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the  
**VET**girl  
COOKBOOK

## delicious dill pickle pasta salad

### ingredients

½ pound of dry pasta (approximately 3 cups - any shape will do!)  
 ¾ cup sliced dill pickles  
 ¾ cup diced cheddar cheese  
 3 tablespoons finely diced white onion  
 2 tablespoons fresh dill  
 ½ cup pickle juice

### Dressing:

¾ cup mayonnaise  
 ½ cup sour cream  
 ½ teaspoon cayenne pepper (adjust accordingly for your level of spicity!)  
 4 tablespoons pickle juice  
 salt/pepper, to taste

### directions

**1** Boil pasta al dente, then run under cold water to halt cooking. Toss pasta with ½ cup pickle juice and set aside.

**2** Combine all dressing ingredients and mix well. Drain pickle juice from cooled pasta.

**3** Toss all ingredients into large bowl and refrigerate for 1 hour before serving. Eat it all up...Yum!

*Servings - 8*



Note: A fave at any potluck - always requested!

Submitted by Denise Woods-Natale

## crock pot pork carnitas

### ingredients

1 large pork tenderloin  
 1 can Ro\*tel™ tomatoes and diced green chilies, drained  
 1 jar green salsa  
 1 tablespoon paprika  
 1 teaspoon cayenne pepper  
 (I omit this if making for kids)  
 3 bay leaves  
 tortillas  
 Mexican rice or refried beans, (optional)

\*Sour cream, Mexican cheese and cilantro for toppings after cooking

### directions

**1** Place pork tenderloin in the crock pot. Top with drained Ro\*tel™ and green salsa.

**2** Sprinkle paprika and cayenne (omit if for kids) over tenderloin. Place bay leaves over tenderloin.

**3** Cook on LOW for 6-8 hours or on HIGH for 4-6 hours depending on how fast your crock pot cooks.

**4** Remove bay leaves. Remove tenderloin, shred it with forks, then place back into crock pot and stir.

**5** Serve over tortillas with your favorite toppings and roll it up like a burrito. Enjoy!

**6** I usually make Mexican rice or refried beans for sides.

Submitted by Liz Flinn



# HOW TO SURVIVE AS A VETERINARY TECHNICIAN

AMY NEWFIELD, CVT, VTS (ECC)

[In the VETgirl veterinary technician webinar, Amy Newfield, CVT, VTS \(ECC\) discusses how to survive as a Veterinary Technician.](#)

## KEY HIGHLIGHTS

Surviving in a profession is good, but the real test is how do you *thrive* in a single profession for a lifetime. No one can make you enjoy this profession or become successful other than yourself. You may find some mentors along the way, but ultimately the success of you in this profession lies within you.

### 1 WHAT IS YOUR PASSION?

Passion is the thing that makes you smile, that aspect of your job you really enjoy and the thing you want to keep doing. The amount of different areas that a veterinary technician can work in is vast. If you are bored or feeling burnt out at your job, ask yourself “What do I enjoy about this job?”. Chances are you don’t dislike *all* of it. There are likely some parts of it you really do enjoy. Maybe you gravitate towards radiology or anesthesia or really love running laboratory work. Find your passion and then obtain your passion.

### 2 TAKING OWNERSHIP OF YOUR PASSION

You will need to step out of your comfort zone to obtain your passion. The only person preventing you from getting to do the thing you really love the majority of the time is you. You can choose to work with specific species: feline only, canine only, exotics, zoo, large animal, equine only, lab animal. You can choose to work in a specialty. You can choose to work for a small company, large company, teaching



hospital, the government, a nonprofit or a school. The best part of being a veterinary technician is if you find another passion later in your career you can go and work in your passion.

### 3 EDUCATION

Those that thrive in this profession continuously educate themselves. Learning not only increases your knowledge but elevates the entire practice and the care to the pets you work with. **(This is one of the reasons why VETgirl created a specific veterinary technician track [HERE!](#))** Increasingly your knowledge definitely leads to more opportunities as well as increases in salary. Putting your continuing education on your resume

shows potential employers that you are committed to your field and that you are current in medicine. If you have been working in the profession and it’s been more than two years since you did any continuing education, then you are already setting yourself up to fail. Medicine is a constantly evolving and updating field. In order to survive in this profession, you must evolve with it. Failure to do so will cause you to fail for your patients and yourself. You likely went in to this profession because you loved pets and medicine. If you are finding yourself stagnant in your job, it’s likely because you stopped learning.

*(continued)*

# HOW TO SURVIVE AS A VETERINARY TECHNICIAN

AMY NEWFIELD, CVT, VTS (ECC)

(cont)

## 4 GET OUT OF THE TOXIC WORK ENVIRONMENT

Sometimes despite knowing your passion is simply not enough if you work in a toxic work environment. It's possible you are not even aware that you are in a bad working environment or it's possible you are the cause of it.

- **No one likes gossip.** Gossip occurs when an individual speaks about another individual when they are not present. There is "positive" gossip and "negative" gossip, but both forms can be harmful and not welcomed by most people. While technicians say they don't like gossip in a work environment the reality is that most people will listen to, enjoy and even feed in to the gossip being given to them. A work environment where gossip overruns the practice is a toxic work environment. It breeds distrust, disrespect and dislike amongst coworkers. You will never survive in a toxic environment. If people around you are telling you negative thoughts throughout the day, will never excel. You will be filled with negativity, thoughts of why the practice is bad to work at and you will experience demotivation. Conversely, if you are the one providing the gossip then you are the one who is demotivating the rest of the staff.

- **If your work environment is toxic you have three options:** Recognize and Ignore It, Express your Concerns to the Manager or Leave and Find

a Healthier Environment. There are some people who recognize it's a toxic environment and have the ability to ignore the gossip and negative issues, put blinders on and still thrive. You should always tell your manager or owner if you find yourself in a toxic environment. Be sure when you express your concern you don't play the blame game. Sit down and express your concern about this individual dragging down the team as a whole. Express your concern about the overall team's health. Lastly you can leave. Unfortunately, there are some working environments that are simply toxic. It's not that they can't be fixed, but it's that they cannot be fixed by you. This type of work environment requires aggressive help from management or the owner. If you have expressed your concern and nothing has changed sometimes it is best to move on.

## 5 OUTSIDE LIFE

You must have a healthy work-life balance. Yes, there will be days you get stuck late at work. Yes, there will be days you get called in. If you work on salary you may find times you work 50-60 hours a week. Go home, unwind and stop going online or on your smartphone to check on work. If you are in a management position be sure to set boundaries for your employees and the company. It should be normal to assume that not everyone is available 24/7. If your job asks you to be on call be sure to be compensated for it. Most states require hourly

employees to be paid for on call if it is a requirement of the job. If you are salaried and it is a requirement be sure to set boundaries and make sure the request is reasonable. Above all else you must find time to go home, get away from work and live life...and hug your own pets!

(continued)



# HOW TO SURVIVE AS A VETERINARY TECHNICIAN

AMY NEWFIELD, CVT, VTS (ECC)

(cont)

## 6 RECOGNITION OF STRESS

Technicians work in stressful work environment. It is a labor intensive and an emotionally charged profession. Technicians are constantly helping others. They help clients, pets and their coworkers. Unfortunately, they often drop the ball when it comes to helping themselves. You cannot survive in this profession if you do not help yourself.

**Burnout and compassion fatigue are two different things which may be causing you not to survive in this profession.** Burnout is a cumulative process in which the individual slowly lacks empathy for a particular situation and is due to an increase in stress or workload. The individual often has feelings of anger and does not care about their work as much as they use to. They watch the clock and know exactly how many minutes are left in each shift. If they see a mess, they walk over it rather than stopping to clean it up because they simply have stopped caring due to burnout. Compassion fatigue is an emotional strain from the consequences of traumatic events such as a stressful case or event. An individual experiencing compassion fatigue may have nightmares about a particular event, be more emotional or think about a particular event if something triggers it. Perhaps they poured their heart and soul out over a tragic case of a young dog that was hit by a car. After a week of trying to save the dog it died. That technician can still show empathy to other patients, but

may be more emotionally invested, cry if they see the same breed of dog or not want to work with a hit by car for some time. The two syndromes can be experienced together.

## 6 RECOGNITION IS THE FIRST STEP

Realizing that you need a vacation or a break from work for a few days is important. Talking to your manager, coworkers or a professional will help as well. If you have been in this business long enough you have a good chance of experiencing one or both of these things. Everyone has different coping mechanisms and it's important to find yours.

Besides burnout and compassion fatigue the simple nature of the job can play as toll on an individual.

Taking care of yourself while on the job is equally important to taking care of yourself after. Even if you work long shifts and the clinic is very busy you must stop to do the following: eat, stay hydrated, go to the bathroom and laugh. Failure to do these things will result in exhaustion and misery. It does not take long to do any of those things and taking a few minutes to do one of them will make you happier in your job. A happy technician equals better care to clients, pets and coworkers. Equally important is living a good lifestyle when you get home. Getting a good night's sleep, eating well and working to stay healthy will keep you performing better at your job.

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# X, Y, Z: NAVIGATING GENERATIONAL DIFFERENCES ON THE VETERINARY TEAM

JEANNINE MOGA, MA, MSW, LCSW  
Chief Happiness Officer, VETgirl, LLC

[In the VETgirl webinar, “X, Y, Z: Navigating Generational Differences on the Veterinary Team,” Jeannine Moga, MA, MSW, LCSW, explores what generational differences mean for workplace communication, culture and management and how to build common ground to optimize engagement, productivity, and connection amongst diverse team members.](#)

## KEY HIGHLIGHTS

Boomers are workaholics, Gen Xers are sarcastic sourpusses, and Millennials are lazy and entitled... right?

**1** While marketers LOVE to reduce groups of people into sound bites, and organizational managers are always looking for a better way to understand and motivate their workers, the stereotypes we apply to entire generations of people are rarely accurate. In fact, a significant amount of social science research has been devoted to teasing out what differences, if any, exist between cohorts of people whose birthdates expose them to shared developmental milestones and cultural experiences (the technical definition of “generation,” in case you’re curious). Interestingly, the assumptions we make about generational membership and traits – as funny and/or crass as they may be -- simply aren’t supported in the scientific literature. In truth, your membership in Generation X, Y, or Z (or even your status as a more “seasoned” Boomer or Silent Generation worker) is unlikely to matter in terms of your work attitudes<sup>1</sup> (motivation, commitment, job satisfaction) or work ethic.<sup>2</sup>

What IS true is that the American workforce is now comprised of five generations of workers, and both consumers and workers are aging at a historic rate. According to

AARP, 10,000 people turn 65 every day and the current workforce is unprecedented in its generational diversity, mostly because folks are both entering the workforce earlier and delaying retirement.<sup>3</sup> The challenge, then, is to make sure that workers, regardless of generational membership, are continually working across difference to cultivate **21st century skills**.

**2** *What are 21st century skills?* Depending on who you ask, they might include interdisciplinary problem-solving and digital literacy<sup>4</sup> or a host of similar competencies related to communication, collaboration, adaptability, and ethical leadership.<sup>5</sup>

It is important to note that these skills are not cultivated in isolation. In fact, they may be developed most effectively through an activity called “co-mentoring.” Co-mentoring links older and younger workers together intentionally such that each worker can help the other in areas where exposure to, and practice with, a skill may be lacking. For instance, a recent graduate in my current office – a member of Gen Y who is remarkably adept with social media and all things techno – has taken the reins of the office’s social media platforms and is teaching the Xers how to more effectively manage digital marketing.

*(continued)*



# X, Y, Z: NAVIGATING GENERATIONAL DIFFERENCES ON THE VETERINARY TEAM

JEANNINE MOGA, MA, MSW, LCSW  
Chief Happiness Officer, VETgirl, LLC

(cont)

In turn, the Xers are schooling this staff member (and other recent grads) in how to reason through complicated ethical dilemmas and navigate interdisciplinary systems -- skills born of many years in the trenches of primary care. Using a co-mentoring model, everyone has something to learn from everyone else -- and people's skills and experiences can be intentionally wielded to build collaborative relationships within the multi-generational team. Instead of engaging the stereotypes related to who is perpetually plugged in and who is too cynical to engage the Twitter feed, we can engage each person's strengths and aptitudes to build the team most likely to succeed in an ever-evolving marketplace.

**3** Beyond skills-building, though, the strongest and most productive teams will be the ones in which every person's needs for trustworthy leadership, interpersonal respect, purpose-driven work, autonomy, and fair compensation are both understood and satisfied. It is these workplace qualities, after all, that most people value regardless of which generation they are a part of. And when the rubber hits the road, it is these qualities for

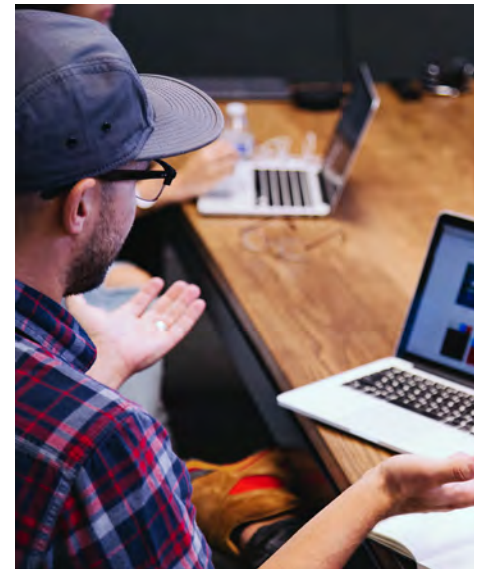
which all members of the veterinary team can advocate if we learn to press "pause" on stereotypes and automatic judgments. Additionally, practice owners/managers would do well to remember to communicate clearly (via face to face, email, and text messaging), set and explain consistent expectations, and explore new and/or conflicting ideas through a lens of **curiosity** instead of judgment. Keeping these things in mind will help to moderate individual differences while also leaving plenty of space for innovation to emerge.

**4** Remember: work teams are at their best when everyone can rise to meet the challenges of practice, and stereotypes only limit our ability to see others' strengths.

<sup>1</sup> Constanza, D., Badger, J., Fraser, R., Severt, J., & Gade, P. (2012). Generational differences in work-related attitudes: A meta-analysis. *Journal of Business Psychology*, 27: 375-394.

<sup>2</sup> Zabel, K., Biermeier-Hanson, B., Baltes, B., Early, B., & Shepard, A. (2017). Generational differences in work-ethic: Fact or fiction? *Journal of Business Psychology*, 32: 301-315.

<sup>3</sup> <https://www.aarp.org/disrupt-aging/stories/ideas/info-2016/generational-stereotypes-debunked.html>



<sup>4</sup> Partnership for 21st Century Learning. (2019). Framework for 21st Century Learning. Retrieved from <http://www.battelleforkids.org/networks/p21>.

<sup>5</sup> North American Veterinary Medical Education Consortium (2011). Roadmap for Veterinary Medical Education in the 21st Century. Retrieved from [https://www.aavmc.org/data/files/navmec/navmec\\_roadmapreport\\_web\\_single.pdf](https://www.aavmc.org/data/files/navmec/navmec_roadmapreport_web_single.pdf).

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# CANINE LEPTOSPIROSIS

JENIFER CHATFIELD, DVM, DIPL. ACZM, DIPL. ACVPM

[In the complimentary VETgirl-Merck webinar, Jenifer Chatfield, DVM, Dipl. ACZM, Dipl. ACVPM, reviewed Canine Leptospirosis.](#)

## KEY HIGHLIGHTS

**1** With ~75% of all emerging pathogens zoonotic, a One Health approach to infectious disease evaluation becomes increasingly more prudent. With the recent re-emergence of leptospirosis, veterinarians remain the frontline in infectious disease detection and response.

**2** Leptospirosis is one of the most exciting re-emerging pathogens in the USA. In fact, in the last 10 years, research indicates that the old dogma regarding risk of leptospirosis infection has been reversed. For example, recent investigations indicate that a risk factor for infection is a dog living in an urban area, rather than a rural dwelling dog as was historically thought to be at bigger risk. Additionally, small breed dogs have been identified as being at greater risk as well. Because of the zoonotic risk of leptospirosis, and the possibility of dogs becoming maintenance hosts, effective client communication and timely definitive diagnostics are important for regular practitioners to embrace.

**3** Diagnostic options for leptospirosis include culture and antibody titer. However, as the initial presenting symptoms of leptospirosis can be those of a simple urinary tract infection and most first-line empirical antibiotics are effective, most clinicians do not perform diagnostics. The advent of



benchtop testing in recent years has made the option of definitive diagnosis more reasonable in regular practice. However, the nature of leptospirosis infection does muddy the diagnostics waters some.

Review the full online webinar to learn more about a pathogen that you may be seeing in your practice and not recognizing. Tune in to get some tips on talking with clients about why vaccinating their pet for leptospirosis IS in their best interest and why veterinary staff should also understand the transmission and risk of leptospirosis!

[LEARN MORE](#)

## SUGGESTED REFERENCE READING

1. Raghavan R, Brenner K, Higgins J, et al. Evaluations of land cover risk factors for canine leptospirosis: 94 cases (2002-2009). *Prev Vet Med* 2011;101(3-4):241-9.
2. Stern EJ, Galloway R, Shadomy SV, et al. Outbreak of leptospirosis among Adventure Race participants in Florida, 2005. *Clin Infect Dis* 2010;50(6):843-9.
3. Raghavan RK, Brenner KM, Higgins J, et al. Evaluations of hydrologic risk factors for canine leptospirosis: 94 cases (2002-2009). *Prev Vet Med* 2012;107(1-2):105-109.
4. Goldstein RE. Canine leptospirosis. *Veterinary Clinics of North America: Small Animal Practice* 2010;40(6):1091-101.

# FORGET THE HYPE! THE TRUTH ABOUT THE EFFECT OF EARLY SPAY AND NEUTER ON BEHAVIORAL DISORDERS IN DOGS

DR. LISA RADOSTA, DACVB

[In the VETgirl webinar, "Forget the hype! The truth about the effect of early spay and neuter on behavioral disorders in dogs," Dr. Lisa Radosta, DACVB, the owner of Florida Veterinary Behavior Service in West Palm Beach, Florida, recently reviewed the literature to help veterinarians understand whether early spay and neuter should be recommended in dogs from a behavioral standpoint.](#)

## KEY HIGHLIGHTS

**1** When assessing the controversy of spay and neuter, weigh the pros and cons:

### Pros of spay and neuter

- Spaying and neutering at 6-7 months of age meets the current standard of care
- Will decrease sexual behavior
- Less chance of relinquishment as this is more commonly seen in INTACT animals
- Energy level decreases seen in dogs after spay and neuter

### Pros of keeping animals intact

- Some orthopedic, neoplastic and genitourinary diseases can be avoided or the onset of clinical disease can be delayed
- Some studies show a potential link between increased aggression and anxiety and spaying and neutering dogs.

**2** When reviewing the current literature on behavior, it is important to keep in mind that many of the studies - but certainly not all studies - involve a *small* population or a biased population of animals. To be considered good science, studies should be peer reviewed, the results should be repeatable and the conclusions should have validity regarding the question being examined.

**3** Many of the studies rely on questionnaires, with C-BARQ surveys being the most commonly used as this questionnaire is validated. Even so, owner reporting is problematic as to accuracy, can be *biased*, and all factors may not necessarily be equal.

**4** It is important to remember that behavioral disorders do not have a single etiology and are multifactorial. The limitations of several of the studies were that many different types of aggression were lumped together. Aggression can be divided into at least 10 individual diagnoses. Some diagnoses such as inter-male aggression may be decreased with neutering whereas fear induced aggression will not decrease with neutering.

**5** In many of the studies, owners of spayed or neutered dogs reported MORE anxiety, aggression and fear than owners of intact male and female dogs, with the most significant fear and anxiety in the dogs neutered BEFORE 6 months of age. With that said, in general dogs spayed or neutered prior to 18 months of age were generally more likely to have either accelerated progression of their disease or increased likelihood of being affected when compared to intact dogs.

**6** Spaying and neutering at any age does have benefits behaviorally, the largest being the elimination of unruly behaviors (such as urine marking and roaming) and will therefore, decrease the likelihood of animal relinquishment.

**7** A risk-benefit analysis should be done with each individual patient when considering when to recommend spaying/neutering. If an animal is **already** affected by fear, anxiety or aggression, consider waiting until after 18 months of age to spay/neuter. In intact male dogs, consider leaving them intact depending upon their environment/ability to roam and exposure to intact female dogs. If the owner is not able to confine the dog or if there is increased likelihood that there will be an accidental pregnancy, spaying and neutering is best. Testosterone modulates the INTENSITY of behavior but doesn't in and of itself, CAUSE aggression. Any decision to spay or neuter a pet should include consideration of the environment, owners willingness to confine the pet and disorders/diseases of other body systems which may increase or decrease with spaying or neutering.

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# OUTPATIENT PARVOVIRUS: DOES IT WORK?

DR. JUSTINE A. LEE, DVM, DACVECC, DABT

[In the VETgirl Real-Life Rounds webinar, Outpatient parvovirus: Does it work?, Dr. Justine A. Lee, DVM, DACVECC, DABT reviewed outpatient parvovirus \(OPP\). Does it work and will puppies survive this?](#)

## KEY HIGHLIGHTS

Canine parvovirus (CPV), which was originally discovered in 1967,<sup>1</sup> is a common pathogen affecting young dogs that are unvaccinated, under-vaccinated, or immunosuppressed. Without treatment, CPV can be life threatening due to severe fluid losses and electrolyte derangements secondary to anorexia, vomiting, and diarrhea. In order to ensure the best outcome, treatment should be aimed towards symptomatic supportive care, aggressive fluid therapy, anti-emetics, antibiotic therapy, and nutritional support. This lecture will review the use of outpatient therapy compared to in-hospital treatment, and discuss the recent findings of the “CSU protocol.”

### 1 RISK FACTORS/SIGNALMENT

Parvovirus is often seen in more urban environments with affected pups coming from poor husbandry backgrounds. As a result, pet owners may also have financial limitations. Dogs affected typically are < 6 months of age, between 6 to 20 weeks of age.<sup>2</sup> Typically, there is no gender predilection, although one study reported that in dogs > 6 months of age, intact, male dogs were overrepresented.<sup>3</sup> Certain breeds are thought to be at increased risk, including the American Pit Bull terrier, Rottweiler, German shepherd, and Doberman pinscher.<sup>4</sup>

### 2 CLINICAL SIGNS

Clinical signs seen with parvovirus include:

- Anorexia
- Lethargy/Listlessness
- Malaise
- Hypersalivation (e.g., secondary to nausea)
- Vomiting
- Abdominal pain
- Diarrhea\*
- Hematochezia

### 3 PHYSICAL EXAMINATION FINDINGS

Classic physical examination findings for the parvovirus patient include:

- Dehydration (e.g., prolonged skin tenting, sunken eyes, etc.)
- Cachexia
- Hypothermia
- Fever
- Tachycardia
- Tachypnea
- Pallor
- Prolonged capillary refill time (CRT)
- Hypersalivation
- Poor pulse quality
- Hypovolemic shock
- Fluid filled loops of intestine
- Malodorous diarrhea staining
- Dyspnea
- Death

### 4 DIAGNOSTIC TESTING

Depending on the financial limitations of pet owners, the ideal “gold” standard for the parvovirus patient includes:

#### Gold or Cadillac™ Standard:

- Parvoviral fecal antigen test
- Complete blood count + blood smear
- Biochemistry panel
- Venous blood gas (e.g., acid-base status, electrolytes)
- Fecal float/smear
- PCV/TS/BG/AZO
- Blood pressure
- PCR if negative fecal antigen test and still suspicious
- Abdominal radiographs
- Colloid oncotic pressure (COP)
- + abdominal ultrasound (if intussusception is suspected)

#### Silver or Honda™ Standard:

- Parvoviral fecal antigen test
- CBC with smear evaluation
- Biochemistry panel or venous blood gas
- Fecal float
- Blood pressure

#### Bronze or Yugo™ Standard:

- Parvoviral fecal antigen
- Blood smear + PCV/TS/BG/AZO
- Venous blood gas with electrolytes

(continued)

# OUTPATIENT PARVOVIRUS: DOES IT WORK?

DR. JUSTINE A. LEE, DVM, DACVECC, DABT

(cont)

## 5 GOALS

Treatment of the canine parvovirus patient is aimed towards fluid therapy, antibiotic therapy, nutritional support, gastrointestinal support, supportive care, and monitoring. Specific goals of pediatric medicine include temperature control, fluid therapy, nutritional support (with the goal of weight gain), and control of infectious disease and parasites. In the more critically ill pediatric patient, goals should be focused on the following 3H's: Hypovolemia/Hydration, Hypothermia, and Hypoglycemia.

### Hypovolemia/Hydration

One of the most common causes of neonatal hypovolemic shock is dehydration, which can occur quickly in these small patients due to gastrointestinal losses or higher fluid requirements; therefore, aggressive fluid therapy is warranted because these small patients can deteriorate quickly. For neonates, maintenance fluid requirements are 120-180 ml/kg/day, while for pediatric patients, fluid requirements range from 60-100 ml/kg/day.<sup>5,6</sup> In critically ill pediatric patients, fluid therapy for shock must initially be given by IV (or intraosseous) route. Intraperitoneal or SQ routes are not adequate due to slower absorption and, ideally, should not be used in the critically ill, dehydrated, or hypovolemic patient. In severely dehydrated or hypovolemic patients, initial shock doses of a balanced crystalloid such as 30-45 ml/kg should be used. Serial assessment should be done after the bolus to reassess response and

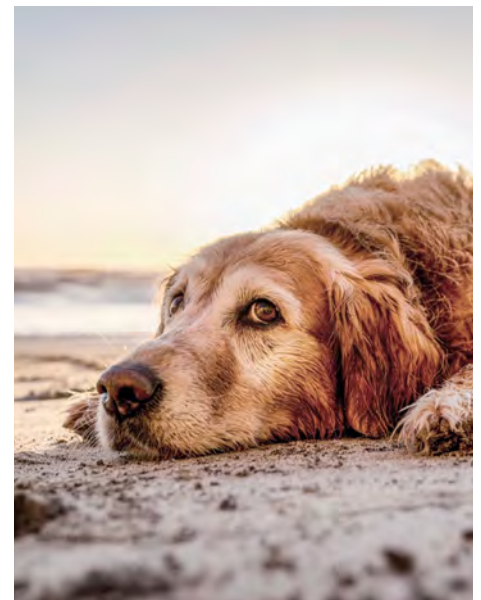
to evaluate the need for further fluid resuscitation. Potassium and dextrose supplementation typically is required, and careful monitoring of blood glucose and electrolytes is warranted. Lastly, colloids can be used in pediatric patients; however, keep in mind that puppies have a lower colloid osmotic pressure (COP) than adult dogs.<sup>7</sup> If necessary, a colloid (e.g., Hetastarch, 1 mL/kg/H; VetStarch, 2 mL/kg/H) can be used to keep colloid osmotic pressure above 15 mm Hg.

### Hypothermia

In pediatric patients, careful temperature regulation and awareness of normal homeostatic temperatures is imperative. Normal rectal temperature in the first week of life is 96° + 1.5°F (35.6° + 0.7°C), 98.6° - 100°F (37-38.2°C) in the second and third week of life, and by 7 weeks of age, reach normal adult levels.<sup>8</sup> Hypothermia can lead to bradycardia and intestinal ileus.

### Hypoglycemia

Young patients are prone to hypoglycemia, which can be aggravated by anorexia, vomiting, diarrhea, dehydration, and infection. Ideally, IV dextrose boluses should be used (0.5-1.0 g/kg or 0.5-1.5 ml/kg IV of 50% dextrose, diluted 1:2-1:3) preferentially over oral dextrose. Isotonic fluids supplemented with 2.5-5% dextrose as a CRI can also be used (i.e., *not* D5W); however, caution should be used to prevent over-supplementation as prolonged hyperglycemic can result in worsening



of dehydration via osmotic diuresis (due to puppies having insulin insensitivity).

### Antimicrobial therapy

In general, beta lactam antimicrobials are considered the safest choices in young, growing puppies. If possible, avoid chloramphenicol, aminoglycosides, tetracyclines, and drugs like clindamycin that undergo enterohepatic cycling. Metronidazole can be used, but dose interval should be prolonged. Finally, quinolones have been shown to result in cartilage lesions in puppies and should be used only with the benefit outweighs the risk and ideally avoided altogether in growing, large breed dogs.

(continued)



# OUTPATIENT PARVOVIRUS: DOES IT WORK?

DR. JUSTINE A. LEE, DVM, DACVECC, DABT

(cont)

## Gastrointestinal support

Anti-emetics (e.g., maropitant, ondansetron, dolasetron) should be implemented for patient comfort and to treat nausea. As for the use of gastric pH-altering medication, it is not necessarily warranted in the CPV patient.

## Outpatient protocol

Earlier last year, Venn et al out of Colorado State University published "Evaluation of an outpatient protocol in the treatment of canine parvoviral enteritis" in the *Journal of Veterinary Emergency Critical Care*.<sup>9</sup> In this prospective, randomized study, 20 inpatient puppies were compared to 20 modified "outpatient" puppies. Both groups of dogs received IV fluid resuscitation on presentation, venous blood gas and blood glucose monitoring and initial treatment for hypoglycemia.<sup>9</sup> The inpatient group was treated with continued IV fluids, cefoxitin (22 mg/kg, IV, q 8), maropitant (1 mg/kg, IV, q 24), dextrose and potassium supplementation, and nutritional support (e.g., syringe fed 1 ml/kg, PO, q 6).<sup>9</sup> The modified outpatient group was treated in-hospital (for monitoring purposes, as to mimic outpatient care) with subcutaneous fluids (30 ml/kg, SQ, q 6), cefovecin sodium (Convenia™) (8 mg/kg, SQ, once), maropitant (1 mg/kg, SQ, q 24), and nutritional support (e.g., syringe fed 1 ml/kg, PO, q 6).<sup>9</sup> In the in-patient group, 90% survived to discharge, with a median duration of hospitalization being 4.6 days + 2

days.<sup>9</sup> In the modified outpatient group, a similar survival was seen (80%), with a median duration of hospitalization being 3.8 days + 1.8 days.<sup>9</sup> The outpatient group did have more frequent electrolyte disturbances, with approximately 50% requiring dextrose supplementation and 60% requiring potassium supplementation.<sup>9</sup> Non-survivors in the study (of the outpatient group) were also more likely to have a lower body weight < 4 kg and were more likely to be younger < 4 months of age.<sup>9</sup>

Based on this study, veterinary professionals can consider this potential modified outpatient therapy. Keep in mind that young, smaller puppies (< 4 kgs, < 4 months) had a poorer survival outcome and may need more aggressive in-hospital therapy.<sup>9</sup> Also, in the author's opinion, modification to this protocol could include the use of aggressive IV fluid therapy for 24 hours, followed by attempts at outpatient therapy once the patient is more hydrated and stabilized. Likewise, for the modified outpatient group, the use of a larger amount of SQ fluid administration (e.g., 50-60 ml/kg, SQ, q 8) to help minimize stress to the patient. Most importantly, client communication and compliance is imperative to prevent patients from dying at home; humane euthanasia should be considered if patients fail to respond to outpatient therapy. More importantly, appropriate pet owner education on preventative medicine (e.g., vaccination) is necessary.

## 6 PROGNOSIS

The prognosis for canine parvovirus infection is fair to good with treatment, with recent reports of 80-90% survival with various modalities of treatment.<sup>9</sup> When financial limitations exist, one can consider the outpatient protocol. This outpatient protocol can be successful, with a survival only slightly lower in outpatients.<sup>9</sup> A modified outpatient protocol may be a good alternative for less severely affected cases or those with financial limitations.

## 7 PREVENTION

While vaccination against parvovirus is highly effective, failure of passive transfer, early weaning, lack of vaccination, inappropriate client education (e.g., frequency of veterinary visits), or maternal antibody interference can result in disease. Parvovirus can be easily prevented by appropriate client education and vaccination. As DHPP is considered a core vaccine, puppies should be vaccinated frequently while maternal antibodies are waning. In high-risk areas (e.g., shelters), a vaccine every 2 weeks is indicated until 16-22 weeks of age (depending on if the breed is at risk) to prevent outbreaks. Pet owners should be educated on the importance of preventative medicine.

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References available upon request.

**NOTE:** When in doubt, all drug dosages should be confirmed and cross-referenced with a reference guide such as *Plumb's Veterinary Drug Handbook*.



# The Simparica *high* *five*

**Simparica delivers high-performance tick and flea protection:**

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 **Simparica**<sup>®</sup>  
(sarolaner) Chewables

**HIGH-QUALITY PROTECTION AND VALUE.**

**IMPORTANT SAFETY INFORMATION:** Simparica is for use only in dogs, 6 months of age and older. Simparica may cause abnormal neurologic signs such as tremors, unsteadiness, and/or seizures. Simparica has not been evaluated in dogs that are pregnant, breeding or lactating. Simparica has been safely used in dogs treated with commonly prescribed vaccines, parasiticides and other medications. The most frequently reported adverse reactions were vomiting and diarrhea. **See full Prescribing Information on page [XX].**

**References:** 1. Six RH, Everett WR, Young DR, et al. Efficacy of a novel oral formulation of sarolaner (Simparica™) against five common tick species infesting dogs in the United States. *Vet Parasitol.* 2016;222:28-32. doi:10.1016/j.vetpar.2015.12.023. 2. Six RH, Guerden T, Packianathan R, et al. Evaluation of the effectiveness of a novel oral formulation of sarolaner (Simparica™) for the treatment and control of fleas on dogs. *Vet Parasitol.* 2016;222:18-22. doi:10.1016/j.vetpar.2016.02.015. 3. Data on file. Study No. 17SORPAR-01-01. Zoetis Inc LLC.

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**ZOETIS PETCARE**

**FOR ORAL USE IN DOGS ONLY**

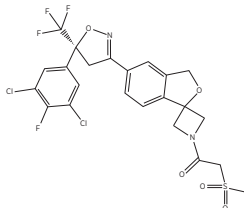
**CAUTION:** Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

**Description:**

SIMPARICA is a flavored, chewable tablet for administration to dogs over 6 months of age according to their weight. Each tablet is formulated to provide a minimum sarolaner dosage of 0.91 mg/lb (2 mg/kg) body weight.

Sarolaner is a member of the isoxazoline class of parasiticides and the chemical name is 1-(5'-(5S)-5-(3,5-Dichloro-4-fluorophenyl)-5-(trifluoromethyl)-4,5-dihydroisoxazol-3-yl)-3'-H-spiro(azetidine-3,1'-(2)benzofuran)-1-yl)-2-(methylsulfonyl)ethanone. SIMPARICA contains the S-enantiomer of sarolaner.

The chemical structure of the S-enantiomer of sarolaner is:



**Indications:**

SIMPARICA kills adult fleas, and is indicated for the treatment and prevention of flea infestations (*Ctenocephalides felis*), and the treatment and control of tick infestations [*Amblyomma americanum* (lone star tick), *Amblyomma maculatum* (Gulf Coast tick), *Dermacentor variabilis* (American dog tick), *Ixodes scapularis* (black-legged tick), and *Rhipicephalus sanguineus* (brown dog tick)] for one month in dogs 6 months of age or older and weighing 2.8 pounds or greater.

**Dosage and Administration:**

SIMPARICA is given orally once a month at the recommended minimum dosage of 0.91 mg/lb (2 mg/kg).

Dosage Schedule:

Body Weight	SAROLANER per Tablet (mg)	Number of Tablets Administered
2.8 to 5.5 lbs	5	One
5.6 to 11.0 lbs	10	One
11.1 to 22.0 lbs	20	One
22.1 to 44.0 lbs	40	One
44.1 to 88.0 lbs	80	One
88.1 to 132.0 lbs	120	One
>132.1 lbs	Administer the appropriate combination of tablets	

SIMPARICA can be offered by hand, in the food, or administered like other tablet medications.

Care should be taken that the dog consumes the complete dose, and treated animals should be observed for a few minutes to ensure that part of the dose is not lost or refused. If a dose is missed, administer SIMPARICA and resume a monthly dosing schedule.

SIMPARICA should be administered at monthly intervals.

**Flea Treatment and Prevention:**

Treatment with SIMPARICA may begin at any time of the year. In areas where fleas are common year-round, monthly treatment with SIMPARICA can continue the entire year without interruption.

To minimize the likelihood of flea re-infestation, it is important to treat all dogs and cats within a household with an approved flea control product.

**Tick Treatment and Control:**

Treatment with SIMPARICA can begin at any time of the year (see **Effectiveness**).

**Contraindications:**

There are no known contraindications for the use of SIMPARICA.

**Warnings:**

Not for use in humans. Keep this and all drugs out of reach of children and pets. For use in dogs only. Do not use SIMPARICA in cats.

SIMPARICA should not be used in dogs less than 6 months of age (see **Animal Safety**).

**Precautions:**

SIMPARICA may cause abnormal neurologic signs such as tremors, decreased conscious proprioception, ataxia, decreased or absent menace, and/or seizures (see **Animal Safety**).

The safe use of SIMPARICA has not been evaluated in breeding, pregnant, or lactating dogs.

**Adverse Reactions:**

SIMPARICA was administered in a well-controlled US field study, which included a total of 479 dogs (315 dogs treated with SIMPARICA and 164 dogs treated with active control once monthly for three treatments).

Over the 90-day study period, all observations of potential adverse reactions were recorded.

**Table 1. Dogs with adverse reactions**

Adverse reaction	sarolaner	sarolaner	active control	active control
	N	% (n = 315)	N	% (n = 164)
Vomiting	3	0.95%	9	5.50%
Diarrhea	2	0.63%	2	1.20%
Lethargy	1	0.32%	2	1.20%
Inappetence	0	0%	3	1.80%

Additionally, one female dog aged 8.6 years exhibited lethargy, ataxia while posturing to eliminate, elevated third eyelids, and inappetence one day after receiving SIMPARICA concurrently with a heartworm preventative (ivermectin/pyrantel pamoate). The signs resolved one day later. After the day 14 visit, the owner elected to withdraw the dog from the study.

For a copy of the Safety Data Sheet (SDS) or to report adverse reactions call Zoetis Inc. at 1-888-963-8471. Additional information can be found at [www.SIMPARICA.com](http://www.SIMPARICA.com). For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or <http://www.fda.gov/AnimalVeterinary/SafetyHealth>.

**Clinical Pharmacology:**

Sarolaner is rapidly and well absorbed following oral administration of SIMPARICA. In a study of 12 Beagle dogs the mean maximum plasma concentration ( $C_{max}$ ) was 1100 ng/mL and the mean time to maximum concentration ( $T_{max}$ ) occurred at 3 hours following a single oral dose of 2 mg/kg to fasted animals. The mean oral bioavailability was 86% and 107% in fasted and fed dogs, respectively. The mean oral  $T_{1/2}$  values for fasted and fed animals was 10 and 12 days respectively.

Sarolaner is distributed widely; the mean volume of distribution ( $V_{dss}$ ) was 2.81 L/kg bodyweight following a 2 mg/kg intravenous dose of sarolaner. Sarolaner is highly bound ( $\geq 99.9\%$ ) to plasma proteins. The metabolism of sarolaner appears to be minimal in the dog. The primary route of sarolaner elimination from dogs is biliary excretion with elimination via the feces.

Following repeat administration of SIMPARICA once every 28 days for 10 doses to Beagle dogs at 1X, 3X, and 5X the maximum intended clinical dose of 4 mg/kg, steady-state plasma concentrations were reached after the 6th dose. Following treatment at 1X, 3X, and 5X the maximum intended clinical dose of 4 mg/kg, sarolaner systemic exposure was dose proportional over the range 1X to 5X.

**Mode of Action:**

The active substance of SIMPARICA, sarolaner, is an acaricide and insecticide belonging to the isoxazoline group. Sarolaner inhibits the function of the neurotransmitter gamma aminobutyric acid (GABA) receptor and glutamate receptor, and works at the neuromuscular junction in insects. This results in uncontrolled neuromuscular activity leading to death in insects or acarines.

**Effectiveness:**

In a well-controlled laboratory study, SIMPARICA began to kill fleas 3 hours after initial administration and reduced the number of live fleas by  $\geq 96.2\%$  within 8 hours after flea infestation through Day 35.

In a separate well-controlled laboratory study, SIMPARICA demonstrated 100% effectiveness against adult fleas within 24 hours following treatment and maintained 100% effectiveness against weekly re-infestations for 35 days.

In a study to explore flea egg production and viability, SIMPARICA killed fleas before they could lay eggs for 35 days. In a study to simulate a flea-infested home environment, with flea infestations established prior to the start of treatment and re-infestations on Days 7, 37 and 67, SIMPARICA administered monthly for three months demonstrated  $>95.6\%$  reduction in adult fleas within 14 days after treatment and reached 100% on Day 60.

In well-controlled laboratory studies, SIMPARICA demonstrated  $\geq 99\%$  effectiveness against an initial infestation of *Amblyomma americanum*, *Amblyomma maculatum*, *Dermacentor variabilis*, *Ixodes scapularis*, and *Rhipicephalus sanguineus* 48 hours post-administration and maintained  $>96\%$  effectiveness 48 hours post re-infestation for 30 days.

In a well-controlled 90-day US field study conducted in households with existing flea infestations of varying severity, the effectiveness of SIMPARICA against fleas on Day 30, 60 and 90 visits compared to baseline was 99.4%, 99.8%, and 100%, respectively. Dogs with signs of flea allergy dermatitis showed improvement in erythema, papules, scaling, alopecia, dermatitis/pyodermitis and pruritus as a direct result of eliminating fleas.

**Animal Safety:**

In a margin of safety study, SIMPARICA was administered orally to 8-week-old Beagle puppies at doses of 0, 1X, 3X, and 5X the maximum recommended dose (4 mg/kg) at 28-day intervals for 10 doses (8 dogs per group). The control group received placebo tablets. No neurologic signs were observed in the 1X group. In the 3X group, one male dog exhibited tremors and ataxia post-dose on Day 0; one female dog exhibited tremors on Days 1, 2, 3, and 5; and one female dog exhibited tremors on Day 1. In the 5X group, one female dog had a seizure on Day 61 (5 days after third dose); one female dog had tremors post-dose on Day 0 and abnormal head coordination after dosing on Day 140; and one female dog exhibited seizures associated with the second and fourth doses and tremors associated with the second and third doses. All dogs recovered without treatment. Except for the observation of abnormal head coordination in one dog in the 5X group two hours after dosing on Day 140 (dose 6). There were no treatment-related neurological signs observed once the dogs reached the age of 6 months.

In a separate exploratory pharmacokinetic study, one female dog dosed at 12 mg/kg (3X the maximum recommended dose) exhibited lethargy, anorexia, and multiple neurological signs including ataxia, tremors, disorientation, hypersalivation, diminished proprioception, and absent menace, approximately 2 days after a third monthly dose. The dog was not treated, and was ultimately euthanized. The first two doses resulted in plasma concentrations that were consistent with those of the other dogs in the treatment group. Starting at 7 hours after the third dose, there was a rapid 2.5 fold increase in plasma concentrations within 41 hours, resulting in a  $C_{max}$  more than 7-fold higher than the mean  $C_{max}$  at the maximum recommended use dose. No cause for the sudden increase in sarolaner plasma concentrations was identified.

**Storage Information:**

Store at or below 30°C (86°F) with excursions permitted up to 40°C (104°F).

**How Supplied:**

SIMPARICA (sarolaner) Chewables are available in six flavored tablet sizes: 5, 10, 20, 40, 80, and 120 mg. Each tablet size is available in color-coded packages of one, three, or six tablets.

NADA #141-452, Approved by FDA



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# MY ALLERGIC PATIENT IS A “WRECK”: MANAGING ALLERGIC FLARES IN DOGS

DR. ANDREW HILLIER BVSC, MANZCVS (CANINE MEDICINE), DACVD

Medical Lead Dermatology, Veterinary Specialty Operations, Zoetis Petcare

[In the complimentary VETgirl-Zoetis webinar “My allergic patient is a “wreck” - managing allergic flares in dogs,” Dr. Andrew Hillier BVSc, MANZCVS \(Canine Medicine\), DACVD reviewed atopic dermatitis and best ways to achieve success with management.](#)

## KEY HIGHLIGHTS

### KEYS TO SUCCESS IN DOGS WITH ATOPIC DERMATITIS

**1** Atopic dermatitis (AD) is a **common disease**. In some areas, it is the #1 cause of pruritus in dogs. And it is becoming more common as the popularity of predisposed breeds increases (think French Bulldogs for example, or the still ever-popular Labrador and Golden Retrievers).

**2** Making the diagnosis of AD can appear challenging and may be time-consuming – here are a few key points to remember:

- Regard the problem of itch as urgent. Let the owner know that your **1st priority** today and throughout the process will be **to stop the itch** and make their pet comfortable as quickly and safely as possible. Do not mess with therapies that don't work, like antihistamines. This will give the owner peace of mind and some **trust and confidence**; they are far more likely to listen to and accept the offer of a workup.

- Keep the description of the **diagnostic workup streamlined and simple**; rule out parasites, treat infections and perform an elimination

diet trial if necessary. If the dog is still itching, then it has atopic dermatitis.

- Make sure that you share the **value** of a workup e.g. “We may find that your dog has a curable disease (like a mite infestation) or a condition that can be managed without long-term pharmacotherapy, (like a diet adjustment in the case of food allergy)”. These possibilities will help get buy-in.

- It is a **diagnosis of elimination** and may take only take a few weeks, or it may take several months – but we will always prioritize keeping the dog comfortable no matter how long it takes to work it out.

**3** We now have options for treatment of atopic dermatitis – but how do I decide which to use?

- It is a great time to be a veterinarian and seeing dogs with AD because we have new innovative options that allow us to tailor treatment according to the specific needs of each owner and each pet.

- Consider trying to find an **anchor treatment** (a single therapy that provides satisfactory control and is sustainable for both pet and owner)



– examples would be oclacitinib, Cytopoint, cyclosporine and allergen-specific immunotherapy. Multimodal therapy may be necessary but probably only in a minority of dogs – it is very difficult for owners to continue several treatments long-term. Consider referring to your local dermatologist if this occurs.

*(continued)*

# MY ALLERGIC PATIENT IS A “WRECK”: MANAGING ALLERGIC FLARES IN DOGS

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Medical Lead Dermatology, Veterinary Specialty Operations, Zoetis Petcare

(cont)

**4** What else is important in finding long-term solutions?

- How we **communicate** and interact with today’s pet owner is crucial. They want to be educated (keep it high level), they want to hear the **options** (a brief description of the main options, maybe 15-30 seconds maximum), they want to **partner** with us and be part of the process instead of just being told what to do. I always like to finish any conversation with an **open-ended question** (“do you have any questions?” or “how do you feel about that?”) to be sure that they are comfortable with the situation and feel included.

- Prepare for the flare – be honest and let owners know that occasional flares may occur, but they will be less than in the past. If their pet has a relapse, don’t stop any medications – recheck the dog and go through the key workup points again (parasites, infection, dietary indiscretion). If none of those, it may just be that pet’s severe allergy season and they need a little temporary help for the anchor treatment with a second medication for a few weeks or months.

## Important Safety Information

Do not use APOQUEL® (oclacitinib tablet) in dogs less than 12 months of age or those with serious infections. APOQUEL may increase the chances of developing serious infections, and may cause existing parasitic skin infestations or pre-existing cancers to get worse. APOQUEL has not been tested in dogs receiving some medications including some commonly used to treat skin conditions such as corticosteroids and cyclosporine.

Do not use in breeding, pregnant, or lactating dogs. Most common side effects are vomiting and diarrhea. APOQUEL has been used safely with many common medications including parasiticides, antibiotics and vaccines. For more information, please see the full Prescribing Information available at apoquel.com.

CYT-00353

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# TECH TIPS //

WITH VETGIRL COO, DR. GARRET PACHTINGER, DACVECC

## You may have heard our loud cheers and virtual champagne corks popping!

After 8 months of hard work, design changes, and functionality testing... on August 19th VETgirl 3.0 was released.

### USER FRIENDLY

This is the most cutting edge and user-friendly VETgirl CE experience to date...and we have not stopped there. We will be incrementally rolling out improvements to the website as they are developed, continuing to make your CE experience amazing.

### FEATURE UPDATES

Each newsletter will highlight one of the notable features on the website. This newsletter we wanted to highlight the TEAM membership feature. While VETgirl CE is incredibly cost-effective, VETgirl TEAM memberships provide an even more cost-effective way for your entire team to learn.

### ONLINE TEAM HUB

The new website provides complete team membership automation. It has never been easier for the team leader to create a team, assign team spots, and monitor who has joined their team. We created a [short video tutorial](#) for creating TEAM memberships!

Thank you again for being part of the VETgirl CE experience, learning with the #1 CE resource for busy veterinary professionals. **Please note that the new website log-in credentials include your email, not your username.**

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# PROVIDER SPOTLIGHT //

## DR GARRET PACTINGER, DACVECC

COO AND CO-FOUNDER OF VETGIRL

Garret Pachtinger, VMD, DACVECC is a board-certified veterinary specialist in emergency and critical care (DACVECC). He is the COO and co-founder of VETgirl, the #1 online veterinary continuing education platform. He also works as a criticalist at the Veterinary Specialty and Emergency Center (BluePearl Pennsylvania), is on the editorial board of Today's Veterinary Practice, and is a consultant for several veterinary companies.

Dr. Pachtinger graduated from Muhlenberg College with a BS in biology and then obtained his veterinary degree at the University of Pennsylvania School of Veterinary Medicine. He was awarded the Leonard Pearson Prize at commencement, (the schools highest honor awarded to the fourth-year student who demonstrates the best potential for professional and/or academic leadership in veterinary medicine). He then pursued his internship in small animal medicine and surgery, fellowship in emergency and critical care, and residency in emergency and critical care at the University of Pennsylvania school of veterinary medicine.

Currently, he is 1 of approximately 500 board-certified veterinary specialists worldwide in emergency and critical care, and is a Diplomate of the American College of Veterinary Emergency and Critical Care (DACVECC). Dr. Pachtinger has been published in numerous veterinary journals, including the *Journal of Veterinary Emergency and Critical Care* and the *Journal of Small Animal Practice* as well as several textbooks and other peer reviewed learning tools.

Dr. Pachtinger has been featured on TV and Radio programs including CBS Philadelphia and Fox Fursday as a consultant and pet expert.

When Dr. Pachtinger isn't working in the ER/ICU, found behind the computer screen with VETgirl content, or off somewhere lecturing, he is chasing his 3 kids around (Nash – 11 months old, Sophie – 7 years old, Jack 10 years old). Some days it can be crazy balancing the activities including coaching baseball, cheering during kids' soccer matches, driving to recitals, and all other fun events! Dr. Pachtinger shares these amazing moments with his wife, Dr. Shelby Reinstein, MS, DACVO and our 4-legged family members – our cats, Joie and Nadia.



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