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September/October 2018

WELLNESS AND LIFE BALANCE
SPECIAL ISSUE

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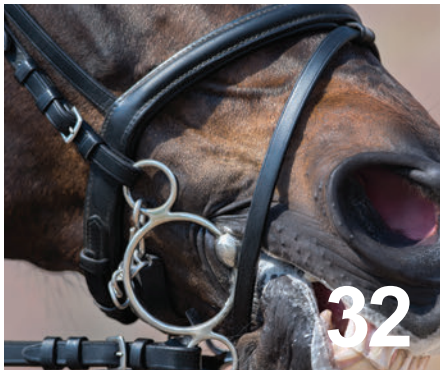
Inside

Special Issue: Wellness/Life Balance



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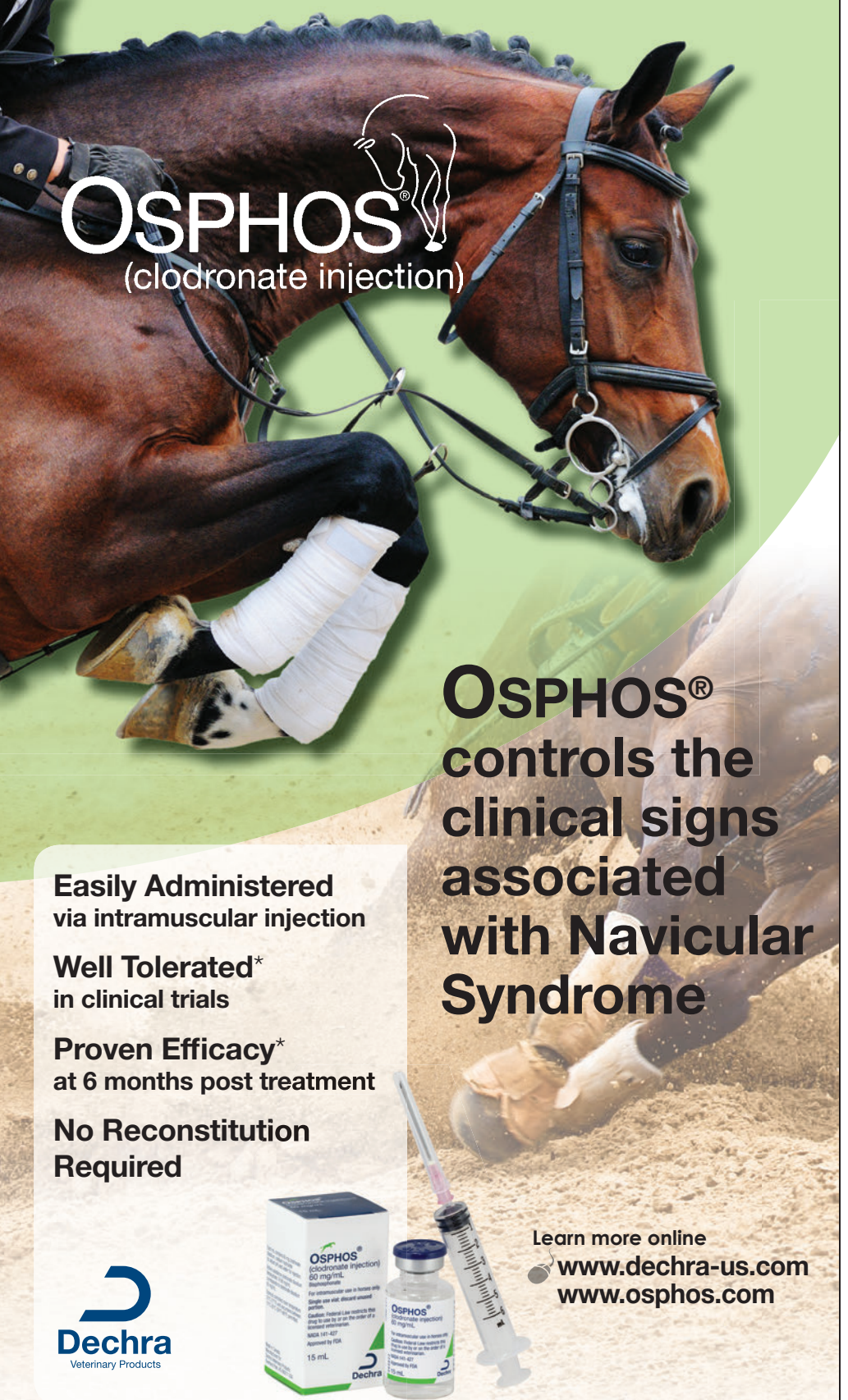

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As with all drugs, side effects may occur. In field studies, the most common side effects reported were signs of discomfort or nervousness, colic, and/or pawing. OSPHOS should not be used in pregnant or lactating mares, or mares intended for breeding. Use of OSPHOS in patients with conditions affecting renal function or mineral or electrolyte homeostasis is not recommended. Refer to the prescribing information for complete details or visit www.dechra-us.com or call 866.933.2472.

CAUTION: Federal law restricts this drug to use by or on the order of licensed veterinarian.

* Freedom of Information Summary, Original New Animal Drug Application, NADA 141-427, for OSPHOS. April 28, 2014.

OSPHOS® (clodronate injection)

Bisphosphonate
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Brief Summary (For Full Prescribing Information, see package insert)

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

DESCRIPTION: Clodronate disodium is a non-amino, chloro-containing bisphosphonate. Chemically, clodronate disodium is (dichloromethylene) diphosphonic acid disodium salt and is manufactured from the tetrahydrate form.

INDICATION: For the control of clinical signs associated with navicular syndrome in horses.

CONTRAINDICATIONS: Horses with hypersensitivity to clodronate disodium should not receive OSPHOS.

WARNINGS: Do not use in horses intended for human consumption.

HUMAN WARNINGS: Not for human use. Keep this and all drugs out of the reach of children. Consult a physician in case of accidental human exposure.

PRECAUTIONS: As a class, bisphosphonates may be associated with gastrointestinal and renal toxicity. Sensitivity to drug associated adverse reactions varies with the individual patient. Renal and gastrointestinal adverse reactions may be associated with plasma concentrations of the drug. Bisphosphonates are excreted by the kidney; therefore, conditions causing renal impairment may increase plasma bisphosphonate concentrations resulting in an increased risk for adverse reactions. Concurrent administration of other potentially nephrotoxic drugs should be approached with caution and renal function should be monitored. Use of bisphosphonates in patients with conditions or diseases affecting renal function is not recommended. Administration of bisphosphonates has been associated with abdominal pain (colic), discomfort, and agitation in horses. Clinical signs usually occur shortly after drug administration and may be associated with alterations in intestinal motility. In horses treated with OSPHOS these clinical signs usually began within 2 hours of treatment. Horses should be monitored for at least 2 hours following administration of OSPHOS.

Bisphosphonates affect plasma concentrations of some minerals and electrolytes such as calcium, magnesium and potassium, immediately post-treatment, with effects lasting up to several hours. Caution should be used when administering bisphosphonates to horses with conditions affecting mineral or electrolyte homeostasis (e.g. hyperkalemic periodic paralysis, hypocalcemia, etc.).

The safe use of OSPHOS has not been evaluated in horses less than 4 years of age. The effect of bisphosphonates on the skeleton of growing horses has not been studied; however, bisphosphonates inhibit osteoclast activity which impacts bone turnover and may affect bone growth.

Bisphosphonates should not be used in pregnant or lactating mares, or mares intended for breeding. The safe use of OSPHOS has not been evaluated in breeding horses or pregnant or lactating mares. Bisphosphonates are incorporated into the bone matrix, from where they are gradually released over periods of months to years. The extent of bisphosphonate incorporation into adult bone, and hence, the amount available for release back into the systemic circulation, is directly related to the total dose and duration of bisphosphonate use. Bisphosphonates have been shown to cause fetal developmental abnormalities in laboratory animals. The uptake of bisphosphonates into fetal bone may be greater than into maternal bone creating a possible risk for skeletal or other abnormalities in the fetus. Many drugs, including bisphosphonates, may be excreted in milk and may be absorbed by nursing animals.

Increased bone fragility has been observed in animals treated with bisphosphonates at high doses or for long periods of time. Bisphosphonates inhibit bone resorption and decrease bone turnover which may lead to an inability to repair micro damage within the bone. In humans, atypical femur fractures have been reported in patients on long term bisphosphonate therapy; however, a causal relationship has not been established.

ADVERSE REACTIONS: The most common adverse reactions reported in the field study were clinical signs of discomfort or nervousness, colic and/or pawing. Other signs reported were lip licking, yawning, head shaking, injection site swelling, and hives/pruritus.

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PUBLISHER'S POINTS

By Kimberly S. Brown

In Balance

When someone sees us, they often automatically ask, "How are you?" Most of the time, we respond "OK" or "Fine." But too many times in the veterinary industry, things are not "OK" or "fine." In fact, many times things are bad, but we don't know what to say, what to do or how to address the problem.

If a client has a horse that is depressed, veterinarians first look for a physical reason (fever, injury, illness). Secondly, they look for a mental reason (horse's buddy moved off the farm, horse's best buddy died, horse has been confined to the stall because of a physical or management issue).

If an individual is feeling depressed, that person should seek the help of a human physician to see whether there is a physical cause—and secondly, look for a mental reason.

Sometimes we feel like our lives are not in "balance." What does that mean? Research has shown that there are areas of our lives that are important, and if we spend too little or no time on those areas, then there is "imbalance" that causes unhappiness. The major areas that are discussed are career, relationships (family and friends), health, financial success, spirituality, contributions to the world, and personal growth and fulfillment.

Spending an equal amount of time on each of those doesn't mean we are "balanced." Instead, you need to think about what is most important to you, rank those areas, then see whether you are spending the most time in the areas you ranked highest. Sometimes this simple task is enlightening. Making small changes over time to slowly adjust can result in a more "balanced" life and a happier participation in each day.

Sometimes, however, a person might need to make a major shift in order to realign his or her priorities. If family and friends are the most important things to you, and you find yourself spending less and less time with your spouse, children and people you love, then change might have to be more sudden and severe.

Unfortunately, that is the point where a lot of young equine veterinarians decide to ditch their careers in equine medicine and take jobs in small animal practice or industry. The demands on their lives from starting out in equine practice are not worth the sacrifices they feel they are making in the rest of their lives.

This entire issue is dedicated to life balance and wellness. You should be able to find some advice from experts or other practitioners that you can use to make your life feel like less of an uphill climb and more of a walk on the beach.

The career of an equine veterinarian is strenuous, but there are many ways to cope with the daily pressures of the job. Seeking balance each day, caring for yourself as well as you care for your patients, and looking for unique ways to address the stresses of the job are the first steps toward becoming healthier and happier. EM

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Trimethoprim is 2,4 diamino-5-(3, 4, 5-trimethoxybenzyl) pyrimidine.

ACTIONS: Microbiology: Trimethoprim blocks bacterial production of tetrahydrofolic acid from dihydrofolic acid by binding to and reversibly inhibiting the enzyme dihydrofolate reductase.

Sulfadiazine, in common with other sulfonamides, inhibits bacterial synthesis of dihydrofolic acid by competing with para-aminobenzoic acid.

Trimethoprim/sulfadiazine thus imposes a sequential double blockade on bacterial metabolism. This deprives bacteria of nucleic acids and proteins essential for survival and multiplication, and produces a high level of antibacterial activity which is usually bactericidal.

Although both sulfadiazine and trimethoprim are antifolate, neither affects the folate metabolism of animals. The reasons are: animals do not synthesize folic acid and cannot, therefore, be directly affected by sulfadiazine; and although animals must reduce their dietary folic acid to tetrahydrofolic acid, trimethoprim does not affect this reduction because its affinity for dihydrofolate reductase of mammals is significantly less than for the corresponding bacterial enzyme.

Trimethoprim/sulfadiazine is active against a wide spectrum of bacterial pathogens, both gram-negative and gram-positive. The following in vitro data are available, but their clinical significance is unknown. In general, species of the following genera are sensitive to trimethoprim/sulfadiazine:

Very Sensitive	**Sensitive**	**Moderately Sensitive**	**Not Sensitive**
Escherichia	*Staphylococcus*	*Moraxella*	*Mycobacterium*
Streptococcus	*Neisseria*	*Nocardia*	*Leptospira*
Proteus	*Klebsiella*	*Brucella*	*Pseudomonas*
Salmonella	*Fusiformis*		*Erysipelothrix*
Pasteurella	*Corynebacterium*		
Shigella	*Clostridium*		
Haemophilus	*Bordetella*		

INDICATIONS AND USAGE: Trimethoprim/sulfadiazine is indicated in horses where potent systemic antibacterial action against sensitive organisms is required. Trimethoprim/sulfadiazine is indicated where control of bacterial infections is required during treatment of:

Acute Strangles	Acute Urogenital Infections
Respiratory Tract Infections	Wound Infections and Abscesses

Trimethoprim/sulfadiazine is well tolerated by foals.

CONTRAINDICATIONS: Trimethoprim/sulfadiazine should not be used in horses showing marked liver parenchymal damage, blood dyscrasias, or in those with history of sulfonamide sensitivity.

ADVERSE REACTIONS: During clinical trials, one case of anorexia and one case of loose feces following treatment with the drug were reported.

Individual animal hypersensitivity may result in local or generalized reactions, sometimes fatal. Anaphylactoid reactions, although rare, may also occur. **Antidote:** Epinephrine.

Post Approval Experience: Horses have developed diarrhea during trimethoprim/sulfadiazine treatment, which could be fatal. If fecal consistency changes during trimethoprim/sulfadiazine therapy, discontinue treatment immediately and contact your veterinarian.

PRECAUTION: Water should be readily available to horses receiving sulfonamide therapy.

ANIMAL SAFETY: Toxicity is low. The acute toxicity (LD50) of trimethoprim/sulfadiazine is more than 5 g/kg orally in rats and mice. No significant changes were recorded in rats given doses of 600 mg/kg per day for 90 days.

Horses treated intravenously with trimethoprim/sulfadiazine 48% injection have tolerated up to five times the recommended daily dose for 7 days or on the recommended daily dose for 21 consecutive days without clinical effects or histopathological changes.

Lengthening of clotting time was seen in some of the horses on high or prolonged dosing in one of two trials. The effect, which may have been related to a resolving infection, was not seen in a second similar trial.

Slight to moderate reductions in hematopoietic activity following high, prolonged dosage in several species have been recorded. This is usually reversible by folinic acid (leucovorin) administration or by stopping the drug. During long-term treatment of horses, periodic platelet counts and white and red blood cell counts are advisable.

TERATOLOGY: The effect of trimethoprim/sulfadiazine on pregnancy has not been determined. Studies to date show there is no detrimental effect on stallion spermatogenesis with or following the recommended dose of trimethoprim/sulfadiazine.

DOSAGE AND ADMINISTRATION: The recommended dose is 3.75 g UNIPRIM Powder per 110 lbs (50 kg) body weight per day. Administer UNIPRIM Powder orally once a day in a small amount of palatable feed.
Dose Instructions: One 37.5 g packet is sufficient to treat 1100 lbs (500 kg) of body weight. For the 1125 g packets and 12 kg boxes, a level, loose-filled, 67 cc scoop contains 37.5 g, sufficient to treat 1100 lbs (500 kg) of body weight. For the 200 g, 400 g, and 1200g jars, and 2000 g pail, two level, loose-filled, 32 cc scoops contain 37.5 g, sufficient to treat 1100 lbs (500 kg) of body weight. Since product may settle, gentle agitation during scooping is recommended.

The usual course of treatment is a single, daily dose for 5 to 7 days.

Continue acute infection therapy for 2 or 3 days after clinical signs have subsided.

STORAGE: Store at or below 25°C (77°F)

HOW SUPPLIED: UNIPRIM Powder is available in **37.5 g** packets, **1125 g** packets, **200 g** jars, **400 g** jars, **1200 g** jars, **2000 g** pails and **12 kg** boxes. Apple Flavored UNIPRIM Powder is available in **37.5 g** packets, **1125 g** packets, **200 g** jars, **400 g** jars, **1200 g** jars and **2000 g** pails.

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

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Ten-Plus Ways to Support Mental Health

Wellness for your mind is as important as wellness for your body.

By Amy L. Grice, VMD, MBA

Mental health can be affected by lifestyle and genetics—and sometimes it comes down to simple fate. Here are 10 things that you can do to support your mental health (plus one important bonus tip).

1. Value Yourself

Treat yourself with kindness and respect, and avoid self-criticism. Never say anything to yourself that you wouldn't say to a friend.

2. Choose To Be Positive

Seeing the good in all situations is a habit that you can adopt, and it will become second nature if you practice it diligently. Soak up the joy in the little moments that occur all day—the warm sun on your face outside the barn on a freezing cold day, the rainbow that follows the torrential storm or the sunset that you see on your way home from working late. Remember to smile and see the humor in each day. Research shows that laughter can boost your immune system, ease pain, relax your body and reduce stress.

3. Surround Yourself with Good People

Strong family or social connections are important to feeling like you belong to a tribe. It is common for those who are depressed to become isolated and for those who are isolated to become depressed. Stop this cycle by spending time with supportive family and friends.

If you are in a new place where you don't know anyone, seek out activities where you can meet new people, such as a yoga class, a painting group or a hiking club. Maintain the relationships you have, even if they are with friends living at a distance.

4. Give of Yourself

Volunteer your time and energy to help someone else. You'll feel good about do-

ing something tangible to help someone in need, and it's a great way to meet new people. If you find yourself feeling sad during holidays or when you are not working, fill that time by helping someone less fortunate than yourself.

5. Take Care of Your Body

Taking care of yourself physically can improve your mental health. Eat nutritious meals and avoid cigarettes, excessive alcohol and recreational drugs.

Drink plenty of water, aiming for 64 ounces a day. Dehydration can make you feel tired and affect your mood. Exercise helps to significantly decrease depression and anxiety and improve moods. Getting enough sleep is crucial. Researchers believe that lack of sleep contributes highly to depression.

6. Deal with Stress

You cannot avoid stress, so take intentional steps to mitigate it. Try to exercise daily, spend time in nature and play with your pet.

7. Practice Gratitude

A journal is a great place for listing the things for which you are grateful on a daily basis. Write a note to someone to let them know why you appreciate them. Written expressions of gratitude are linked to increased happiness.

8. Practice Forgiveness

Everyone in the world is carrying burdens—you just might not be able to see them. People who forgive have better mental health and report being more satisfied with their lives.

9. Quiet Your Mind

Stay in the present. Try meditating, mindfulness and/or prayer. Research shows that taking 15-20 minutes a day for quiet reflection can improve your state of mind and your outlook on life, reduce anxiety and improve depression.

10. Look Forward to Something

Break up the monotony of your life by changing your jogging route, planning a road trip, taking a hike in a different park, hanging some new pictures, seeing a good movie or trying a new restaurant. While routines make us more efficient and enhance our feelings of security and safety, a little change of pace can perk up a tedious schedule.

Bonus Tip: Get Help When Needed

Seeking help is a sign of strength, not weakness. Treatment can be effective in helping people recover from depression and/or anxiety and lead full, rewarding lives. EM

NEW VET COLUMN

By Zach Loppnow, DVM

The Art of Practice

There is a meshing of art and science in the practice of veterinary medicine.

Through the years of veterinary school, the hours of licensing examinations and the years of continuing education, we repeatedly are working on—and perfecting the science of—our careers. We work hard to understand as much of the research and physiology behind each case as possible so we can put that horse on the path to recovery. Amidst this scientific background and training, there is a second side to veterinary medicine, a side that is often overlooked and can be difficult to understand: the art of equine practice.

Each case that we approach as veterinarians has a clinical science background that must be understood and incorporated in our treatment plan. This clinical science becomes complicated by a myriad of factors that must be considered to create a treatment plan that works. These factors can include housing situations for the horse, the financial constraints of the client or the ability of the client to follow the treatment plan. Each of these factors alters our ideal scientific plan for treating the horse and must be meshed together to create a truly functional plan. It is in this meshing that the art of practice takes over.

As young veterinarians, understanding and beginning to adapt to this art can be a challenge. Having just come from a strong science-based training, it is much easier for us to stick to what we know must be done by creating routines that are effective, if not always functional. We know how to suture a wound, how we want a bandage to sit, how often it should be changed and how the horse should be confined or exercised. What we must learn is how we can make alterations to that plan.

When that horse with the wound paces in a stall but stands quietly in a paddock with friends, can we adjust our plan? Or when the horse needs antibiotics but the owners cannot get the medications into him, what do we do? Young practitioners must not only learn how those alterations will affect the course of healing but, more importantly, how those alterations can be used to achieve the goal.

Ultimately, the art of veterinary medicine is about achieving balance with all parties involved with a case—from the horse to the owners to even us, as the veterinarians. When we begin to understand and apply the creative side of our minds toward achieving that balance, it becomes easier to find a path through the murky waters of a case. This development of our individual art of practice will serve to create a more fluid and adaptable brand of medicine. As we continue to learn and grow on our paths through our early careers, it will become clearer that the "art" and the "science" of veterinary medicine are not the opposite concepts we once believed. EM

Zach Loppnow, DVM, is an associate veterinarian at Anoka Equine Veterinary Services in Elk River, Minnesota. He is a recent graduate of the University of Minnesota and a former National VBMA executive vice president.

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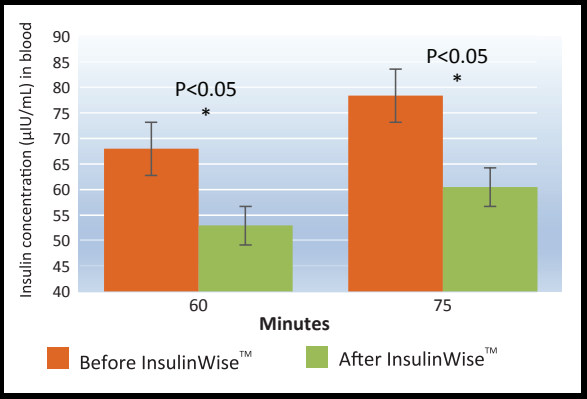
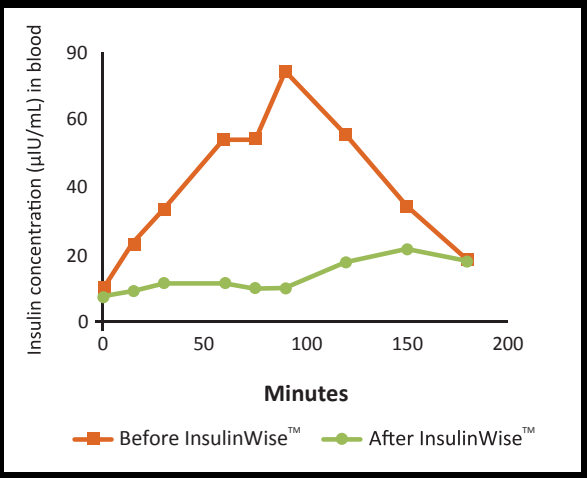


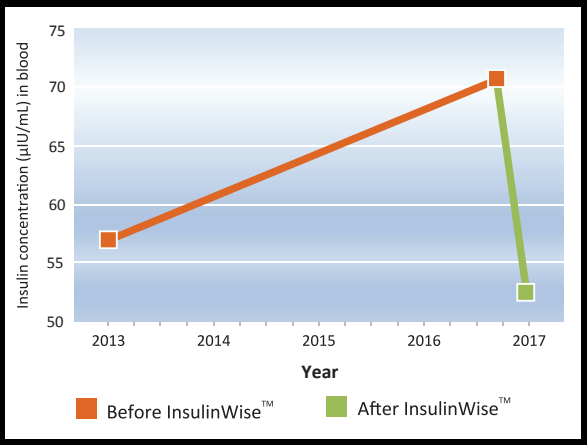
InsulinWise Supported a Decrease in Insulin Resistance

In four of the horses previously identified as insulin resistant, insulin regulation reverted to levels classified as normal after supplementation with InsulinWise.



Insulin Levels at 60 Minutes During Oral Sugar Tests from 2013 to 2017

Over time EMS horses become more insulin resistant. Supplementation with InsulinWise significantly reduces insulin levels in the blood, signifying a decrease in insulin resistance.



By Amy L. Grice, VMD, MBA

Financing Equipment

Many different types of equipment are needed in veterinary practice, from copy machines to ultrasounds. Some equipment needs to be replaced fairly frequently, and some has a long, usable life. Deciding whether your business should lease equipment or buy it outright depends on your unique situation.

Leasing equipment can be a good option for those who have limited capital or who need equipment that must be upgraded every few years. Purchasing equipment can be a better option for businesses with cash reserves or when the equipment is expected to remain in service for more than five years.

Beyond simply weighing the obvious costs of buying or leasing a piece of equipment, you also need to consider the expected costs of maintenance, available tax deductions, the flexibility of the financing terms and the expected life of the asset. By considering the pros and cons of leasing versus buying, you might find that the cost-benefit of one option strongly outweighs the other.

Leasing the equipment that you need preserves capital and provides flexibility, but that is almost always more expensive than purchasing it. Leasing allows you to acquire assets with minimal initial cash outlay, as equipment leases rarely require a down payment. For practices with slim cash flow, this can be an advantage. Lease payments can usually be deducted as business expenses on your tax return, reducing the net cost of your lease.

By contrast, when you purchase equipment, even with a loan, your payments come directly from your taxable "bottom line." If you have a marginal credit score or need a longer term to lower your monthly costs, a lease's flexibility can be a significant advantage.

As veterinary equipment has become more technical, the problem of obsolescence is significant. Leasing can allow for easier upgrading of equipment. Leasing items such as photocopiers or laboratory equipment allows an upgrade to a new model as soon as your lease expires. In addition, with leasing, you typically don't pay for maintenance. If something malfunctions, the leasing company is responsible for fixing the equipment or providing you with another.

However, with leasing, you are not building equity because you don't own the asset. Sometimes a lease provides for an inexpensive buyout at the end of the term. In that case, you might pay higher interest, but you will have an expense on your income statement and you can retain the equipment, if you desire to, at the end of the lease.

While both leasing and buying equipment with a loan obligate you to make payments for the entire financing period even if you stop using the equipment, some leases give you the option to cancel the lease if the equipment you leased is no longer necessary. However, it is important to note that early termination fees almost always apply.

The most obvious advantage of purchasing equipment is that you gain an asset with value. When the purchased item's value will not erode substantially with use, it will allow an exchange of this value as a "trade-in" on a technologically updated model in the future.

An example of a piece of equipment that is best purchased is an ambulatory practice vehicle. In addition, necessary equipment items that have obvious obsolescence but are not expensive (such as computers) should be purchased rather than leased in order to get the best value. Other items, such as office furniture, should be purchased because of their long expected lifespan.

Buying equipment for your practice outright might not be an option because the cash is simply not available. If you plan to finance a purchase and make monthly payments, most lenders require a down payment of around 20%. Section 179 of the Internal Revenue Code allows you to fully deduct the cost of some newly purchased assets in the first year they are placed into service. In 2018, you can deduct up to $1 million of equipment. The Section 179 provision can give you substantial tax savings when you make purchases for your business.

When deciding whether to buy or lease a particular piece of business equipment, include tax considerations, costs of maintenance and potential resale value. Consider the expected life of the purchased asset, and do not finance purchases over terms that exceed the expected lifespan.

Calculate the potential revenue derived from using this equipment and the overall monthly cash outlay required. EM

What's your vision for the future of your practice?

3 Questions to ask as you enter discussions with potential partners.

NO. 01

Is it the right culture fit for your team?

As you begin considering your options for selling your practice, it's important to find a partner aligned with your values, respectful of the individuality of what you've built, and equipped to grow your business, while your team and culture remain intact.

Ask around to find out which buyers have the best reputation for investing in the animal health care profession, and the equine community specifically.

NO. 02

Do the partnership options make sense?

Because selling your practice is such a personal decision, you'll want to understand what types of options are available, and to what level they can tailor the terms to meet your needs.

YOUR OPTIONS:

- Selling 100% or staying onboard in a joint venture
- Providing the opportunity for your associates to buy in
- Selling your property or renting it to the buyer

NO. 03

How comprehensive are the support services?

As you contemplate transitioning your business, you'll want to know every aspect is covered. Seek out a partner with a dedicated team seasoned in everything from marketing and recruiting, to IT, HR, accounting, taxes, legal and more. Ask about access to capital for new equipment and renovations as well.

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NVA Equine

Wet labs were held at North Carolina State University's vet school.

Field Skills for Road Warriors

This AAEP summer meeting was a well-received blend of information on business and veterinary medical skills.

By Kimberly S. Brown

Ambulatory veterinarians filled the room at the AAEP Summer Focus Meeting June 25-27 in Raleigh, North Carolina. They were nourished with experience-based strategies for managing profitable mobile practices.

The meeting had two tracks, one of which was Field Skills for Road Warriors. The content for this section included practical business topics along with tips on treating an assortment of medical conditions that are commonly encountered in the field.

Attendees had a wide variety of experiences and divergent practice focuses, but they all seemed to find nuggets of take-home, put-it-to-use information.

There was an additional day of wet labs held at North Carolina State University's vet school to provide hands-on practice for respiratory, ophthalmology, reproduction and lameness skills.

Editor's note: A big "thank-you" goes out to Boehringer Ingelheim for bringing this information to you.

Practitioner Resilience

Jeannine L. Moga, MA, MSW, LCSW, of North Carolina State University, admitted it was unusual to find a social worker in a veterinary college. She originally was hired to help veterinarians work better with clients, but now she spends most of her time working with

KIMBERLY S. BROWN

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[1]Data on file at Merial, Safety Study, PR&D 0144901.
[2]Doucet MY, Bertone AL, et al. Comparison of efficacy and safety of paste formulations of firocoxib and phenylbutazone in horses with naturally occurring osteoarthritis. *J Am Vet Med Assoc.* 2008;232(1):91-97.
[3]EQUIOXX product labels and FOI summaries and supplements.
[4]Data on file at Merial, Clinical Experience Report PHN 471, PR&D 0030701.

veterinarians on occupational health and resilience.

In her talk "Building Practitioner Health, Wellness and Resilience," Moga said research has moved away from using the term "stress management" and now focuses on "stress resilience."

"We can't eliminate all sources of stress, so we need to build shock absorbers and learn to bounce back" from stress, she said. "We get stronger every time we meet a challenge successfully."

Moga said that resilience is the core strength that enables us to withstand, bounce back, pre-empt and even prevent stress without developing stress-related complications. She noted that the unpredictable nature of ambulatory practice makes learning to handle these stressors particularly important if we want to maintain our well-being and our capacity for high-quality care.

"Recent research in neuropsychology indicated that stress resilience is highly dependent on cognitive, emotional and social resources that can be employed to counteract the complications of chronic stress," she said.

Stress is a physical problem, Moga noted. "Chronic stress is a neurodegenerative disorder involving the sympathetic nervous system dominance. There is a decrease in functioning of the prefrontal cortex and significant aging of telomeres," she noted.

Understanding and working with your brain is the key to building stress resilience. "The brain's evolutionary function is to discern and respond to danger, not to create happiness and contentment," she said. "The brain has no pain fibers, so signals overload via fatigue, distraction and mood disruption. However, neuroplasticity ensures that new neural pathways can be built through behavior, thought, emotional activation and environmental stimuli."

The brain, with or without stress, has two modes: "default" and "focused."

Characteristics of the default mode include:

- mind wandering
- spontaneous thoughts
- undirected and sometimes superficial thoughts
- often involves negative or neutral thoughts

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• deactivation with mentally demanding tasks

Characteristics of the focused mode include:

• undistracted presence
• immersion
• "flow" (see below)
• often being goal-directed
• can be externally or internally focused
• can be triggered by novelty and meaning

"We spend two-thirds of our time in default mode," said Moga. This is the brain state most associated with depression, anxiety and cognitive deterioration. Stress resilience is found in the focused mode.

How do we work on switching to focused mode? One way is by encouraging the state of "flow" that was mentioned above. "Flow is when you are so immersed in what you are doing that you lose track of time and space," explained Moga. "It is usually triggered by novelty and meaning."

She said that we need to spend about two-thirds of our time in focused mode because when we are in that mode, we can't be stressed out. "We are so relaxed that we can't trigger the sympathetic system," she said. "Unfortunately, we spend most of our waking time feeling distracted and dissatisfied," she added.

Humans tend to:

• habituate to good things (both pleasure and happiness decrease over time);
• overestimate future pleasure (so we ignore what is good right now);
• multi-task (Americans have an average of 150 undone tasks in their subconscious awareness);
• devote abundant cognitive energy to "rehashing and rehearsing," also known as ruminative thinking.

Developing stress resilience requires attention to four quadrants of behavior: cognitive, emotional, physical and spiritual.

Cognitive: One suggestion from Moga to improve cognitive behaviors was to intentionally focus your attention during the first two minutes of any situation or interaction to look and listen for what is new, interesting and meaningful. "Doing this successfully often requires that we suspend judgment," Moga explained.

She also recommended that you limit worry time. If you or a client are worried about something, set a timer and worry for 10 minutes. "If you are going to do it, do it right," she said. Then when the timer goes off, you stop. "We need to compartmentalize to cope," Moga noted.

Another cognitive tool is to trigger novelty, interest and meaning. She used the acronym FOND 5-4-3-2-1 to help you remember. Find one new detail (FOND) and go through your five senses to take note of five things you can feel, four things you can smell, etc.

Emotional: In the emotional quadrant, Moga suggested that you can create a daily practice of remembering positive things that happened. "Positive thinking, as well as gratitude, have been scientifically shown to amplify emotional resilience," she noted.

Emotional tools that you can use include:

1. Cultivate positive thoughts (three positive thoughts to one negative).
2. Express gratitude regularly.
3. Keep a "happy file" to counteract the negativity bias.
4. Cultivate connections with colleagues.

Why do these things? "Positivity improves flexibility, innovation, decision-making and resilience," she said. "Gratitude builds positivity and resource building, and social support moderates

stress, improves appraisal and reduces burnout."

Physical: In the physical quadrant, remember that it is important to care for the body in order to care for the mind. She said that slow, deep breathing helps to manage the physiological stress response by triggering the parasympathetic nervous system and getting the higher brain "online." Moga said that additionally, movement and exercise are critical for discharging stress-related negative energy.

Physical tools that you can use for restoring balance include:

1. Use technology wisely.
2. Exercise to reverse the shortening of telomeres.
3. Hydrate and refuel wisely.
4. Breathe.

Moga noted that technology overstimulates the brain and makes it difficult to rest/relax. She also pointed out that aerobic exercise reverses the shortening of telomeres. "Water and glucose are required for optimal cognitive functioning," she reminded.

What can happen if you don't take care of yourself? "Decision fatigue can set in by 10 a.m."

Spiritual: Finally, the key spiritual tool is a sense of purpose and service based on your values. "By intentionally living and working in alignment with your values, your ability to tolerate pain and cultivate resilience will grow," she said.

Spiritual tools that you can use to cultivate meaning in your life include:

1. Identify your core values and maximize them.
2. Maintain a link between your daily work, your sense of purpose and your best skills.
3. Remember who and what inspires you.

"Self-care should be thought of as part of our oath to do no harm," Moga said. She added that resilience-building behaviors are the responsibility of each practitioner, because improved health and well-being translate to healthier practices and better medicine. "Remember," Moga said, "you can't serve from an empty vessel."

Some resources that Moga listed were: Stressfree.org, Positivityratio.com and Gratefulness.org. She also recommended these apps: Calm, Headspace and 8 fit (a physical fitness app).

Review of Laceration Repair and Acute Wound Management

Timo Prange, Dr. med. vet., MS, DACVS, who is a surgeon at North Carolina State University's vet school, noted, "A thorough initial examination of a wound followed by appropriate and aggressive treatment—especially in the early phases of wound healing—increases the chance for a fast recovery and a satisfactory outcome."

He discussed his method of taking a history on the horse, restraint, controlling bleeding and exploration of the wound. A couple of his recommendations from this section included avoiding well water for cleaning wounds and using wet gauze sponges or KY Jelly to keep hair out of wounds when you are clipping around them.

Prange noted that the earlier a wound is treated, the better the chances are for a successful outcome. "Veterinarians have the greatest impact on the early phases of wound healing (hemostasis and acute inflammation), where proper surgical debridement and wound irrigation, in combination with adequate hemostasis and good drainage, can support faster healing."

Field Endoscopy

Callie Fogle, DVM, DACVS, of the North Carolina State University College of Veterinary Medicine, gave an informative presentation on field endoscopy of the upper respiratory system accompanied by short, how-to videos that enabled the practitioners to visualize the structures and procedures she discussed.

"Recognizing normal anatomy and developing a systematic approach to a complete evaluation of each portion of the upper respiratory tract are essential for accomplishing a successful examination," she noted. "A complete field endoscopic evaluation should also enable the veterinarian to identify the subset of horses that can benefit from dynamic upper respiratory evaluation. Horses that have normal resting examinations or subtle abnormalities on resting examination may have significant exacerbation of disease or dysfunction under exercising conditions, which can help provide a more definitive diagnosis."

Among the tips she gave was to consider sampling with endoscopic biopsy forceps or using the endoscope to guide sampling with endometrial biopsy forceps. She discussed the importance of cleaning and leak-testing the endoscope after each use. After use on horses with potential infectious disease, the endoscope should be sterilized.

In summary, Fogle reminded veterinarians to look carefully at each segment of the upper respiratory tract, take care of equipment, know what normal looks like and consider taking samples during examinations when indicated.

Lameness Exams in Ambulatory Practice

Rick Mitchell, DVM, MRCVS, DACVSMR, Certified ISELP, of Fairfield Equine Associates in Connecticut, noted that a thorough and efficient lameness exam can be a major practice builder. His presentation was filled with short video clips that allowed the audience to see the types of lameness cases that Mitchell discussed.

"Today's technology allows the ambulatory practitioner to have a great deal of

sophisticated diagnostic equipment at his or her fingertips, including portable digital radiography, diagnostic ultrasound and even commercial objective lameness detection devices," said Mitchell.

He stated that he thought a qualified vet tech was a good investment. "A veterinary technician can make the process of lameness diagnostics much more efficient and accurate, as well as professionally fulfilling," he said. "They also 'have your back' when you have a difficult horse, so you can get through an exam efficiently and safely."

Mitchell said that having good, portable imaging equipment is essential to making on-the-spot diagnoses and for client satisfaction. He said it is a logical investment, and you can calculate the return on investment (ROI) fairly easily. "You can get an excellent rate of return on your investment if you do significant lameness exams. If the equipment is easy to use, you will use it. If it is antiquated or heavy, you won't use it as much.

"I encourage you to engage your client when you are doing the exam," he added. "It's a great practice builder."

Mitchell said you should start by watching the horse in his stall. Then you need to be prepared for not only a visual and hands-on examination out of the stall, but to watch the horse go in-hand while moving at various gaits, over various footing and using different patterns (circles, serpentines, backing, etc.). He also noted that some horses only show a lameness problems when ridden.

Since Mitchell is trained in acupuncture, he uses a modified hands-on exam that utilizes acupoints. "An obvious lameness may be easy to elucidate, but a more subtle lameness may require an extensive exam," he explained.

Mitchell will remove shoes for diagnostic radiographs other than foot balance images, and he will manipulate limbs and use hoof testers before he asks for the horse to be walked or jogged.

If there is a performance complaint but no real lameness was demonstrated with manual palpation and in-hand examination, Mitchell will ask to see the horse perform. This might be jumping or lateral work. "Disturbed performance or disobedience may be evident in cases of neck-, back- or sacroiliac-related discomfort," said Mitchell. "Some organic issues, such as gastric ulcers, may cause similar behavior when the horse is worked under saddle, which may mimic a sore back."

He added that observing a riding exam might require a veterinarian to get training and experience in observing horses under saddle. "That often changes the horse's way of going, which may be useful in locating the origin of discomfort," said Mitchell.

"Observe the horse at a sitting and rising trot, and at the rising trot with the rider on the wrong diagonal," Mitchell said. He noted that changes of diagonal or the rider posting on the wrong diagonal might accentuate the lameness.

There are other tools that veterinarians can use, including nerve blocks. Mitchell warned that severely lame horses might be at risk of more damage due to structural instability if the animal is desensitized and exercised.

Mitchell said at this point the practitioner should have a good idea of the area or areas in question that need to be examined by radiograph or ultrasound. "Keep in mind that a thorough examination provides value, and there is nothing unprofessional about charging appropriately for time spent," stated Mitchell.

He noted that there could be liability in asking someone to ride horse that is lame. "That must be agreed upon between you and rider," he stated. "Also, I don't let anyone get on horse without a helmet. Safety is important."

Mitchell said that a horse working at a canter under saddle might show different clinical signs of lameness than it did when lunged at the canter. "You could see a stabbing, foreshortened gait indicating a possible stifle or hock problem, or lead-swapping, crow-hopping or bucking indicating lumbo-sacral or sacroiliac pain," he noted.

Mitchell also advised the audience to look for saddle slip, which might be evident in horses with subtle hind limb lameness. "The saddle will slip toward the side with the affected limb," he said.

You can repeat flexion tests with a rider aboard, which might reveal further evidence of lameness, said Mitchell.

In response to a question from the audience, Mitchell said he prefers to have the horse's regular rider aboard, but if that person isn't available, he wants a good, quiet rider. That holds true for English or Western horses.

Mitchell added that a bone scan might be useful when radiographic findings are inconclusive. "Scintigraphy is useful for regionalization of a problem," he said.

When should a practitioner look to MRI? Mitchell said that if there are negative or questionable radiographic results, with suspicious or negative ultrasound findings, then it might be time to look at an MRI.

"Keep in mind that disturbed performance may be seen in cases of axial and appendicular musculoskeletal pain, but organic issues such as EGUS may cause misbehavior and mimic lameness," he advised.

A practitioner in the audience asked whether Mitchell saw primary SI pain. "I think SI pain is a common occurrence in dressage, show jumping and reining horses," he replied. "There are two kinds of SI pain: primary and secondary. It can be primary, but more often it is secondary pain due to distal limb lameness and asymmetrical carriage. The horse will 'work into' an SI problem because of other low-grade problems.

"I find that a distal limb problem comes first, then SI," he said. "Some horses can develop SI pain from athletic effort or getting cast." EM

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Life Balance Expectations for Veterinarians

Take time to determine what is important to you—then make changes to align your actions to match your values.

By Amy L. Grice, VMD, MBA

Work-life balance has been at the forefront of people's attention in the last few years, but achieving balance is a goal that can be elusive. What exactly is life balance? It is difficult to define, because work-life balance means something a little different to everyone.

Over time, thoughts and discussion about work-life balance have been evolving, and there are often generational differences in what that means among the Baby Boomers, Generation X and the Millennials.

Of the Baby Boomers born between 1945 and 1960, many were exposed to their family's financial hardships. Making a decent living was difficult, so this generation craved stability in the workplace and highly valued the opportunity for employment. Because of this, work-life balance wasn't a main priority or concern—having a good job was!

Among early Boomers, companies often employed people for their entire careers, and the majority of the workforce was male. Women tended to be homemakers. Later Boomers experienced the opening of opportunities for women who tried to "have it all."

As the children of the Baby Boomers, Gen Xers, born between 1961 and 1980, grew up witnessing the long hours and poor work-life balance of their parents. Many Gen Xers were exposed to the effect that commitment to work had on the family unit, with many marriages ending in divorce. As a result, this generation put more emphasis on creating work-life balance in their own

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lives. Many prioritize spending time with their families and are more likely to fully utilize their vacations than the Baby Boomers. Gen Xers tend to think of good work-life balance as essential.

Millennials, born between the years of 1981 and 2000, have grown up in an era of uncertainty, where terrorist attacks, company layoffs and increasing wage inequities have been pivotal. Life is uncertain, tragic things happen and working hard might not pay off. This generation seeks to make the world a better place and have their work be meaningful. They face the harshest student loan burden in history, might have difficulty finding stable, well-paying employment and understand they will be responsible for their own retirement. In many cases, they value making a difference more than making money, and they stay focused on living life fully in the present. Having time to do things they care about is a priority, whether at work or outside of it.

Millennials seek to make the world a better place and have their work be meaningful.

ARND BRONKHORST PHOTOGRAPHY

Defining Work-Life Balance

Equine veterinarians shared their feelings about the definition of work-life balance on the Facebook pages Women in Equine Practice and Equine Vet 2 Vet.

"My work is part of my life, and I love it," said Dr. Bibi Freer. "I love my clients and my patients, and my job enriches my life. But I also need to have a week at the beach with my parents, brother, sister, their children, etc. I like to go to a party or to dinner with my husband in the same car (not the vet truck). I like to sit on the porch with friends, my banjo and my dog, and go camping with friends."

Dr. Alex Wyle Eastman wrote, "It is so difficult to define, because it is different for everyone, and, even more tricky, it is different for each of us at different times in our lives (sometimes different from day to day). I think the key is to build in some flexibility to accommodate these shifts. The big issue is when we feel we are pulled from every direction—not enough hours in the day—and we feel like we are needed by all and letting everyone down. Jack of all problems, master of none.

"But that changes with the needs of our family, our health, our own mental state, the specific demands of our friends/clients/co-workers. When things are good with my kids and our family is on autopilot, work demands don't bother me at all.

"I spend a lot of time trying to save young equine vets from themselves, trying to keep them from burning out and working too hard. Sometimes I have to realize that I'm seeing it through my lens and not theirs. Maybe at this time working is what is feeding them, and they are loving it. So long as they have the flexibility to scale back or take time away, maybe that's OK. We're trying to build a model that encourages balance, but more importantly, I don't want people to feel trapped. I'd like them to have colleagues they trust to hand cases off to and the flexibility to work more or less as the rest of their lives unfold."

In another response, Dr. Tania Sundra shared a numbered list of suggestions to achieve balance:

1. Design a lifestyle based on the things that you value, or someone else will design one for you.
2. It's up to us as individuals to take control and have responsibility for the types of lives we want to lead.
3. Creating balance doesn't necessarily mean a major change has to occur. Small changes in the right places matter.
4. Don't try to do too many things at once. Constantly trying to multi-

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The First Myth

As Nigel Marsh explained at the beginning of his talk at the 2017 AAEP Convention, there are three myths about work-life balance. The first myth, he said, is that work-life balance is "soft," indulgent, not truly serious, and not a life-and-death concern.

To the contrary, he said, it is absolutely serious, and that is made very clear in the veterinary profession by the high rate of depression and suicide. That said, he stated that the biggest risk in having poor balance is that a person will have a "living death."

The Second Myth

According to Marsh, the second myth is that work-life balance is not possible in your profession. No matter whether a person is a politician, a banker, a doctor or in the military, each thinks that his or her profession is special in its requirements and stress.

But, in fact, achieving balance is about attitude, not the external things. "Your profession is not uniquely hard; it is uniquely different," he said. You can choose, he insisted. It is a crisis of choice and imagination, not circumstances.

The Third Myth

The third myth is that if you want to get to the top of your profession, this is just the price that must be paid. However, Marsh said that many of the most successful CEOs are those with the best balance, and that there is evidence that shows rest and recovery drives creativity and productivity.

Despite these ideas, equine veterinary medicine, especially for those in solo practice, requires a 24/7/365 commitment to clients and patients. That commitment sometimes is met by sharing duty in a group practice where no doctor is considered a "silo," by sharing emergency responsibilities with a group of regional colleagues or by choosing a niche (e.g., integrative medicine, dentistry) that rarely requires after-hours care. But the burden remains. In the competitive areas of the country where equine veterinarians are numerous, practitioners worry that if they are not personally available at all times, their practices will suffer for it. Developing boundaries that support your values is essential.

Dr. Berkeley Chesen posted on Women in Equine Practice: "My career has taken precedence over most of the rest of my life for a very long time. I love my job, but my kids, husband and friends love me back, whereas clients tend to be much more of a one-way relationship.

"Not saying they shouldn't be self-serving, but they need to respect the fact I'm human. I guarantee if I disappeared tomorrow, their biggest concern would be getting 'X' done on their horse and who is available to take care of it. I guess I would say it's about teamwork with your colleagues and figuring out how to make it fair for all, regardless of who has kids."

Boundaries

Setting boundaries can be a good start to carving out time for yourself. Consider putting limits on the hours during which you will respond to routine text messages or phone calls from clients. Communicating your boundaries cheerfully will often nudge clients into realizing that you do have a life outside of veterinary medicine, and most will be supportive.

Practice owners can lead by example in fostering good boundaries. It is important to remember that the senior team members' behavior shapes the culture and the practice norms.

For an employer, promoting work-life balance can seem a daunting challenge. How can a practice promote a healthy lifestyle, both physically and emotionally, while meeting the demands of a busy practice? Creating a flexible work environment is one of the best ways to satisfy the balance needs of most employees—regardless of the generation to which they belong. Choices and flexibility have been shown to decrease stress, boost levels of job satisfaction and help people maintain healthier habits. Employers might offer flexible work hours, the ability to leave work early in slow months, and generous time off.

By prioritizing a healthy culture and cultivating a cheerful workplace environment, balance can be achieved in veterinary practices. By creating conditions that encourage employees to feel proud of their roles, where work feels more like a second home and less like working for a paycheck, practices can enhance their team's well-being. Competitive compensation, comfortable working conditions, opportunities for professional growth and close social connections all contribute to this balance.

AVMA Well-being Summit

In April 2018, the AVMA hosted a Well-being Summit to provide practical resources and strategies to enable participants, ranging from academicians and students to practitioners, to establish a culture of well-being in their workplaces and throughout the profession.

Jen Brandt, PhD, AVMA director of member well-being and diversity initiatives, said well-being is a holistic process, not an event.

Well-being in the workplace means personal happiness—feeling good, feeling healthy, and working safely and productively.

The emphasis is on a life well-lived, looking at the whole person. Brandt said that a culture of well-being helps attract top talent, brings out the best in employees and increases employee retention, engagement and satisfaction.

Priorities

If you struggle with life balance, one way to illuminate the changes that you might need is to take an hour to sit quietly and think about what is most important to you. Rank the parts of your life by importance; are you spending your time accordingly? Consider whether you are "walking your talk" in terms of:

- career
- financial success
- family and friends
- spouse/partner health
- personal growth and fulfillment
- spirituality
- contribution to the world

If you find that you have been neglecting the things that mean the most to you, make a vow to make one small change each month.

Marsh stated in his AAEP address that work-life balance is not an intellectual problem. It must be solved in real life, and real life is messy. He recommended being realistic and understanding that life stages create constant change. In addition, all industries have some unchanging realities, so if you are trying to change things that cannot be changed, you need to understand that this path leads to frustration. Concentrate on changing the things you *can* change.

Take-Home Message

Balancing the many different aspects of your life requires understanding your values and priorities, then making changes that align what you care about most with your actions.

Your needs will change during the different stages of your life, whether to care for children and/or parents, pursue personal goals or maintain strong relationships with family and friends. By collaborating with other veterinarians and building flexibility into your practice, you can carve out time to have a full and joyful life. EM

Achieving Financial Wellness

Financial wellness supports both physical and mental health.

By Amy L. Grice, VMD, MBA

Just as can happen with your physical and mental health, your personal financial health can be impacted by forces beyond your control. Physical health is affected by a combination of behavior, genes and access to good medical care. Similarly, financial health is a result of personal decisions, the performance of the economy and access to good, unbiased financial services and advice.

Financial pressure is often one of the most significant stresses that equine veterinarians endure. Whether this burden is the result of educational debt, difficulty paying practice bills or personal income that fails to meet the needs for one's life, it can negatively affect both physical and mental health.

Monetary troubles can sometimes persist throughout a career as an equine veterinarian. Many new practitioners begin with significant student loans, some experienced practice owners struggle to grow their businesses profitably and scores of retiring veterinarians have difficulty selling their practices at the value they expect. At each of these stages, challenges with money management can strongly impact life outcomes, mood and stress-related illnesses. Education and an intentional focus on financial planning can help mitigate these effects.

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educational debt for 2016 veterinary school graduates, including those with zero debt, was $143,757.82. The average for only those graduates with debt was $167,534.89, and more than 20% of those had at least $200,000 of debt.

The debt-to-income ratio (DIR) of 2016 graduates was 2:1, indicating that average debt was twice the average starting salary. Experts recommend a DIR of no more than 1.4:1 to avoid financial stress. This heavy burden at the beginning of a career sets the stage for fragile financial health.

As awareness of the significance of educational debt has grown, the veterinary industry has responded. Many resources have been developed for prospective students, veterinary students and new graduates to educate them about the financial realities of pursuing a veterinary medical education.

A Student Debt Summit was held at Michigan State University in 2016. At the Annual AAEP Convention held in Orlando, Florida, Tony Bartels, DVM, MBA, of VIN, gave an excellent presentation on managing student debt.

The AVMA website provides a number of tools for comprehensive assistance in navigating the loan payment options available through various governmental programs. You can go to avma.org and search for "Scholarship Loan Repayment" to find that information.

Creating a good life while burdened with high educational debt can be challenging. The "normal" activities that should be affordable for a highly educated professional—buying a car, buying a house, having children or buying shares in a practice—can feel out of reach, and that can seem horrifically unfair. Despair and depression can follow.

The creation of a financial plan with the help of a financial advisor can introduce a sense of control, provide hope and minimize these negative emotions. When uncertainty is reduced, anxiety is also lessened.

Practice Ownership

When vets become practice owners, their incomes generally rise as they share in the firm's profits. Debt-burdened new graduates often feel that they cannot afford practice ownership.

However, if a practice is valued properly, the profit the buyer receives for his or her share should fully service the principle, interest and tax burden on the purchase.

Meanwhile, the compensation earned for his or her effort as a veterinarian should not change. Consequently, equine practitioners should strongly consider embracing practice ownership as a strategy for financial success.

Managing a Profitable Practice

A veterinary practice must be managed with intention in order to be profitable. Veterinarians in mid-career often become so busy serving clients that they do not have time to spend on business management, and many do not have any idea of their profitability; they monitor only the growth of their revenue.

Because expenses can eat up most of that revenue, practice owners might be unaware of how financially unhealthy their practice actually is unless they attend to its vital signs.

Profit can be a significant source of compensation for the hard work of being an equine veterinarian, so creating a healthy net return is essential.

The middle decades are typically a time of wealth accumulation; having a robust stream of profit allows this to happen.

To have a profitable business, you must manage expenses carefully, charge appropriate fees, minimize discounting and work diligently to avoid excessive accounts receivable. When rising expenses are not offset by rising revenue, profit suffers. The costs of pharmaceuticals, telephone service, insurance and utilities tend to increase every year, so healthy practices make sure to increase their fees accordingly. Practices that have strong leadership and established policies and procedures typically have greater financial health.

Business management education enhances veterinarians' financial wellness. Fortunately, there are multiple opportunities to gain business acumen; EquiManagement has online and print resources for many business topics. In addition, the AAEP offers "The Business of Practice" sessions at each annual convention.

The AVMA's economics division likewise has a number of resources on its website (go to avma.org and search for "Practice Management"). There also are various veterinary business management firms offering educational seminars and networking groups.

By becoming versed in effective business strategies, veterinarians can become more valuable associates and/or more successful practice owners.

Nearing Retirement

As equine veterinarians near retirement, they often hope to augment their savings with funds from the sale of their practice equity. Because practice value is strongly tied to profitability, aging practice owners must diligently apply best practices to maximize the value they receive from this asset.

Typically, the process of preparing a practice for sale at retirement requires three to five years. In the event of an unexpected sale due to illness or injury, the potential for lost value can be significant. However, if a practice has been well-managed for profitability throughout its lifespan, a negative outcome can be avoided.

Financial Health

Financial literacy is what you know, and financial health is the outcome of using what you know. If there is a large gap between your knowledge and your behavior, your financial health will

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suffer. Financial health requires personal responsibility. Excellent financial health means you can readily manage your day-to-day financial life; you can easily absorb a financial shock or loss; and you're on track to meet your financial goals.

To assess your financial health, start by calculating your net worth—the difference between what you own and what you owe. Start by making a list of your assets (what you own) and your liabilities (what you owe). Then subtract the liabilities from the assets to arrive at your net worth figure.

At the beginning of your career, you might find that you have a negative net worth, with liabilities greater than your assets. Remember that your net worth only represents where you are financially at a moment in time, and the real value comes from making this calculation on a yearly basis to allow you to evaluate your progress, highlight your successes and make necessary course adjustments.

Equally important is developing a personal budget. Created on an annual basis, a personal budget is an excellent tool to help you plan for, reduce or eliminate expenses; save for future goals; spend wisely; plan for emergencies; and prioritize spending and saving. Creating a personal budget simply requires making projections of your future income and expenses. Your income could come from:

- salaries/wages
- bonuses
- child support
- interest and dividends
- rents paid to you

Your expenses can include many of the following:

- childcare/eldercare
- debt payments—educational loans, auto loan, credit cards
- food—groceries, dining out
- education—daycare, preschool, tuition, books, supplies, kids' music/swimming/ballet lessons
- entertainment and recreation—sports, hobbies, movies, cable TV, concerts, Netflix
- giving—birthdays, holidays, charitable contributions
- housing—mortgage or rent, maintenance
- insurance—health, home/renters, auto, disability, life, long-term care
- medical/healthcare—doctors, dentist, prescription medications, other known expenses
- personal—clothing, hair care, gym membership
- savings—retirement, education, emergency fund, health savings account, specific goals (i.e., vacation)
- special occasions—weddings, anniversaries, graduations, Bar/Bat Mitzvah
- transportation—gas, tolls, parking, oil changes, tires, car repairs
- utilities—landline and mobile telephone, internet, electric, water, propane, fuel oil, garbage

After projecting your income and expenses, check to see if your budget balances. If you have money left over, you can decide how to spend, save or invest the money. However, if your anticipated expenses exceed your income, you will have to adjust your budget by increasing your income (adding more shifts at work or producing higher revenue) or by reducing your expenses.

Most people will spend more money if they have more money to spend. As veterinarians advance in their careers and earn higher salaries, usually they increase their spending.

Recognize that lifestyle inflation can be damaging, because it limits your ability to build wealth. You must be mindful of the difference between needs and wants when making spending choices.

"Needs" are things you have to have in order to survive: food, shelter, healthcare, transportation, clothing and savings.

Conversely, "wants" are things you would like to have, but that you don't need for survival: tropical vacations, lavish gifts or a big-screen TV.

To maximize financial health:

- Spend less than you earn. This is the foundation for financial health. You can't get out of debt or save for the future if your expenses eat up all your income.
- Pay bills on time. Manage your cash flow and meet your financial obligations. Missing payments costs you money in late fees, hurts your credit and causes stress.
- Build an emergency fund that can help you weather unexpected expenses. Saving six months of living expenses is a common recommendation. Even as little as $500 can be help when you have a serious financial setback, so don't neglect saving just because you can't save a lot. Developing a habit of saving regularly so you continually replenish your account.
- Make and meet savings goals. These should include retirement savings, but can also include buying a home, a new car or saving for your child's college education. How much you need will vary by your age and circumstance, but setting aside money regularly is necessary.
- Have a sustainable debt load. This may mean driving your old car longer or buying less than your dream house, but retiring your debt as soon as you can, especially any educational debt, is crucial. Avoid credit card debt because of the high associated interest rates. Pay your bill in full every month or pay down higher interest cards first if you have limited cash.
- Monitor your credit score. Because the score measures how well you repay debt, good credit is a safety net in case you need to borrow money. Bad credit can increase your insurance premiums, increase interest rates on loans, prevent you from qualifying for an apartment and force you to pay larger deposits for utilities.
- Insure against financial shocks that could devastate your financial future. Medical bills, liability lawsuits, natural disasters or the death of a family member can have disastrous consequences. Essentials include health insurance, homeowners or renters' insurance, auto insurance with liability limits at least equal to your net worth, life insurance and disability insurance.

Take-Home Message

Financial wellness supports both physical and mental wellness and helps veterinarians have full and contented lives despite the stressful nature of the equine veterinary profession.

Throughout their careers, practitioners are well-served by utilizing the resources that are available to increase their business and financial literacy and managing their money in ways that build financial security. EM

Behavioral Update

Understanding horse behavior research can help you better manage horses and modify owner behavior.

By Nancy S. Loving, DVM

Horse owners are "into" the behavior of their horses, and the behavior side of the equine industry (natural horsemanship and training) makes millions of dollars each year. Your owners will appreciate your input when you bring science-based behavioral information to them.

The Effect of Nosebands

The training of horses tends to rely on negative reinforcement to modify a horse's behavior to the will of the rider. In many riding disciplines, removal of pressure is the reward for when a horse does something favorable.

Pressure comes in many forms, such as halters, bits, spurs and whips. By contrast, a restrictive noseband does not provide negative reinforcement because the pressure never relents or changes in response to a horse's behavior. Nosebands are commonly used in dressage and eventing pursuits in an attempt to limit a horse's evasive behaviors.

Studies are currently evaluating the effect of restrictive nosebands on horse behavior. While it is recommended that there be a two-finger available space beneath the noseband, measurements of a study of 750 horses ridden in dressage, eventing and performance hunter disciplines (Doherty, O.; Casey, V.; McGreevy, P.; Arkins, S. (2017), Noseband Use in Equestrian Sports—An International Study. *PLoS ONE* 12(1)) found that 44% of horses were fitted with a zero-fingers gap beneath the noseband and the horse's nose. Only 7% of horses were fitted properly with a gap of two fingers.

As a group, eventing horses were found to wear the tightest nosebands, whereas the performance hunter groups had the loosest nosebands in this study. The tendency to tighten nosebands "may reflect riders' efforts to address behavioral problems rather than putting the required time into training horses to slow, stop or stand still from a rein cue," noted the study.

A tightly fitting noseband often precludes a horse's ability to yawn, swallow, chew and even lick sufficiently. Adding rein tension, especially with a double bridle, further intensifies the pressure exerted by a tight noseband. The narrower the noseband width, the greater pressure the horse will feel.

One study (Fenner, et al., The Effect of Noseband Tightening on Horses' Behavior, Eye Temperature, and Cardiac Responses, *PLoS ONE* 11(5)) concluded: "The current data indicate that nosebands tightened to the extent that there is no area available underneath them cause a stress response and prevent the expression of normal behavior." Stress responses were measured by elevated heart rates and increased eye temperature as parameters suggestive of pain and/or discomfort.

Besides behavioral changes, there are other adverse consequences of excessive tightening of a noseband, including breathing restriction, tissue damage and buccal ulceration or laceration from mucosal pressure against sharp edges of premolar teeth. There is some concern that tissue damage and pressure over the trigeminal nerve on the face has the potential to lead to headshaking syndrome.

When veterinarians are asked to examine horses for rider complaints of unwillingness to work or a variety of performance problems, headgear equipment warrants inspection.

A primary objective for riders is to find the least aversive practice that elicits the desired response by the horse for the rider's demands. Current recommendations are for stewards to be on site to check gear and fit at competition venues, using a specifically designed taper gauge that standardizes measurements.

Feed Dispenser Decreases Cribbing

Cribbing behavior is a stereotypy that might have as its inception a means of coping with stress. A horse experiences stress for many reasons, but one significant variable hinges on modifications to evolved grazing behavior that should have a horse consuming small amounts for up to 16 hours per day.

High-energy rations fed two to three times a day reduce opportunities to consume feed. Condensed meals are presented and consumed in a short period of time, leaving the horse with a desire to forage and chew.

One study (Mazzola, S., et al., Efficacy of a Feed Dispenser for Horses in Decreasing Cribbing Behaviour. *Veterinary Medicine International*, Sept 2016) examined the effects of a feed dispenser on the amount of time the horses spent cribbing. The feeder (Quaryka) required the horse to rotate a "wheel" with its mouth in order to release food into a feed pan. It didn't take long to accustom the study horses to using the feeder.

Ultimately, a horse takes a significantly longer time to eats its ration when it has to continually work the wheel to obtain food. Time spent interacting with the feeding dispenser also minimized the amount of time the horses would spend cribbing during mealtime.

The study concluded that five horses equipped with the Quaryka dispenser reduced their cribbing behavior compared to the five control horses fed with conventional containers. When the specialized feeder was removed, those horses returned to their previous level of cribbing activity.

Although the study involved a limited number of horses, such a feeding device shows promise to modify stereotypic cribbing behavior.

Preconditioning for Learning

The use of negative reinforcement relies on the appropriate release of pressure in response to a horse performing the requested task. Rein tension on the bit is one such means of applying negative reinforcement.

Behaviorists have noted that horses learn better when they are slightly aroused and prepared for their lessons. By contrast, fear responses—such as those evoked by chasing a horse around a round pen—interfere with a horse's cognitive function.

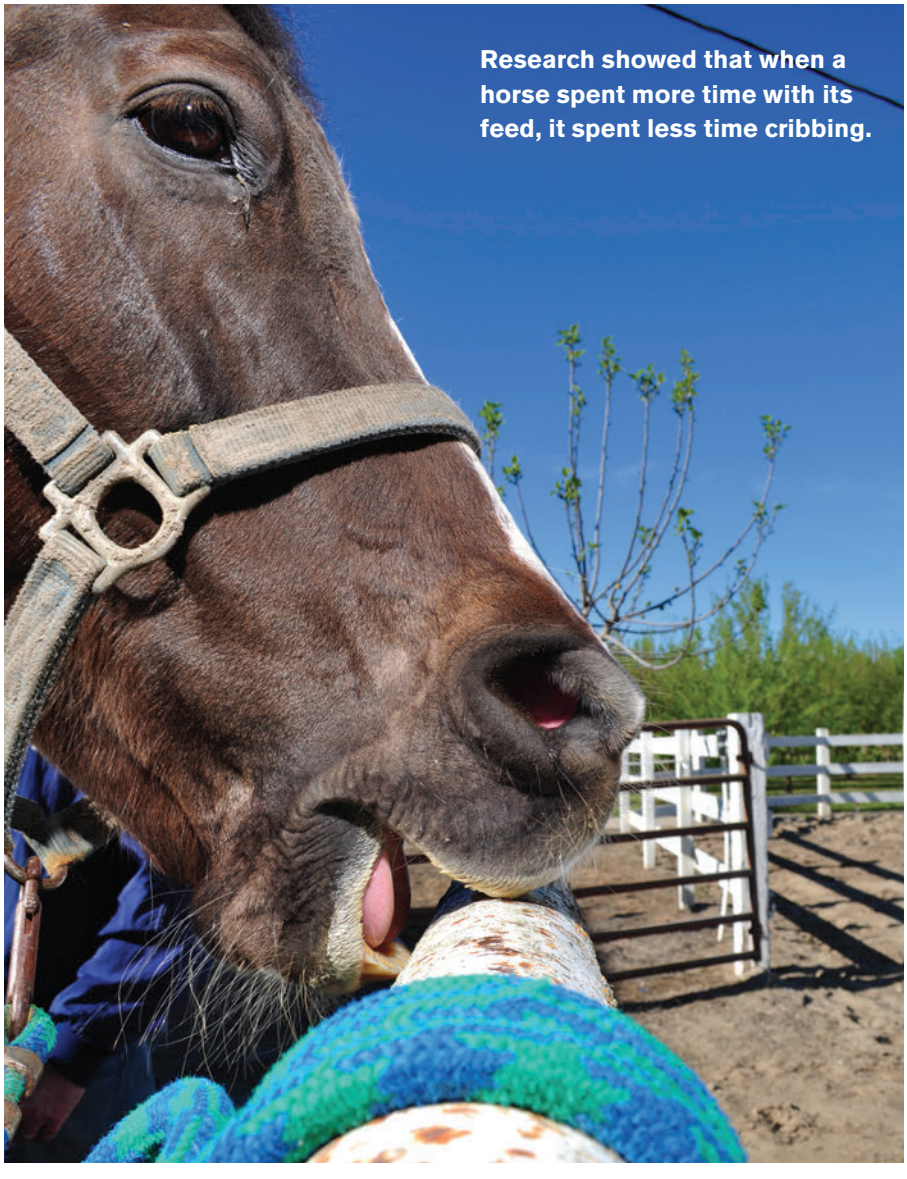
A study (Fenner, K., et al., Effects of preconditioning on behavior and physiology of horses during a standardized learning task, presented at the 12th International Equitation Science Conference) examined the effect of a preconditioning exercise—giving to bit pressure—on arousal level and learning outcome. Arousal was determined through heart rate and behaviors such as head tossing, while learning was measured by rein tension, time to perform the task, step number and behavior. The objective was to engage the horse in the lesson as a means to improve performance.

The researchers concluded that preconditioning with a pressure-release exercise elicited an increase in heart rate consistent with moderate arousal. Horses treated with the preconditioning exercises "exhibited significantly less head tossing—a response to aversive rein and bit pressure—than their untreated counterparts. This suggested that engaging the horse prior to training might lay the foundation for a better learning experience."

They also noted that, "Effective use of negative reinforcement depends on timing the release of the applied pressure, and the difference between a *good* and an *average* trainer manifests chiefly in that ability."

Twitching for Restraint

Sometimes it is necessary to use mechanical techniques to subdue a frac-



Research showed that when a horse spent more time with its feed, it spent less time cribbing.

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tious horse for veterinary or farrier procedures. The lip twitch and ear twitch are examples of such restraint measures. It is speculated that a twitch can create analgesia, distraction or pain as a vehicle for obtaining cooperation from a horse.

Measurements of heart rate, heart rate variability and cortisol levels were used to evaluate the effects of the twitch methods on a group of 12 horses (Twitching in veterinary procedures: How does this technique subdue horses? Flakoll, B., et al., *Journal of Veterinary Behavior*, 18 (2017) 23-28). The study reported considerable differences between using the lip or the ear twitch.

As the lip twitch increases the parasympathetic nervous system activity, the study found it reduces stress levels and "subdues through a calming, probably analgesic effect." That said, the study also discovered that the lip twitch might be useful only for procedures lasting less than five minutes.

Following five minutes of application of the lip twitch, sympathetic tone significantly elevated in the study horses, possibly due to habituation that then minimized beta-endorphin release. For longer procedures, chemical restraint is likely more appropriate.

By contrast, the ear twitch "significantly raises sympathetic nervous system activity and stress levels, making horses harder to handle both directly after application of the twitch and over time." Ear twitch restraint is considered "a stressful and aversive mechanism, probably eliciting fear and/or pain," reported the study.

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Nosebands that are too tight can cause a stress response in horses.

Horses Facing Unsolvable Tasks

The domestication of the horse has seen an evolution of behaviors that improve interaction between horse and human. One study sought to examine how horses communicate with humans when faced with an unsolvable task, namely obtaining food that is hidden at an unreachable location—i.e., a carrot in a covered bucket (Ringhofer, M., and Yamamoto, S. Domestic horses send signals to humans when they are faced with an unsolvable task. *Anim Cogn* (2017) 20:397–405).

The project examined how horses communicated about two different problem-solving situations in which a food item was hidden in a bucket that was only accessible to the caretaker and not to the horse. In the first effort, the caretaker was absent when the food was hidden, and therefore ignorant about the hidden food. In the second, the caretaker saw the carrot being hidden so had knowledge of the food and where it was located. The horses witnessed the food being hidden in both instances.

All eight horses in the study used eye contact and touched the human caretaker to convey that they wanted something. But for the experiment in which the horses didn't think the caretaker knew about the hidden food, they displayed considerably more active efforts to convey to the caretaker that there was a carrot in a covered bucket.

The researchers concluded: "The results suggest the possibility that horses knew what humans did and did not see; moreover, they could flexibly use this information in their signaling behavior toward humans."

This study shows that horses possess some cognitive basis for understanding others' knowledge and are sensitive to a human's past "attentional" state. Using this information, horses adapt their signaling behavior accordingly to communicate with humans.

Take-Home Message

Knowledge about equine behavior is important not only for managing the horse, but for managing the horse owner, manager or trainer. Teaching the people who regularly handle the horse what research is showing in the areas of behavior can greatly increase your standing with your clients. EM

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BOOST DISEASE PROTECTION

AND CLIENT CONFIDENCE HEADING INTO FALL

While the need for annual vaccinations is intuitive for horse owners, the need or the reasons to consider vaccine boosters oftentimes are not as obvious. As a veterinarian, you understand the need for vaccine booster(s) is determined following risk-based considerations, as well as vaccine label recommendations.

Horse owners may not know that not all vaccines have a one-year duration of immunity. It is important for clients to consult with their veterinarians to determine if late summer/fall vaccinations or boosters are warranted.

In order for a vaccination program to be effective, it's important to work closely with clients to conduct a risk-based analysis considering the following information about the horse:

- Primary activities
- The ways in which they travel
- How they're managed and by whom
- The type of environment in which they live
- The types of environments to which they could be exposed

The American Association of Equine Practitioners (AAEP) outlines the core vaccinations each horse should receive annually. They include Eastern and Western Equine Encephalomyelitis (EEE and WEE), West Nile Virus (WNV), tetanus and rabies.[1] While many of these vaccines are labeled for annual revaccination or booster in anticipation of potential exposure, it's likely that a number of the horses you manage will have vaccination protocols unique only to them – and you may be boostering at various strategic times throughout the year.

If this is the case, it's important the client understands what their horse needs, when they need it and most important, why they need it.

The Vetera® vaccine portfolio offers comprehensive, convenient, flexible, proven protection – and allows for customizable protocols to provide optimum, tailored protection as determined by your risk-based assessments.

When it comes to booster vaccines, help ensure your client's horses are protected from infectious diseases year-round.

TALK WITH YOUR CLIENTS

Tips for Incorporating Boosters into Overall Vaccine Protocol:

- Discuss the need for fall booster vaccines during spring vaccinations
- Highlight the benefit of booster vaccines if a horse lives in or is traveling to areas where there is a greater chance of exposure to infectious diseases
- Work with horse owners to help prepare horses well in advance of upcoming shows with vaccination requirements
- Ensure horse owners know that even if their horse doesn't travel, they may still be exposed to horses that do (which may be reservoirs for exposure to infectious respiratory diseases)

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[1]AAEP Core Vaccination Guidelines https://aaep.org/guidelines/vaccination-guidelines/core-vaccination-guidelines. Accessed February 28, 2018.

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A well-balanced dinner plays an important role in preparing the body for the next day's busy schedule.

Six Nutrition Tips for Busy Veterinarians

Don't let a busy day derail a healthy life. Use these six tips to feel full and invigorated all day long.

By Katie Navarra

Most days, veterinarians don't have a moment to spare. From office work to farm calls and at-home commitments, the days pass in a blur. Skipping breakfast or working through lunch appear to be the ideal timesavers, but cutting corners on meals and snacks can leave you feeling sluggish and make it difficult to concentrate.

Conversely, stopping for a hot dog or a slice of pizza, although tasty and occasionally a necessary indulgence, isn't a great long-term plan. Fried items are quick comfort foods for stressful situations. Unfortunately, these foods are highly processed and loaded with fat, sodium and sugar. These foods are not good energizers. They will often leave you feeling sluggish and craving the next fast food.

"Good nutrition provides our bodies with the necessary vitamins, minerals and nutrients we need to stay energized and healthy," said Sarah Koszyk, MA, RDN, registered dietitian, sports nutritionist and author of "365 Snacks for Every Day of the Year."

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"We need the proper fuel for both our brains and our bodies, especially when we are running around or experiencing higher levels of stress," she said.

Veterinarians devote their careers to helping horse owners maintain healthy horses based on nutritional needs. Those who also own horses have sourced the highest-quality hay, selected a well-balanced grain ration, considered supplements and, in some cases, added electrolytes to the water. Yet veterinarians are likely to spend far less time thinking about their own nutritional needs.

Luckily, it's never been easier for busy professionals to consume nutritious foods. A well-balanced diet will help maintain energy levels, keep us focused and nourished, and prevent afternoon crashes or cravings. Try these six tips for boosting your energy and improving your overall health.

1. Fuel Up

A well-balanced dinner plays an important role in preparing the body for the next day's busy schedule. Athletes know how crucial it is to fuel up the night before a big event; it is an important part of their overall training schedules. Eating a meal that includes lean protein such as wild-caught fish, chicken, beans or lentils, and complex carbohydrates such as sweet potatoes, rice or pasta—along with steamed vegetables or salads—preloads the body with energy for upcoming exertion.

2. Eat Breakfast

Since the time you were a kid, you've been reminded to eat your breakfast. It's easy to skip the morning meal when you're dashing out the door to your first appointment of the day. Breakfast is literally breaking your body's fast from the evening before. Glycogen stores will be low in the morning, so it's really important to eat something that will sustain you.

Oatmeal with fruit and nuts or whole grain toast with egg whites are good sources of energy to carry you through the day. Quick-cooking oats are transportable and ready in a hurry when you're rushing to get the day started.

These days, it's easy and convenient to start the day off right. "Even if you're running late in the morning, stop at a coffee shop and buy something," said Koszyk. "Most coffee shops sell yogurt, fruit and nuts for a well-balanced, fiber- and protein-packed breakfast-on-the-go."

3. Plan Ahead

There will always be an unplanned stop at the end of the day or an emergency call that derails the best-laid plans. By pre-planning your meals and snacks, you can be prepared for the "working lunch" or an all-nighter.

Pick one day a week to set up lunches and snack bags. Sundays are a popular day to prepare for the week, but if you don't follow a traditional weekend schedule, choose one day to prepare for the next five to seven.

Lean meats and nut butters are the key ingredients for making sandwiches that are quick and easy to transport. For example, a turkey sandwich or an almond butter and banana sandwich are small, portable meals that are packed with protein and energy.

One of Koszyk's favorite mid-morning, pre-lunch snacks is dried fruit. "I love apricots or mango with a string cheese or cherry tomatoes with cheddar cheese. It's a filling combination of carbohydrates and protein," she said.

When it gets to be late afternoon, but not quite dinner, she chooses nut butter with a banana. "It's a fantastic, savory snack that is also perfect before an afternoon workout," she said.

4. Graze the Day Away

Grazing is as good for veterinarians as it is for the horses in their care. Snacking in between meals sustains energy levels, which improves mental acuity.

In recent years, energy bars have become popular, but if not chosen carefully, they won't provide the needed boost. When choosing energy bars, look for the options that are lowest in fat and sugar but that contain good amounts of carbohydrates and moderate amounts of protein. Kind Bars and Clif Bars are two examples that meet these criteria.

A homemade trail mix with a combination of nuts, seeds, dried fruit and dried cereal tossed together is a better option. A piece of fruit and/or hummus with crackers are other alternatives.

"Make five to 10 snack bags depending on what you need, so each morning you can just grab and go with your healthy snack options," Koszyk said.

While the average person might have a diet that is too high in sodium, most active, health-conscious individuals might actually need salty foods such pickles and olives to replenish the salt lost through perspiration. Talk with your doctor and evaluate your daily routine to determine whether you're getting enough salt.

5. Drink Up

Consuming water throughout the day is as important as food choices. Veterinarians often restrict their fluid intake because it's inconvenient to be looking for restrooms while driving or at a client's barn.

Drink as much water as possible while avoiding sodas, sweet drinks and caffeinated beverages, especially if

caffeine makes you nervous or jittery.

If you're having an afternoon energy slump, instead of turning to the caffeine-based drink that will give you a boost and result in a crash, Koszyk recommends a healthy, combination snack that includes both carbohydrates and protein. "This type of snack will help you stay fueled and energized. Examples include fruit with nuts, yogurt with fruit and granola, and vegetables with hummus," she said.

She also suggested bringing a water bottle with you wherever you go. "Many times we think we are hungry, but we really may be thirsty," she said.

Sports drinks are popular choices for replacing electrolytes lost through exertion. Although some brands are beginning to reduce the preservatives and artificial colors in the drinks, not all have. Choose drinks that contain as few artificial ingredients as possible.

It's better to choose water with some lemon and add a natural sweetener such as stevia.

A good rule of thumb is to try and drink the equivalent of half your body weight in ounces of water each day. So if you weigh 150 pounds, work towards consuming 75 ounces of water to stay hydrated.

6. Make It Easy

Sometimes finding time to grocery shop and prepare meals can be stressful. Today, there are countless services that will do the shopping and prep for you. Find out whether a local farm has a community-supported agriculture (CSA) share program. That kind of program can provide you with an abundance of fresh, local fruits and vegetables. Depending on the size of the CSA, it also might offer granola, nuts and trail mixes.

If it's simply the shopping you don't have the time or desire to do—but you like to prepare your own meals and snacks—check out the home delivery or in-store pickup services offered by many grocery stores. Order online and have the items bagged and waiting (or delivered) to you.

Take-Home Message

Changing your daily eating habits is a lifestyle change. Start with small changes until you find a routine that works for you. That might mean trying new foods or simply bringing along your favorite items from the pantry.

Make the meals you already prepare work for you. Package leftovers into serving-size containers and bring them along later in the week.

Need inspiration? Check out Koszyk's blog at sarahkoszyk.com/365-snacks-every-day-year to get started. EM

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Options for Creative Work Schedules

Clients and veterinarians can be happy with creative solutions to 24/7 equine care.

By Nancy S. Loving, DVM

Equine practitioners work approximately 50 hours per week compared to their small animal colleagues, who clock about 43 hours a week, according to the National Commission on Veterinary Economic Issues (NCVEI) and an AVMA-Pfizer study.

My personal experience in solo practice found me working 70-90 hours a week for too many years to count. I imagine this is true for many of our colleagues, especially at certain times of the year.

I worked as an equine veterinarin for 33 years, most of it spent as a solo practitioner. It was hard to see any way of deviating from the standard method of practice employed by so many colleagues. Simply put, horse-owing clients demand round-the-clock availability. My well-developed sense of responsibility fit nicely into their needs. This meant being ready to jump into action whenever a call came in, no matter how intrusive on family and personal life, and no matter the hour or the weather. Saying "no" did not seem to be an option.

Looking back after having shed those idealistic blinders, it is no wonder that working under those parameters was a sure recipe for burnout.

There are not many solutions to

Despite its importance in equine practice, pituitary pars intermedia dysfunction (PPID) can be easily overlooked.

When you see these early clinical signs, no matter how subtle, it's time to test.

- *Abnormal sweating (increased or decreased)*
- *Change in attitude/lethargy*
- *Decreased athletic performance*
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dealing with the demands of being a solo equine practitioner, particularly in a highly competitive market. One could hire an associate with all the related costs that would likely obviate a reasonable income for the practice owner. Another option is to forego a position of business ownership by joining another practice. Alternatively, one could eliminate emergency calls and restrict availability to regular business hours, no longer being available 24 x 7. Or one could elect to leave veterinary practice altogether.

This introduction probably strums a chord with many of you reading it. You might feel completely blocked in by the unrelenting hours of servicing equine clients who have been spoiled for a very long time by full-time accessibility to their equine practitioners. If you're not available due to conflicts, it is possible that a client whose needs you've addressed for years will switch permanently to the person who runs to his or her aid that one time. That is a bitter pill to swallow. The lack of loyalty and appreciation by those we work hard to help adds to burnout.

So what sort of options might you pursue to introduce creative work schedules into your practice that maximize client loyalty as well as your own career satisfaction?

Multi-Doctor Practice

Many companies (not necessarily veterinary related) have suggested creative options in work scheduling, such as unlimited vacation time; a results-only work environment; remote work and distributed teams; flexible schedules (not 9 to 5); or job sharing. Of these choices, the last two are the options that have the most reasonable chance of fitting in with a hands-on job of being an equine practitioner.

With more than one practitioner servicing the business, your options become many and varied. On-call emergency duty staggered between practitioners frees up personal time for everyone. Job sharing has become a popular strategy, and it is one that works particularly well for parents raising young children or veterinarians caring for elderly family members.

The American Association of Retired Persons has determined that 50% of people caretaking an elderly family member have to balance this responsibility with full-time work. More sobering is the finding that within the next five years, it is speculated that half of today's workforce will be providing care for elder family members. This is yet another motivating reason to consider implementing creative work schedules.

Building creative work schedules is also a means of attracting competent employees. The newer generation of graduates is well aware of a need for work-life balance, and they no longer

wish to work in a fashion that older practitioners might consider normal. The younger set might have a passion for the profession, but not to the point of total immersion that allows veterinary medicine to dominate their lives.

No matter what type of work schedule you decide upon, an important element to making it work is educating your clients about what they can expect. They might want only Dr. A but have to make do with Dr. B or C. It is important to them that there is continuity in the practice, with each doctor communicating to the primary care doctor about cases seen on his or her behalf.

Job sharing can be highly useful and can cut the number of hours worked each week to 30-40. Schedules can even be flexible if all participants are willing to negotiate days in attendance in the practice. Time off might also be modified in the event that something comes up, such as unplanned family happenings, illness, the need for a mental reset or the desire to attend an interesting continuing education seminar.

You might even consider sending out a survey to horse owners to ask them what hours are particularly useful to them for scheduling appointments. If most are free in the afternoons, then practitioners' work can be scheduled to coincide with those hours. If it's the morning or the evening hours, then schedules can be tailored appropriately, with the veterinarian given some time off in the middle of the day.

Some practitioners in a multi-doctor practice might consider a compressed work schedule format similar to shifts that nurses follow—three or four 12-hour days—to be more attractive than eight-hour days scheduled five days a week. This gives more concentrated down time. It might seem like the vet has an amplified work schedule during those three or four days, but in truth, he or she is likely to end up working 12 or more hours a day even with a five- or six-day a week schedule. That is just the nature of a busy equine veterinary practice, particularly at certain times of the year. Scheduling the practitioner for a three- or four-day work week ensures that each individual has some quality time off to rest, regroup and pursue family and personal life needs.

For practices with dedicated interns or residents, the practice owner and associate veterinarians might field emergency calls from home without having to go into the clinic and still participate in case assessment. They can advise interns and residents on a course of action and continually check in while remaining in the comfort of home or participating in family events. With the ability to relay digital information such

as video and diagnostic images via email or Skype, there are infinite ways of communicating medical information among practitioners from a distance.

There is some evidence that providing practitioners with options to balance work obligations and personal life leads to improved productivity and job satisfaction. For a practice owner, this means greater retention of veterinarians with better profitability and client satisfaction.

The Solo Practitioner

Generating a creative work schedule for a solo practitioner requires some creative thinking and openness to novel ideas.

One logical plan is to collaborate with other solo practitioners to figure out how to share emergency duty while also retaining your own clients.

Sharing emergency duty is a satisfying solution if each practitioner honors a philosophy of not stealing his or her colleagues' clients. After the emergency event, the case is turned back over to the primary care doctor and both vets discuss the details, so the client knows there is communication and continuity of care for the horse.

In my own experience of working too many hours 24/7, I elected to turn over emergency calls on nights and weekends to a willing and eager new graduate who desired a jump start for her own solo ambulatory equine veterinary practice.

If you are a solo practitioner, establishing a good working relationship with one or more solo practitioners can have other benefits. For example, you might collaborate on the purchase and use of expensive equipment. This relieves each solo practitioner of an expensive financial burden that could otherwise be shared.

In addition, it frees up capital to help with hiring a vet to cover emergencies—or a relief vet for part-time work during busy periods or vacation times.

The other thing I deemed important included conducting several educational seminars for my clients, so they could understand through photos and explanations what does and does not constitute an emergency. They understand that no matter what, it is important to call even just to discuss a concern so nothing serious slips through the cracks. Yet they received advice about taking care of simple problems that are safely put off for veterinary attention until the next day or so.

Just like in a group practice, solo practices will have times of year when they are less busy. A solo practitioner can follow the lead of the multi-doctor group by scheduling around clients' preferences. It is importnt to send out queries to your clients asking about optimal times they'd like to see you for their horses' needs.

Making this altered schedule work for you and your clients depends on you educating your clients about what to expect during such a flex-hour arrangement.

Take-Home Message

Each practice develops a specific "culture" along with a philosophy of ethics and approach to veterinary medicine. To maximize positive attitudes and strong work ethics, it could be worthwhile to provide a clinic's veterinarians with creative schedules.

Part-time work, shared job positions, flex hours, compressed work schedules—these are just a few examples of ways to obtain the best productivity with the greatest job satisfaction for veterinarians and staff.

Don't be afraid to talk about flexible or alternative work schedules with your associates. You might find it helps them want to stay in your practice. EM

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By Nancy S. Loving, DVM

The Effect of Mare Obesity on Offspring

An equine veterinarian's role in counseling clients to keep excess weight off their horses is an important responsibility.

Equine obesity leads to many health problems, such as insulin resistance, equine metabolic syndrome, low-grade inflammation, laminitis and fertility issues. Obesity can also have significant consequences for the mares and their offspring.

A recent French study identified effects of maternal obesity at the time of insemination on the growth, inflammation and osteochondrosis lesions of offspring through 18 months of age (Robles, M.; Nouveau, E.; Gautier, C.; Mendoza, L.; Dubois, C.; Dahirel, M., et al. Maternal obesity increases insulin resistance, low-grade inflammation and osteochondrosis lesions in foals and yearlings until 18 months of age. *PLoS ONE* 2018, 13(1): e0190309).

Mares underwent numerous tests during their gestation periods. Foals from birth until 18 months of age were measured regularly for plasma SAA, leptin, adiponectin, T3, T4 and cortisol concentrations.

An intravenous glucose tolerance test was performed on mares at 300 days of gestation and on foals at 6, 12 and 18 months of age. At those same intervals, foals also underwent osteoarticular examinations via radiography of the hocks, stifles and fetlocks. Expression of genes involved in testicular maturation was evaluated following gelding of male colts at one year of age.

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The authors identified several relevant findings:

• During gestation, plasma urea and adiponectin decreased in obese mares, while SAA and leptin increased compared to normal mares. (Liver production of urea tends to be less in obese animals due to modifications in urea cycle enzymes.)
• Obese mares experienced more insulin resistance than normal mares by late gestation.
• Birth weights were similar at birth between the two groups, but foals born to obese mares were somewhat lighter and smaller by two months of age for foals, possibly due to less milk production by obese mares.
• Growth of offspring did not differ between foals born to either normal or obese mares.
• Plasma SAA concentrations were higher in foals born to obese mares until six months of age, reflective of systemic inflammation. Insulin resistance was greater in these foals at 6 and 18 months of age.
• At 12 months of age, osteochondrosis (OCD) was more prevalent in foals born to obese mares compared to foals from mares with normal BCS.
• By 18 months, 30% of foals born to obese mares had OCD lesions compared to 10% of the normal mare foals.
• All other parameters evaluated—triglycerides, T3, T4, cortisol, testicular maturation, leptin and adiponectin—were equivocal between the two groups of foals.

Studies in humans and rats have demonstrated that low-grade inflammation initiated by maternal obesity is able to transfer from dam to offspring.

The article pointed out that inflammatory effects in the brain can lead to anxiety, behavioral abnormalities and learning difficulties. That increases the possibility of behavioral problems in growing horses with the potential to affect future sporthorse performance.

The study concluded: "Maternal obesity altered metabolism and increased low-grade inflammation in both dams and foals. The risk of developing OCD at 12 months of age is also higher in foals born to obese dams."

While it is prudent to avoid obesity in broodmares, the authors stressed that under-nutrition of broodmares should be avoided due to its adverse effects on foal development.

Minimizing Post-Castration Swelling

Castration of stallions is a common procedure for equine veterinarians. No matter whether done as a closed or open surgery, manipulation of the soft tissues usually results in considerable edema and swelling around the surgical site.

One study evaluated the use of Kinesio Equine Tape (KT) in the scrotal area following castration of 10 horses under general anesthesia and without primary closure of the incisions.

The objective was to see whether this method reduces edema and promotes healing (Cagatay, S.; Pekyavas, N.O.; Akpinar, E.; Baltaci, G. Effects of Equine EDF Taping on Wound Healing and Edema Control After Surgical Castration in Stallions. *International Journal of Advances in Medical Sciences* Feb. 2018,Vol.3, Issue 2; pp. 1-8).

The authors noted that the tape was difficult to keep in place due to movement and friction in the scrotal area.

However, KT taping did significantly decrease localized swelling, edema and skin temperature in the scrotal area in the first three days following surgery compared to control horses without the tape.

Pain was not modified by the taping method, but surrounding scrotal tissues returned to a more normal state within a week in those horses with tape application. EM

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