many other studies underline the damage that tobacco smoke does to the lining of the respiratory tract and a possible link to non-cancerous diseases such as chronic bronchitis and *asthma*.

DO ALTERNATIVES HELP?

By now you might be thinking, "I'll just smoke outside." While direct research into the effect that outdoor smoking has on pet health hasn't been performed, we can look at a 2004 study on infants and draw some conclusions.

It found that smoking outside of the home helps but does not eliminate smoke

exposure to babies. The infants of parents who smoked outdoors but not inside were still exposed to 5-7 times as much environmental tobacco smoke in comparison to the infants

of nonsmokers. Similar results could be expected for pets.

And what about vaping? Again, no direct research into the health effects of second and

third hand vaping solution on pet health has

been done, but according to the American

Lung Association:

In 2009, the FDA conducted lab tests and found detectable levels of toxic cancer-causing chemicals, including an ingredient used in antifreeze, in two leading brands of e-cigarettes and 18 various cartridges. A 2014 study found that e-cigarettes with a higher voltage level have higher amounts of formaldehyde, a carcinogen.

It's hard to imagine that inhaling substances like these or licking them off their fur could be completely risk free for pets.

CONCLUSIONS

Looking at the science brings us to the inevitable conclusion that second and third hand smoke exposure is very dangerous for pets.

If you must smoke, do so outside or switch to vaping, but know that you are still likely putting your pets' health at some degree of risk...to say nothing of what you are doing to yourself.

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**The deadline
for the June issue is
May 10**

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LOOK

Please let me know if you make a change

* **DECALS & PINS.** You can get AMSC decals (\$1.00) and replacement pins (\$7.50) from

Jacquelyn Ebersbach
3721 Eastview Avenue
 West Palm Beach, FL 33407
 saxonyms@comcast.net

***LOCAL CLUBS...**please be sure to include all information when sending Specialty tear sheets for inclusion in AMSCOPE e.g. Judges, dates, entry, obedience.

***LOCAL CLUBS...PLEASE** send a copy of your newsletter to the following members of the Local Club Bulleting Committee.

Chair: Laurie Moore
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 Veda, OR 97488
 swdesign@ymail.com

Kennalea Pratt
 535 East Woodland
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 kennalea@mindspring.com

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Report all changes to the Roster to

treasurer@AMSC.us
Bonnie Keyes
 511 River Terrace
 Endicott, NY 13760
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SMOKING...from p. 1

Cancer of the nasal cavity and paranasal sinuses and exposure to environmental tobacco smoke in pet dogs. Reif JS, Bruns C, Lower KS. Am J Epidemiol. 1998 Mar 1;147(5):488-92.

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Ed.'s note: I used to smoke several packs a day. I knew that I should stop...my father died of lung cancer...however, I enjoyed smoking. Then I saw the lungs of one of my dogs in an autopsy. I STOPPED smoking immediately.



NEW APPLICANTS

ALEJANDRA GARCIA MERINO

Ov Sant Miguel D'Olerdola 65
 08734 Olerdola,
 Barcelona, Spain
 Phone: 34617339863

Info@swatschnauzers.com

Foreign Membership Application

Alejandra has been involved with Mini Schnauzers for more than 20 years. She is a breeder and has bred 6 litters.

She has been active in Conformation, Breeding and Judging. She attends at least 20 events per year including Montgomery weekend, when possible. She belongs to the Spanish Kennel Club. She works at a bank. She is interested in ethics and health. She is interested to learn more about showing dogs and about the breed.

Alejandra's Sponsors are: Carole Weinberger and Jacquelyn Ebersbach

ALBERTO MONTILA

1209 Darwin Street
 Seaside, CA 93955
 eldoradomsc@hotmail.com
 209-331-0863

Alberto has been involved with Miniature Schnauzers for the past 6 years...

He got his start and was mentored by Bev Verna until she passed, and then with Bill and Taffee McFadden...

He has had many Regency dogs and is a breeder, has had two (2) litters and has one on the way...

Alberto is a Professional Dog Handler, and competes in Conformation, Agility, and Obedience and attends a dog show almost every weekend throughout the year...He does not belong to any local dog clubs... He is interested in assisting the club with Newsletter, Electronic Media, Education, Ethics and Health...

Alberto's Sponsors are: Carol Hafner and Kathleen Soares

ALFREDO SANTIAGO CEDENO

Urb San Rafael
 A11 Calle 1
 Caguas, PR 00725
 alfredosantiago2000@yahoo.com
 787-247-7194

Alfredo has been involved with miniature schnauzers for 15 years and has had 10 miniature schnauzers. He is a breeder and has had 5 litters.

He has participated in conformation. He attends about 8 shows in PR and about 5 shows in the USA. Alfredo belongs to Federacion Canofila de Puerto Rico, Rio Piedres, PR, Caribe Kennel Club, Guayues, PR, Portland Miniature Club, Oregon, USA, MSCNC, California, USA. Alfredo is employed in IT, Information Systems. He is ready to help the club out with rescue, awards/trophies, membership, obedience, agility, and health.

Alfredo's sponsors are Stephanie Davis-Rae and Laurie Moore

NEW APPLICANTS**AMSC Board Meeting Conference Call Minutes**

**January 10, 2019
8:00 PM Eastern Time**

HEATHER DANGELMAIER

3779 Creamery Road
Armstrong, BC, Canada
bowsers@telus.net
250-546-8639

Heather has been involved with Miniature Schnauzers since 1979. She is a breeder and has had seven (7) litters of her own.

She competes in conformation. She attends 8 – 10 events a year. She belongs to the Canadian Kennel Club, Canadian Miniature Schnauzer Club, and Vernon Kennel Club. She runs a boarding kennel and dog grooming business. She is interested in helping the club with Legislative Issues, Membership, Ethics and Health. She is interested in good breeding practices and genetics as well as sportsmanship.

Heather's sponsors are Gail Wilford and Kate McMillan

JOHN SCHAUER

19870 Welch Rd.,
Milan, MI 48160-9249
jdscha@aol.com
734-344-1203

John has been involved with Miniature Schnauzers for 40+ years. He is not a breeder. He participates in Agility and Obedience and attends about 30 events per year. He belongs to the Miniature Schnauzer Club of Michigan. John is retired. He is interested in Agility and has competed from Novice A thru MACH.

John's sponsors are Beth Santure and Lynn Baitinger

PEGGY J. AMBROSCH

1297 Leona Road,
Troy, PA 16947
peggy@ambrosch.com
570-297-4518

Peggy has been involved with Miniature Schnauzers for about 2 years. She got her Miniature Schnauzer from Gale Schnetzer,

Ward's Creek Hocus Pocus.. She is not a breeder...She is currently showing in Conformation and attends 8 – 10 events a year...Peggy belongs to the Elmira Kennel Club, in Elmira, N.Y. Peggy works as a Lab Technician and also has a grooming business. She would like to help the club out with Newsletter, Education, and Health.

Peggy's Sponsors are Vickie Kubic and Bonnie Keyes

Board Members present: Carol Weinberger – President, Patti Henderson – Vice President, Bonnie Keyes – Treasurer, Kaye Kirk – Secretary, Barbara Donahue – AKC Delegate, Gale Schnetzer, Marie Murphy, Vicki Kubic, Sonny Lelle, Patricia O'Brien, Beth Santure, Shirley Fry, Stella Van Cleave, Cathi Rohrer, Sharon Edwards, Patty Ledgerwood, Mary Paisley

A Conference Call protocol was outlined for this call and will be used for subsequent calls as follows:

- As soon as the meeting is called to order all phones should be muted unless speaking .
- A meeting facilitator will be used for all conference call meetings and the host speaker will open the floor.
- Only one person will speak at a time and will be allowed to complete remarks without interruption.
- There should be no side bar conversations so that all good ideas can be heard by all.
- To aid with note-taking, remarks should be preceded with name of person speaking who will then be identified to speak

Approval of agenda

President Carole Weinberger suggested that we needed to add the following items to the agenda:

- Nominating Committee
- Schnauzer Shorts changing the way it ranks the Miniature Schnauzers

Barbara Donahue moved to add the items to the agenda and Patti Henderson seconded. The items were added.

APPROVAL OF PREVIOUS MINUTES:

Sonny Lelle moved to approve the Minutes from the meeting of August 13, 2018 and Bonnie Keyes seconded. Minutes were approved.

BOARD REPORTS:**Report of the President**
Carole Weinberger

Carole welcomed the new members to the board.

Current membership - Total membership 441, Voting members 409, Non-voting members 28, Life Members 4

Treasurer Bonnie Keyes provided financial reports to the Board members. Discussion of what Schnauzapalooza expenses have been paid thus far. Discussion regarding membership, 65 have not yet paid. Sonny Lelle, Shirley Fry, and Barbara Donahue agreed to try to call the members who haven't paid yet. Bonnie will get them a list. A member contacted Carole and was concerned about her dues, and a discussion was had that a member can pay multiple years at once and Vicki is going to put it on the website and it should be added to AMSCOPE for future years. Sonny Lelle moved that we notify the membership that they can pay multiple years at once, Shirley Fry seconded and the motion passed.

AKC Delegate Barbara Donahue discussed the Board Meeting in Orlando and in March there will be one in New Jersey.

Then a discussion was had regarding the Crop and Dock Committee. The Orlando Crop and Dock committee was one of the best attended in several years. The Doberman Rottweiler Club was not interested in participating as was the Swedish Valhund group. AKC Government Relations is wanting to put together a document to share with legislators regarding why each breed is cropped and docked. AMSC needs to put together information to provide to AKC. Lisa Sarvis, Paula Steele and Beth Santure are also on the Special Committee. Names to be added to the group to put together the information to AKC:

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suggestions were Beth Santure, John Constantine, Paula Steele, Ronnie Smith, Patricia O'Brien and Kate McMillian.

Constitution and ByLaws

group will have something to go out to the membership, but it will not go out until after the first of March.

Montgomery County – Luana and Barbara are in charge of hospitality, hotel and caterer are booked for Saturday Night.

Judge's Education - will be presented at Schnauzapalooza

Health Committee Report:

Patricia O'Brien reported on the Health Committee activities-

- One report of PRA from a foreign registry
- Starting to monitor the FB page for DCM
- PRA-B test - we have no stance on the test, does not produce a clear picture.
- Dr. Geiger has submitted a manuscript, and is now working on revisions before publication. Lab in UK now running MAC test.

Historian & Policy - Richard Isley was the chair for many years, but resigned last year. Barbara Donahue is going to check with other parent clubs as to what their historian's duties are and report back to Patti Henderson.

Judge's selection - Judges for 2020 have been announced. Bonnie is going to chair the selections for 2021.

Legislative - Kennalea Pratt has resigned all the committees that she was on. Vicki will look for some others to be on legislation.

Local Club Newsletter - would be great for some new members to be part of this committee. Would help them get involved. Will look at some new members for committee. Vicki is going

to contact Jacque Ebersbach to see if she can put together a list of newest members.

New Membership Applications: Alejandro and Jesus Racini, Linda Reinhold, Marianne Kitchell, Brinda O'Neill-Hall, Kristi and Eric Riley

Nominating Committee: It is time to begin the work of the Nominating Committee. Specific details re committee composition requiring members to be from all geographic areas of the country. In accordance with the C&B will consist of 5 members, not more than 2 of whom may be members of the Board. The Board shall name a Chairman for the Committee. Vicki Kubic will put out a call to the AMSC list to see who might be willing to be on the committee. Emails will be sent to both membership list and board list looking for members.

Publications - Have had a few requests for the breed standard and grooming charts. Have plenty for the judges' seminar. May need some more CDs.

Trophies - Discussion regarding trophies for Schnauzapalooza. Tatiana Myers is the artist for the trophies.

Ways & Means - Jackie Harris and Carol Henning are significantly involved with Schnauzapalooza. Because of the importance of the revenues generated by the Schnauzapalooza '19 store the AMSC specific items will not be unveiled until after this event.

Website – As one of the co-chairs for Schnauzapalooza '19, Vicki is updating AMSC media – the AMSC-List and AMSC Website – as soon as palooza news is made public.

UNFINISHED BUSINESS –

2019 Committee assignments Approval – The following committee assignments are being recommended need to be approved; need to approve committee assignments.

Judge's Education -John Constantine

Health Committee -Patricia O'Brien Chairman, Paula

Steele, Lisa Sarvas, Patti Henderson, Kurt Garmaker, Donna Hills;

Rescue and AMSCare is being recommended to be combined with current chairs - Kelly Radcliff, Rescue Chair & Jana King, AMSCare Chair – to serve as co-Chairs of combined committee.

Legislative Liaison - Vicki Kubic;

Membership & Insignia - Jacque Ebersbach;

AMCEstry -Owen Clouss;

AMSC-L, Website & Social Media - Vicki Kubic, Jackie Harris, & Helen Carter;

AMSCOpe - Carla Borrelli;

Awards – Sue Ratz;

Breeder Referral - Deborah Huff;

Versatility Awards - Lynn Battinger;

Montgomery County Ads - Amy Gordon;

Performance & Companion events - Robin Ohrt, Deb Hoy, Kathy Farr and Kaye Kirk;

Constitution & By-Laws - Chris Levy;

Montgomery County Hospitality - Barbara Donahue & Luana Nedich;

Ethics - Margo Klingler, Marsha Feld, Patti Henderson and Marie Murphy;

Guidelines - Luana Nedich;

Judge's selection - Bonnie Keyes;

Publications & Literature - Patricia O'Brien;

Trophies - Barbara Donahue and Amy Gordon;

Ways and Means - Jackie Harris & Carol Henning;

Specialty Coordinator - Montgomery County - Lloyd Amodei;

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Schnauzapalooza - Patti Henderson & Carole Weinberger;

Election of new members: applications for Alejandro and Jesus Racini, Linda Reinhold, Marianne Kitchell, Brinda O'Neill-Hall, Kristi and Eric Riley were each reviewed. Patty Ledgerwood moved for approval Vicki Kubic seconded. Motion was unanimously carried. Mary Paisley will notify Jacque to send packets. Access to Email List will be initiated.

Annual awards – Carole once again reviewed the circumstances involving the failure of Annual awards being presented at the MCKC Annual Board Meeting. Carole had been accustomed to sometimes receiving the Award information before the meeting and sometimes just before. It was her expectation that this would be no different and assumed as in the past the information would be sent. She is very apologetic that things did not work out and assumes full responsibility for this major oversight. Fortunately most have been understanding that sometimes bad things can and do happen. In an effort to correct the issues that occurred Carole has appointed a new Chairperson and has instituted a process to be formalized as new guidelines which will be presented to the Board when completed. In the past there has been a problem determining the performance awards, but it is included in the new process. The 2017 awards are as follows:

Top Conformation Schnauzer

Dog - GCHS Minuteman Justified - Breeder/Owner - Catherine McMillian, Co-Owner - Vickie Potter Boechler

Bitch - GCHS Lonestar's Silver Slippers - Breeder - Rich & Sharon Edwards, Owner - Susan Shelton

Top Producing Dam - Tie –

AM/Can CH Dreamaker's Spitfire - Breeder/Owner Ken & Elaine Allen

GCH Car*-Benz Hotel California - Breeder/Owner - Carole Benson

Top Producing Dog –

GCH Minuteman Up With the Birds - Breeder/Owner Catherine McMillian

Top Agility Dog –
MACH 8 Rudi Eile Phillips of Prairieland CDX, BN, MXG3, PAD, MJBa4, PJS, MFG, TQX, T2B5 THD CGC – Breeder - Joanne Toft & Teresa Handlen; Owner - Marjorie Sue Phillips

Top Obedience Dog –

MACH Southcross Double Feature UDX2 OM4 BN GN VER RAE MXB MJB SE RATO CGC TKA - Breeder - Sonny Shanks Lelle, Owner - Christine Carter

The above list will be published both in Schnauzer Shorts and AMSCOPE. The AMSC, its officers and members salute & congratulate the winners of the 2017 awards!

Discussion regarding awards only going to breeder when someone else owns and shows the dog. Perhaps owner should also be recognized. Committee created to revisit how we award the top winners in our breed - on committee - Sonny Lelle, Beth Santure, Gale Schnetzer and Marie Murphy. Group should have a report for the April Board meeting.

Schnauzapalooza - Discussion regarding budget - after all is said and done Schnauzapalooza will make money. Because of the many unknowns as to entries and revenues generated a final accounting is difficult at best. Patti and Bonnie will rework the budget numbers. a proposal was made for AMSC to fund the reduced cost of an Impact Crate to include for the AMSC raffle items that will be held as part of the **Top Miniature Schnauzer** event. The cost of the crate would be approximately \$300. an anonymous member graciously volunteered to pay \$150 towards payment for the crate.)

The next board meeting will be at Schnauzapalooza Wednesday, April 3, 2019 at 4:40 pm in the Founders Room, Purina Farms. Patty Ledgerwood moved to adjourn at 10:45 pm Eastern , and seconded by all.

Kaye M. Kirk

Secretary

Bouquets & Biscuits

CH. SUMERWYND STEPPIN' OUT was the second from a litter sired by GCHS Earthsong Remedy For The Blues and out of Sumerwynd Sensational to finish their AKC Championship. Kinko, a salt & pepper, earned the final major at the Kennel Club of Anne Arudel Show for breeder/owner Wade Bogart.

This is a tip that I hope you'll

never have to use, but one that I feel strongly that every dog owner should know. It's an acupressure point taught in almost every canine first-aid class because you can use it to keep your dog alive, in emergency situations until you reach veterinary care.

Although some may scoff at acupressure thinking it is too weird or fringe, there are many stories of how this simple technique has resuscitated dogs that have been pronounced "clinically dead."

If your dog suffers a seizure or traumatic injury and loses consciousness this techniques isn't only worth a try, it could save his life.

Simply rest one hand comfortable on your dog, and place your thumb just above your dog's upper lip, halfway between his nose and mouth and gently apply about 2 pounds of pressure for approximately 30 seconds. It should help your dog regain consciousness.



You Can't Predict This Medical Emergency, but These Dogs Sure Can

Dr. Karen Shaw Becker

It seems the sky's the limit when it comes to the ways in which our canine companions help us, both through the bond we share with them and their innate ability to sense things we cannot. Not only do dogs offer us companionship, friendship and comfort, but they also work beside our military and law enforcement officers and in a wide variety of other important roles assisting humans, including medical detection work.

In fact, for years diabetes service dogs have worked with people with Type 1 diabetes who experience hypoglycemic unawareness, meaning they do not sense that their blood sugar is dropping rapidly or is dangerously low until they have symptoms such as stomach cramping, nausea, dizziness and even seizures.

Diabetes Dogs Accurately Detected Blood Sugar Changes 83 Percent of the Time
Research conducted in the U.K. a few years back and published in the journal PLOS ONE, evaluated the accuracy of dogs trained to detect hypoglycemia (low blood sugar) in people with Type 1 diabetes.¹

For the study, the University of Bristol research team collaborated with a U.K.-based organization that trains dogs for medical detection purposes. The dogs recruited for the study were owned by people with Type 1 diabetes, and all were specially trained to detect the smells associated with a drop in blood sugar and to alert their owners.

There were 10 breeds/breed mixes represented, including Labrador and Golden Retrievers, Lab/Golden crosses, Poodles, Collie crosses, Labradoodles, Lurchers, Cocker Spaniels and Yorkshire Terriers.

The researchers looked at 12 weeks' worth of blood sample records from the diabetic patients, as well as reports of all the instances in which the dogs alerted them of an impending hypoglycemic episode. In over 4,000 instances of hypo- and hyperglycemic episodes, the dogs correctly warned their humans 83 percent of the time.

"We already know from previous studies that patients' quality of life is vastly improved by having a medical detection dog," study co-author Nicola Rooney, Ph.D. told MedicalNewsToday. "However, to date, evidence has come from small-scale studies. Our study provides the first large-scale evaluation of using medical detection dogs to detect hypoglycemia."²

Medical Detection Dogs Offer Natural, Noninvasive, Proactive Solutions

The study authors emphasize that dogs who will be used to detect blood sugar fluctuations must receive professional training. Equally important is the relationship that develops between the human diabetes patient and his or her dog.

"Since the usage of such dogs is growing," explains Rooney, "it's important that any dogs used for these purposes are professionally trained, matched, and monitored by professional organizations like Medical Detection Dogs. It's also vital that research continues both to assess true efficacy and determine ways to optimize their performance."

Medical Detection Dogs also provides specially trained dogs to people with other types of medical conditions as well.

"Our dogs ... serve the wider medical community by offering proactive solutions that are natural, [noninvasive], and have been shown to provide countless psychological benefits," says Claire Guest, co-founder of the organization. "As our natural companions, and with a highly refined sense of smell, why shouldn't they be able to detect changes in our personal health?"

How Do Diabetes Dogs Know When Blood Sugar Levels Drop?

As mentioned above, diabetes service dogs are trained to recognize symptoms of dropping or too-low blood sugar and alert their humans in time to avoid a medical emergency, called a hypoglycemic attack or "hypo." These specially trained dogs are often able to help people with Type 1 diabetes live a normal, active life.

So, how do the dogs do it? What is it they sense or smell when a person's blood sugar is plummeting? This question has baffled scientists for years, but another team of researchers in the U.K. thinks they may have found the answer.

Their findings, which were published in 2016 in the American Diabetes Association journal Diabetes Care, suggest the dogs smell a common natural chemical found in exhaled human breath called isoprene.⁴ Humans are unaware of the odor of isoprene, but dogs, with their keen sense of smell, can pick it up. According to study co-author Dr. Mark Evans of Addenbrooke's Hospital, University of Cambridge:

"Isoprene is one of the commonest natural chemicals that we find in human breath, but we know surprisingly little about where it comes from. We suspect it's a by-product of the production of cholesterol, but it isn't clear why levels of the chemical rise when patients get very low blood sugar."

For the study, which was performed in a carefully controlled setting, the researchers lowered the blood sugar levels of a group of volunteers with Type 1 diabetes while using special equipment to detect the presence of certain chemicals in their breath as they exhaled.

The scientists observed that isoprene levels were significantly elevated while the women were experiencing hypoglycemia. In some of the volunteers, the isoprene level almost doubled. The researchers hope their study results can be used to develop new tests for detecting hypoglycemia and reduce the risk of potentially life-threatening complications for people with diabetes.

How Diabetes Service Dogs Help Their Owners

There are actually two different types of diabetes service dogs. There are medical response dogs, and diabetic alert dogs. Medical response dogs are trained to alert their owners once they show symptoms of low blood sugar.

Diabetic alert dogs, on the other hand, are trained to pick up changes in their owners' blood chemistry, and then alert either their owners or caregivers to take action. Typically, there is a 15- to 30-minute window in which to treat a low blood sugar situation before the person starts to experience symptoms. There are a number of behaviors the dogs can be trained to perform to alert their humans, for example:

- Sitting and staring at his owner
 - Touching his owner with his nose
 - Holding a small, soft toy in his mouth that is always hanging from his collar
- Jumping up and putting his paws on his owner's shoulders

The dogs might also be trained in other assistance behaviors, including getting the attention of another family member if his owner needs help, bringing objects to his owner (e.g., medications), fetching the owner's cell phone and even dialing 911 himself, using a special device.

ED.'s Note: One of my Standards used to tell me when my mother's blood sugar was high. Every morning she would greet my mother. Some mornings she would immediately come and put her paws on my chest after the greeting. I came to realize that the action only occurred when my mother's blood sugar was high.



Right now, I have a Standard that knows when my pain level increases and also knows, in advance, when I am going to be dizzy. She also knows how to press an emergency button if I am in trouble.

They Scanned Dogs' Brains, Made an Intriguing Discovery About Our Talk

Dr. Karen Shaw Becker



Not long ago, researchers in Budapest published a fascinating study that looked at how dogs' brains process human speech.¹ They came to the conclusion that our canine friends listen not only to what we say, but how we say it.

The scientists discovered that when we praise our dogs, the reward centers in their brains perk up if the words we use match our tone of voice. These findings suggest the ability to process words evolved much earlier than was originally thought and may not be unique to humans. According to Phys.org, the study shows:

"... [T]hat if an environment is rich in speech, as is the case of family dogs, word meaning representations can arise in the brain, even in a non-primate mammal that is not able to speak."²

Dogs May Use Brain Mechanisms Very Similar to Ours to Process What We Say

For their study, the researchers recruited 13 family dogs — primarily **Border Collies** and Golden Retrievers — who excelled at lying completely still in an fMRI scanner, facilitating analysis of their brain activity. The dogs were volunteer study participants, meaning they were never restrained inside the scanner and could leave at any time.

The researchers recorded a trainer's voice saying certain phrases with varying types of intonation. In the recordings, the trainer praised the dogs using Hungarian words and phrases that in English translate to "good boy," "super" and "well done." The words were spoken in both an upbeat tone and a neutral tone. The trainer also used neutral words like "however," and "nevertheless" that meant nothing to the dogs.

While the recording played, the researchers studied the scans for regions of the dogs' brains that were differentiating between the praise and meaningless words, as well as praise and neutral tones of voice. They observed that the dogs used the left hemisphere to process meaningful (but not meaningless) words, and the right hemisphere to **process vocal tones**. Per Phys.org:

"This was the same auditory brain region that this group of researchers previously found in dogs for processing emotional non-speech sounds from both dogs and humans, suggesting that intonation processing mechanisms are not specific to speech."

Lead researcher Attila Andics of Eötvös Loránd University in Budapest explains:

"During speech processing, there is a well-known distribution of labor in the human brain. It is mainly the left hemisphere's job to process word meaning, and the right hemisphere's job to process intonation."

*The **human brain** not only separately analyzes what we say and how we say it, but also integrates the two types of information, to arrive at a unified meaning. Our findings suggest that dogs can also do all that, and they use very similar brain mechanisms."³*

To Make Your Dog Light Up, Praise Him With Your 'Happy Voice'

The researchers further observed from the scans that the dogs' reward centers (the region of the brain that processes enjoyable sensations) were strongly triggered by **praise**, but only when the praise was spoken in an encouraging, **positive tone**.

All other combinations of words and vocal tones resulted in much less reward center activity. For example, when the trainer said "good boy" in a neutral tone, or "however" in either a positive or neutral tone, the result was the same — the dogs' reward centers didn't light up. According to Andics:

"It shows that for dogs, a nice praise can very well work as a reward, but it works best if both words and intonation match. So dogs not only

tell apart what we say and how we say it, but they can also combine the two, for a correct interpretation of what those words really meant. Again, this is very similar to what human brains do."⁴

Processing Words Doesn't Necessarily Mean Understanding Their Meaning

"One important thing is that we don't claim that dogs understand everything we say, of course," Andics told The Huffington Post in an email.⁵ There can be a difference between a dog processing words for their familiarity and actually understanding the words as we intend. As study co-author Adam Miklosi, Ph.D., head of the Family Dog Project told Scientific American magazine:

"'Understanding' is a tricky word. Studies using brain imaging technology cannot firmly say that the activation of a specific brain area indicates 'understanding.'

For sure, dogs in this study reacted to the meaningful words, that is, to those words that their owners often use when they want to attract the dog's attention or provide a positive feedback for the dog. So in this sense our dogs recognized these words as familiar and probably meaning something good."⁶

An important result of the study is that it demonstrates the left hemisphere of dogs' brains processes meaningful words separate from the vocal tone. This suggests your dog may understand that "good dog" is praise regardless of the tone of voice you use when you say it, because he recognizes those words as meaningful versus meaningless.

*"We think that intonation is important," says Miklosi. "Owners should learn how to praise a dog, and then use the same expression in similar way. Consistency in praising and in general in **communication** with the dog is important."⁷*

The researchers suspect they would have similar results in studies of other domestic animals like cats and horses, as long as the animals had lived among humans. They hope this study and subsequent research can be used to enhance communication and cooperation between dogs and humans.



AMSCOPE

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UPCOMING SPECIALTIES

Lone Star MSC July 4, 2019
Judge: Thomas L. Hossfeld
Sweepstakes: Barbara Casey

Milshore MSC July 26 2019
Sweepstakes: Tim Malueg
Regular Classes
Show 1 John Constantine Amodei
Show 2 Julie Felton

AMSC SPECIALTIES

Montgomery County 2019
Regular Classes - Brian Bogart
Sweepstakes Classes - Carla Nickerson

Roving Specialty April 11, 2020
Sacramento, CA
Regular Classes - Mrs Marcia Feld
Sweepstakes - Gail Wilford

Montgomery County 2020
Regular classes - Mrs Bergit Kabel
Sweepstakes - Cheryl Coffman

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