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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.

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AAEP: Convention wrapup

Close to 5,500 veterinary professionals, students, guests and exhibitors from across the United States, Canada and 46 other countries attended the American Association of Equine Practitioners' 62nd Annual Convention in December in Orlando, Fla.



Chuck Gallagher

The meeting offered more than 130 hours of continuing education in core areas of equine medicine, including imaging, infectious disease management, internal medicine, lameness and reproduction. In addition, airway surgeon Norm Ducharme, DVM, MSc, DACVS, presented the Frank J. Milne State-of-the-Art Lecture, while ethics speaker Chuck Gallagher delivered the keynote presentation.

"Our tried and true topics, such as colic and lameness, remain popular topics," says Executive Director David



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[1] Hunyadi L, Papich MG, Pusterla N. Pharmacokinetics of a low-dose and DA-labeled dose of diclazuril administered orally as a pelleted top dressing in adult horses. *J of Vet Pharmacology and Therapeutics* (accepted) 2014, doi: 10.111/jvp.12176. The correlation between pharmacokinetic data and clinical effectiveness is unknown

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Foley. "However, it isn't so much the topic as it is the delivery method and attendee experience that is changing. New interactive technology within selected sessions brought additional value and a fresh dimension to the program by enabling audience-speaker engagement through their smartphone, tablet or laptop.

"Attendees are showing strong preference for those topics delivered with a more practical, 'take it home and put it to work' type of format, as well as opportunities to interact more with the presenter," he continues. "We've also increased the number of non-scientific topics, such as wellness and ethics, to offer a more well-rounded program."



Kester Panel



2017 AAEP Board of Directors

In addition to the educational program, the convention offered a variety of social and networking opportunities at which practitioners and students could expand their professional footprint; and a trade show featuring 347 exhibiting companies showcasing products and services for equine practice.

Annual awards

Four AAEP members and two horse industry advocates were honored during the President's Luncheon:

- Michael Blowen, founder, Old Friends Equine: The Lavin Cup.
- Jay Hickey, past president, American Horse Council: AAEP George Stubbs Award.
- Dennis Brooks, DVM, Ph.D., DACVO: Distinguished Educator Award – Academic.
- Bill Moyer, DVM: Distinguished Service Award.
- Glenn Blodgett, DVM: Distinguished Life Member Award.
- Nat White, DVM, MS, DACVS: President's Award.

Michael Blowen founded Old Friends in 2003 to provide dignified retirement for racehorses. The center cares for more than 160 horses across three states whose racing and breeding careers have ended. Old Friends is the only Thoroughbred rescue/retirement facility that specializes in accepting stallions, and takes pride in its pensioned classic winners, such as 1997 Kentucky Derby and Preakness Stakes winner, Silver Charm, and 2002 Belmont Stakes winner, Sarava. Known as the AAEP's equine welfare award, the Lavin Cup recognizes a non-veterinary organization or individual that has distinguished itself through service to improve the welfare of horses.

Jay Hickey's tenure with the American Horse Council spanned 27 years and included involvement with almost every major federal law and regulation concerning the equine industry. Under his direction, the AHC coordinated economic impact studies at the state and national level, and became a driving force behind the formation of the Congressional Horse Caucus; the Congressional Cavalry; the Unwanted Horse Coalition; and the AHC's marketing alliance known as Time to Ride, which seeks to increase horse ownership and participation. In recent years, Hickey was a leading voice for establishing the Equine Disease Communications Center, an organization that



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coordinates and distributes breaking information on equine disease outbreaks across the country. Named for the late artist and educator George Stubbs, the award recognizes a non-veterinarian who has contributed substantially to equine veterinary medicine through leadership, product development, public service, public policy development, volunteerism, advocacy, research or education.

Throughout his career, Dr. Dennis Brooks trained 31 equine ophthalmology residents, educated more than 3,400 veterinary students, and mentored 76 visiting veterinarians at the University of Florida. His research is published in 74 refereed publications and 82 non-refereed publications and book chapters. He continues to lecture around the country in his quest to improve the level of ophthalmic care administered by veterinarians. The Distinguished Educator – Academic Award honors an individual who by his or her actions and commitment has demonstrated a significant impact on the development and training of equine practitioners.

Dr. Bill Moyer is a leading voice for the AAEP's educational programs, and was instrumental in recruiting up-and-coming academic leaders to become more involved with the AAEP. He served as the association's director-at-large from 2001-2004 and president in 2011. Additionally, Dr. Moyers' advancements in lameness and the treatment of foot disorders cemented his position as one of the foremost authorities on equine lameness issues. His research appears in numerous refereed journals, and he remains active in educating the equine community at continuing education meetings worldwide. Dr. Moyer retired from Texas A&M University College of Veterinary Medicine in 2015, although he continues to serve as a professor emeritus. During his 22 years with the university, he served as the head of the Department of Large Animal Clinical Sciences; associate director of the Center for Equine Business Studies; director of the Link Equine Research Endowment; and on the Veterinary Emergency Team, a program that implements emergency response and disaster management for both human and animal populations.

New officers and board members

R. Reynolds Cowles, Jr., DVM, Free Union, Va., was installed as the 63rd president. He is joined as a 2017 officer by:

- Margo Macpherson, DVM, Gainesville, Fla., president-elect.
- Jeffrey T. Berk, VMD, Lexington, Ky., vice president.
- Jack Easley, DVM, Shelbyville, Ky., treasurer.
- Kathleen Anderson, DVM, Fair Hill, Md., immediate past president.

New members of the board of directors are Leslie Easterwood, DVM, College Station, Texas; and Tracy Turner, DVM, DACVS, DACVSMR, Stillwater, Minn.

The AAEP's 63rd Annual Convention will be held in San Antonio, Texas, Nov. 17-21, 2017. ■



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Bimeda Acts on Equine Market Ambitions

Bimeda's acquisition in late 2016 of the marketing rights to Ceva Animal Health LLC's portfolio of equine products in the United States and Canada represents a big step for the company as it aims to increase its presence in the equine market.

"Bimeda is a company that has been primarily focused on livestock in the United States," says Emmanuelle Lemaire Galliot, DVM, marketing manager, Bimeda. "Today, Bimeda is looking into strategically expanding its activity to other species and therapeutic segments, especially equine, as we have a long history of being in the equine business in Ireland and the UK. The agreement with Ceva to acquire the marketing rights to their equine products in the USA and Tildren in Canada shows Bimeda's commitments and investment into the equine community."

The U.S. portfolio comprises Tildren® (tiludronate disodium, NADA# 141-420), altrenogest (ANADA# 200-481), ConfidenceEQ®, and PentosanEQ™. Bimeda



also acquired the marketing rights for Tildren® in Canada.

The new portfolio is the result of Bimeda's strategy to offer complementary products in several areas, says Galliot. "For example, Bimeda had a single product for reproduction, Oxytocin injection, and now is able to offer altrenogest to cover estrus and pregnancy management as well as foal delivery." The product had been marketed as Altresyn® (altrenogest) by Ceva Animal Health, but is being renamed Ovamed™.

"ConfidenceEQ® complements the Xylamed® (xylazine), so that Bimeda now offers two different ways to help manage stress and anxiety in horses," she says.

"The joint and cartilage support is actually a brand new category for Bimeda. Tildren® and other joint support products are part of this category."

"Our research and development pipeline contains several equine products at various stages of development. We expect a steady stream of new products in the coming 24 months."

Bimeda plans to continue investing in the U.S. equine market, says Galliot. "Our research and development pipeline contains several equine products at various stages of development. We expect a steady stream of new products in the coming 24 months."

Ceva and Bimeda worked together to ensure a smooth transition at all levels of the channel – distribution management, distributor sales teams and veterinary customers, says Galliot. "Communications were sent out to all partners and veterinary customers, informing them of the agreement and the new ordering process where applicable.

"The difference for [*Veterinary Advantage*] readers is that the products are now part of a bigger portfolio that they can offer to their veterinary customers under one company brand." ■

On the Spot

Online stores can be good for business, but many veterinarians don't know it

BY DAVID THILL



Most horse owners purchase over-the-counter products – as well as many prescription medications for their horses – from outlets other than their veterinarian, data indicates. However, veterinarians have an option that could help them regain that lost business: selling their medications and over-the-counter products online.

Vets First Choice was founded in 2010 by a small group of investors and software engineers, who had experience working with veterinarians and wanted to leverage new technological developments to help the veterinary industry. It began providing e-commerce services for practices before expanding to digital prescription management.

Today, the company offers practice patient analytics "with the goal of helping, in a broader way, [to] track, monitor, and manage patient population health," says Susan Tuller, director of equine at Vets First Choice. Horse owners can purchase products directly through their veterinarian's website, with little trouble on the part of the veterinarian.

Benefits for the equine vet

Along with marketing and client communication services, Vets First Choice offers options that specifically benefit equine veterinarians. For example, since equine practitioners are so often away from their office, the Vets First Choice mobile app allows them to create, renew, and approve prescriptions from their phone, says Tuller. "They can access the complete range of products online while at the barn and take care of their clients' needs on the spot."

Additionally, she notes that Vets First Choice has established direct partnerships with manufacturers. In many cases, this allows veterinarians to offer manufacturer-sponsored instant rebates to customers who purchase directly through the veterinarian's website.

Veterinarians often work with trainers and purchasing agents who coordinate horse owners' needs. Vets First Choice's trainer program allows them to continue this relationship while directing customer purchases through the veterinary practice, Tuller says.

These services allow veterinarians to regain business from horse owners, who often turn to big box retailers and Internet sellers for lower prices. Tuller notes that while online pharmacies may offer lower prices, this is largely because they don't share profits with the veterinarians who write prescriptions. If more horse owners were aware of this dynamic – which takes support away from local veterinarians – "perhaps fewer purchases would be made on these big-box pharmacy sites."

She also notes that in the interest of saving money, online retailers sometimes cut corners when it comes to security. "Veterinarians and practice staff need to educate their horse owners about the risks of purchasing medications and supplies from non-accredited [by the Veterinary-Verified Internet Pharmacy Practice Sites (Vet-VIPPS) program] sites, and build loyalty," she says.

Vets First Choice aims to help practices do this effectively.

> When veterinary practices implement online purchasing platforms, says Tuller, they regain clients who have turned to other sources for products, as well as clients who have left the practice completely. Bringing these customers back means an increase not only in sales of medicine, but in sales of overall services and growth of the practice.

Client outreach

Included with the Vets First Choice service is an ongoing client email outreach campaign customized to the individual veterinary practice. These emails, which are sent to clients directly from the practice, include coupons while highlighting the benefits of buying products from a reputable source – in this case, the client's own veterinarian.

Practices also receive in-office marketing materials so that doctors and staff can connect with clients about online purchasing options. These materials include coupons to provide incentive for horse owners to try the online system.

In addition, Vets First Choice has what Tuller calls a system of "proactive" scripting: When clients don't purchase medications from the veterinarian in the barn or at the time of the service visit, the veterinarian can create a digital

prescription, prompting an email to the client. If the client still has not purchased within a few days, Vets First Choice sends a second email "with a friendly reminder of their veterinarian's recommendation," says Tuller. Veterinarians also have the ability to set recommendations to be sent to the horse owner as a reminder at a future date.

Common misconceptions

"We have strong data that shows that practices using a prescription management platform see overall increase in compliance, better horse healthcare, and increased revenue growth" through re-engaged clients, says Tuller. However, veterinarians, including equine practitioners, often remain apprehensive about using online purchasing platforms such as Vets First Choice. This apprehension stems from what she calls the "Big Four Misconceptions":

> "We have strong data that shows that practices using a prescription management platform see overall increase in compliance, better horse healthcare, and increased revenue growth through re-engaged clients."
>
> **– Susan Tuller, director of equine at Vets First Choice**

If clients buy online rather than in person, profits will be less. Tuller says that what these veterinarians don't realize is that most clients are already purchasing medications and over-the-counter products elsewhere, whether online or at horse shows. Instituting an online store can help veterinarians bring back customers who have turned to other sources.

Using an online purchasing platform costs more than doing it myself. Tuller says that practitioners tend to underestimate the full cost of carrying inventory, failing to take into account factors such as how long it takes to place, track, and receive orders, the resources necessary for monitoring inventory, and shrinkage. Add on costs from invoicing and accounts receivable, and the "hidden" costs are actually greater than the cost of the product. By having an outside purchasing platform filling the orders, those costs are reduced.

An online store will erode profits. Purchasing platforms – especially those that also help manage prescriptions – increase compliance by sending automated reminders encouraging customers to refill prescriptions more regularly, as prescribed by the veterinarian, explains Tuller. Veterinarians are often unaware of this, and tend to underestimate their potential increased sales and profit margins when they miss this aspect of compliance.

Implementing an online store will be more effort than it is worth. But Tuller explains that with the platform, veterinarians are doing the same thing they were already doing – writing prescriptions. The only difference is that now they are doing it digitally, while tracking refills and renewals in a more effective way than many practices tend to do. The purchasing platform takes care of the outreach, informing lost clients that they can now purchase online directly from their veterinarians, "which they prefer to do anyway," she says.

The distributor rep

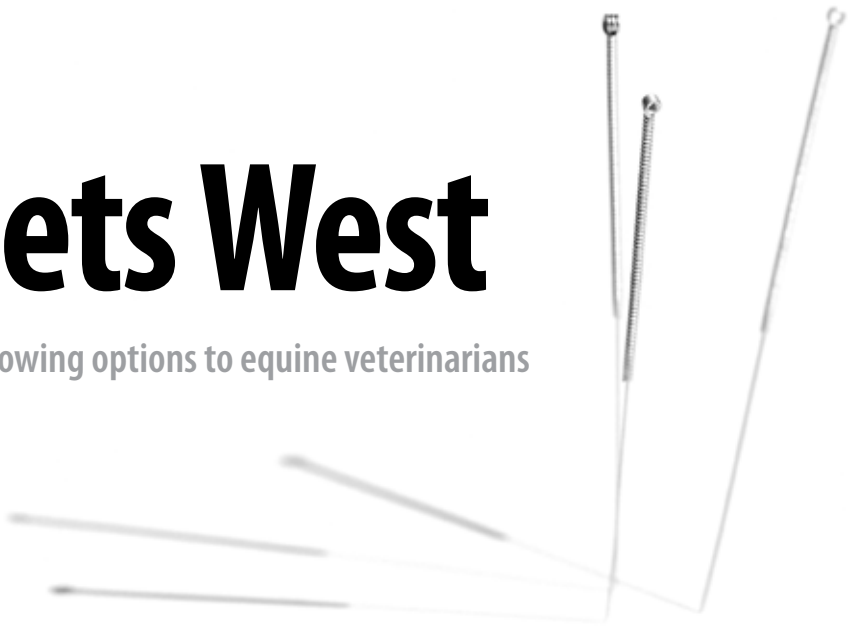
When veterinary practices implement online purchasing platforms, says Tuller, they regain clients who have turned to other sources for products, as well as clients who have left the practice completely. Bringing these customers back means an increase not only in sales of medicine, but in sales of overall services and growth of the practice.

Distributor reps can educate veterinarians about their options, and account managers at Vets First Choice can prepare distributors to do that. Practices continue to rely on distributors for products in their clinics and on their trucks, Tuller observes. Additionally, when clients return to the practice to buy products, there is a great chance they'll continue to buy other services too, which will require the assistance of the distributor.

"In our view, every distributor rep should be knowledgeable about the options available to practices, and should… advise equine practitioners that their world is changing and they need to change with it to thrive," says Tuller. "When they do this, everyone wins." ■

East Meets West

Acupuncture, chiropractic are growing options to equine veterinarians



Bobby Willard, DVM, graduated from Texas A&M College of Veterinary Medicine in 1982. He practiced conventional veterinary medicine for quite some time after that.

"I saw the work of some chiropractic practitioners early on," says Willard, of Equiplex, a practice limited to equine sports medicine, chiropractic and acupuncture, in Flower Mound, Texas. "I saw some cases that kind of wowed me, and I knew that as much as I tried not to believe it, I was lying to myself if I didn't admit those horses benefitted."

Then, in the early 1990s, a horse kicked him and fractured his leg. "My leg healed, but I lost some of the flexibility I had before," he says. "I couldn't bend over. My wife dragged me to a chiropractor. And that made a difference."

The experience strengthened Willard's belief that some of his equine patients might benefit from chiropractic as well. "I began referring patients to chiropractors, but at that time, there weren't many local chiropractors doing equine work." So he enrolled at Parker University in Dallas, whose program is certified by the American Veterinary Chiropractic Association. "Acupuncture followed after that. Through my chiropractic work, I learned the two modalities work in a complementary way – allowing the body to heal itself.

"I still do Western medicine," he says. "But about 60 percent of my time is spent on 'non-conventional' medicine, and 40 percent 'conventional.'" In addition to chiropractic, Willard received his certification in acupuncture at the Chi Institute of Traditional Chinese Veterinary Medicine in Reddick, Fla.

Willard is not unlike many other veterinarians who went to school in the 1980s.

"We didn't receive any education on any kind of alternative medicine," he recalls. "There was the underlying feeling – though I don't think I heard it specifically – that those things were taboo; that it was the weirdos who would delve into it."

That may be changing.

> "I think that same desire by the public wanting holistic care for themselves spills over into the equine world and animal chiropractic."
>
> **– Bobby Willard, DVM**

The Virginia-Maryland College of Veterinary Medicine has been providing consistent equine chiropractic since 2012, says Becky Funk, DVM, DACVIM-LA, equine field service section chief.

"I believe the interest from students is increasing in parallel with increased interest from the general population," she says. Students are also allowed to take an elective course during their second year that is targeted at introducing rehabilitation and complementary medicine. Chiropractic and acupuncture lectures are taught during this elective.

Funk adds that several veterinarians in small animal and large animal are trained in acupuncture, so students are exposed to acupuncture and chiropractic during their clinical

rotations. "I believe the interest in acupuncture may actually be stronger than chiropractic, but it does vary among students and clients."

Certification

Since 1989, approximately 1,250 licensed veterinarians or licensed chiropractors in North America have been certified by the Animal Chiropractic Certification Commission of the AVCA. There are approximately 700 active certificants. In order to be certified through AVCA, a person must either be a licensed veterinarian (DVM, VMD, or equivalent), or a licensed chiropractor (DC).

Meanwhile, more than 3,200 veterinarians have become certified through the International Veterinary Acupuncture Society, says Executive Director Deborah Prevratil. One must be a licensed veterinarian in their country of residence to become IVAS-certified. Fourth-year veterinary students may take the certification course, but will only become IVAS-certified after becoming licensed to practice veterinary medicine. Most states in the United States require a person performing acupuncture on animals to be a veterinarian, she adds.



"I saw some cases that kind of wowed me, and I knew that as much as I tried not to believe it, I was lying to myself if I didn't admit those horses benefitted."

– Bobby Willard, DVM

Growing interest in chiropractic and acupuncture among horse owners and equine veterinarians shouldn't be a surprise, given what's happening in human medicine, according to those with whom *Veterinary Advantage* spoke.

Says Willard, "In human medicine, you're seeing more interest in holistic methods of healing. I think that same desire by the public wanting holistic care for themselves spills over into the equine world and animal chiropractic. I think they go hand in hand."

Says Prevratil, although horse owners often seek acupuncture for their horse's lameness or pain, "acupuncture is now considered more acceptable for treating the whole animal, and horse owners seek out what is best for their horse."

East meets West

Nor does growing interest in alternative medicine mean horse owners – or veterinarians – are writing off conventional Western veterinary techniques, such as pharmaceuticals and surgery.

"We always recommend to a potential client that they seek out a veterinarian that is certified in veterinary acupuncture,

Equine chiropractic

Equine chiropractic is a com-ponent of equine healthcare that focuses on the relationship between structure (primarily, the vertebral column) and function (as coordinated by the nervous system), and how that relationship affects preservation of health. For example, reduced mobility between two vertebrae can affect the nerves that leave the spinal cord between these vertebrae. Alteration to the nerves can lead to problems such as pain, abnormal posture, or poorly coordinated movement.

Equine chiropractic is a form of manual therapy that uses short lever, high velocity, low amplitude, controlled thrusts. Forces are applied to specific articulations or anatomic regions ("adjustments") to induce a therapeutic response via induced changes in joint structures, muscle function, and neurological reflexes.

Chiropractic treatment does not replace traditional veterinary medicine; however, it can provide an additional means of diagnosis and treatment for a variety of musculoskeletal disorders.

Source: Virginia-Maryland College of Veterinary Medicine, www.vetmed.vt.edu/vth/services/equine/equine-chiropractic.asp

as a veterinarian will be able to diagnose the horse /animal completing all the Western diagnostics," says Prevratil. "Acupuncture is used as an integrative approach." And although in the past, acupuncture was considered something of a last resort – when surgery could not help, or when the client lacked money for traditional Western treatment – "this has changed, and acupuncture is used regularly and an integrated approach for many issues."

Virginia-Maryland offers limited direct instruction on acupuncture and chiropractic in the coursework, says Funk. "However, I hope to build upon that in coming years. When students are on clinics and present at appointments where we do acupuncture or chiropractic, they see how Western and Eastern medicine can be combined in the treatment plan. Often we discuss this combination in those cases or related cases."

Says Willard, "I think the competition and sometimes antagonism between conventional medicine practitioners and non-conventional [practitioners] is unfortunate. In my opinion, there's no competition there – the two modalities only complement each other.

"Let me use an example: If I were in a car accident, I want to go to the closest hospital for the conventional medicine we're blessed with in this country. They'll patch me up. But very often, once I leave there, I need other care that can complement that. In a similar fashion, in animal chiropractic, the alternative medicine is good in that regard. Post-surgery, complementary care using alternative medicine can only help the surgeon's case.

"A coming together of the modalities – I think that's really where we need to be. In my practice, we're increasing referrals from the guys and gals I'm competing with in conventional medicine. They know their clients are looking for chiropractic care, and they welcome someone who is educated and who won't go behind their back; and I see the two working more in a way that complements each other, and I welcome that." ■

Further reading

- American Veterinary Chiropractic Association, www.americanchiropractic.org. A professional membership group promoting animal chiropractic to professionals and the public, and acting as the certifying agency for doctors who have undergone post-graduate animal chiropractic training.
- International Veterinary Acupuncture Society, Fort Collins, Colo., www.ivas.org. IVAS was founded in 1974 by a group of veterinarians in the United States who wanted to promote the use of veterinary acupuncture and to increase education in this modality.
- Chi Institute of Traditional Chinese Veterinary Medicine, www.tcvm.com. With a main campus in Reddick, Fla., and program bases in Spain, China, South Korea, Taiwan, Indonesia, Australia, Costa Rica and South Africa, Chi Institute has graduated over 6,000 licensed veterinarians from 69 countries and regions around the world since its founding in 1998.

Acupuncture

In small animals, including exotics, and large animals, primarily equines, acupuncture is most commonly used for musculoskeletal problems (e.g. arthritis), skin problems, nervous disorders, reproductive disorders, respiratory problems, poor immunity, and internal medicine problems, such as heart (cardiac) and kidney (renal) disease, etc.

Acupuncture is now known to affect all major physiologic systems. It works primarily via the central nervous system, affecting the musculoskeletal, hormonal, and cardiovascular systems. However, acupuncture does more than just relieve pain. Acupuncture also increases circulation, causes a release of many neurotransmitters and neurohormones (some of which are endorphins, the "natural pain-killing" hormones), relieves muscle spasms, stimulates nerves, and stimulates the body's defense system, among many other beneficial effects. The particular method in which it works depends on the conditions being treated and the points used. Usually more than one mechanism of action is involved when each individual acupuncture point is "needled."

In the Western world, acupuncture is used primarily when medications are not working, are contraindicated because of possible side effects, or when surgery is not feasible. In China, it is often used as the primary treatment before conventional medicines and surgery.

Source: International Veterinary Acupuncture Society, www.ivas.org/acupuncture-courses

Henry Schein helps raise $10,000 for AAEP Foundation

Henry Schein, Inc. demonstrated its commitment to supporting the education of the next generation of veterinary practitioners by spearheading a fundraising effort that raised $10,000 for the American Association of Equine Practitioners (AAEP) Foundation, a nonprofit organization that serves as the charitable arm of the AAEP, according to a release. The check was presented to Jeffrey T. Berk, VMD, Chairman of the AAEP Foundation Advisory Council, at the 62nd annual AAEP Convention held in Orlando, Fla. Henry Schein joined supplier partners Zoetis and Neogen to support the AAEP Foundation's "Collegiate Challenge" fundraiser by matching $10 donations made by convention attendees. In total, the company donated $10,000 to the AAEP Foundation, which raised more than $36,000 through the challenge to support AAEP's student chapter activity; courses on dentistry, podiatry, and horse handling; and continuing education programs.

EEG releases updated recommendations on the diagnosis and treatment of equine metabolic syndrome

The Equine Endocrinology Group (EEG) has released updated written recommendations on the diagnosis and treatment of equine metabolic syndrome (EMS), according to a release. The recommendations also include information on the detection, testing, assessment, and management of EMS. "These guidelines are important because they provide the most up to date, concise, accurate information in a reference guide that veterinarians can easily carry and review," says Steve Grubbs, DVM, PhD, DACVIM, equine technical manager for Boehringer Ingelheim Vetmedica, Inc. (BIVI). EMS is characterized by three main features: obesity or regional adiposity, insulin resistance and a high risk for laminitis. EEG updates their recommendations every two years, The EEG also publishes recommendations for pituitary pars immune dysfunction (PPID), another endocrine disorder. The recommendations for EMS and PPID can be found on the EEG web site: http://sites.tufts.edu/equineendogroup.

Products

Merck Animal Health unveils new Flu Avert® I.N. Intranasal Applicator

Veterinarians now have access to a proprietary new intranasal applicator for administering the Flu Avert I.N. equine influenza vaccine, according to Merck Animal Health. The applicator, which was introduced during the annual meeting of the American Association of Equine Practitioners, not only makes vaccination easier for the horse and veterinarian, but it also delivers enhanced mucosal coverage within the nasal cavity. "Flu Avert is special, in part, because of its unique intranasal application, and veterinarians have long recognized the benefits of Flu Avert for its exceptional influenza protection," says Bryant Craig, D.V.M., Merck Animal Health equine veterinary technical services manager. "However, previous applicators could be difficult to use as many horses didn't appreciate the 6-inch cannula being inserted into their nasal cavity." The new applicator, which is 1-inch long, is administered from just inside the ventral nares and is hardly noticeable to the horse. It uniquely atomizes the vaccine into a very fine mist, delivering it in a much smaller particle size than with other applicators. This allows the vaccine to reach further into the nasal cavity and cover a broader area of the nasal and pharyngeal mucosa. The new applicator is available to veterinarians beginning in January 2017. For more information on Flu Avert I.N. and the new intranasal applicator, veterinarians are encouraged to contact their Merck Animal Health sales representative or call 1-800-521-5767.

EQUIDONE® Gel (domperidone)

For oral use in horses only.

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: Domperidone is a D2 dopamine receptor antagonist. The chemical formula is 6-chloro-3-[1-[3-(2-oxo-3H-benzimidazol-1-yl) propyl]piperidin-4-yl]-1H-benzimidazol-2-one.

INDICATION: For prevention of fescue toxicosis in periparturient mares.

Contraindication: Horses with hypersensitivity to domperidone should not receive EQUIDONE Gel.

WARNINGS: Failure of passive transfer of immunoglobulins (IgG) may occur when using EQUIDONE Gel even in the absence of leakage of colostrum or milk. All foals born to mares treated with EQUIDONE Gel should be tested for serum IgG concentrations. Do not use in horses intended for human consumption.

HUMAN WARNINGS: Not for use in humans. For oral use in animals only. Keep this and all drugs out of the reach of children. Pregnant and lactating women should use caution when handling EQUIDONE Gel, as systemic exposure to domperidone may affect reproductive hormones. Consult a physician in case of accidental human exposure.

PRECAUTIONS: EQUIDONE Gel may lead to premature birth, low birth weight foals or foal morbidity if administered >15 days prior to the expected foaling date. Accurate breeding date(s) and an expected foaling date are needed for the safe use of EQUIDONE Gel.Do not use in horses with suspected or confirmed gastrointestinal blockage, as domperidone is a prokinetic drug (it stimulates gut motility).

ADVERSE REACTIONS: The most common adverse reactions associated with treatment with EQUIDONE Gel are premature lactation (dripping of milk prior to foaling) and failure of passive transfer.

EQUIDONE® Gel
(domperidone)

Distributed by:
Dechra Veterinary Products
7015 College Boulevard, Suite 525
Overland Park, KS 66211, 866-933-2472

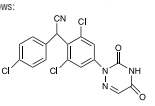
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NADA 141-314,
Approved by FDA

Dechra
Veterinary Products

PROTAZIL®

ANTIPROTOZOAL PELLETS *(1.56% diclazuril)*

FOR ORAL USE IN HORSES ONLY
For the treatment of equine protozoal myeloencephalitis (EPM) caused by *Sarcocystis neurona* in horses.
CAUTION
Federal (U.S.A.) law restricts this drug to use by or on the order of a licensed veterinarian.
NADA #141-268 Approved by FDA
DESCRIPTION
Diclazuril, (±)-2,6-dichloro-α-(4-chlorophenyl)-4-(4,5 dihydro-3,5-dioxo-1,2,4-triazin-2(3H)-yl) benzeneacetonitrile, has a molecular formula of $C_{17}H_9Cl_3N_4O_2$, a molecular weight of 407.64, and a molecular structure as follows:



Diclazuril is an anticoccidial (antiprotozoal) compound with activity against several genera of the phylum Apicomplexa. PROTAZIL® (diclazuril) is supplied as oral pellets containing 1.56% diclazuril to be mixed as a top-dress in feed. Inert ingredients include dehydrated alfalfa meal, wheat middlings, cane molasses and propionic acid (preservative).
INDICATIONS
PROTAZIL® (1.56% diclazuril) Antiprotozoal Pellets are indicated for the treatment of equine protozoal myeloencephalitis (EPM) caused by *Sarcocystis neurona* in horses.
DOSAGE AND ADMINISTRATION
Dosage: PROTAZIL® (1.56% diclazuril) is administered as a top dress in the horse's daily grain ration at a rate of 1 mg diclazuril per kg (0.45 mg diclazuril/lb) of body weight for 28 days. The quantity of PROTAZIL® necessary to deliver this dose is 64 mg pellets per kg (29 mg pellets/lb) of body weight.
Administration: To achieve this dose, weigh the horse (or use a weigh tape)). Scoop up PROTAZIL® to the level (cup mark) corresponding to the dose for the horse's body weight using the following chart:

Weight Range of Horse (lb)	mLs of Pellets	Weight Range of Horse (lb)	mLs of Pellets
275 - 524	20	1275 - 1524	60
525 - 774	30	1525 - 1774	70
775 - 1024	40	1775 - 2074	80
1025 - 1274	50	-	-

One 2-lb bucket of PROTAZIL® will treat one 1100-lb horse for 28 days. One 10-lb bucket of PROTAZIL® will treat five 1100-lb horses for 28 days.
CONTRAINDICATIONS
Use of PROTAZIL® (1.56% diclazuril) Antiprotozoal Pellets is contraindicated in horses with known hypersensitivity to diclazuril.
WARNINGS
For use in horses only. Do not use in horses intended for human consumption. Not for human use. Keep out of reach of children.
PRECAUTIONS
The safe use of PROTAZIL® (1.56% diclazuril) Antiprotozoal Pellets in horses used for breeding purposes, during pregnancy, or in lactating mares has not been evaluated. The safety of PROTAZIL® (1.56% diclazuril) Antiprotozoal Pellets with concomitant therapies in horses has not been evaluated.
ADVERSE REACTIONS
There were no adverse effects noted in the field study which could be ascribed to diclazuril. To report suspected adverse reactions, to obtain a MSDS, or for technical assistance call **1-800-224-5318**.
CLINICAL PHARMACOLOGY
The effectiveness of diclazuril in inhibiting merozoite production of *Sarcocystis neurona* and *S. falcatula* in bovine turbinate cell cultures was studied by Lindsay and Dubey (2000).[1] Diclazuril inhibited merozoite production by more than 80% in cultures of *S. neurona* or *S. falcatula* treated with 0.1 ng/mL diclazuril and greater than 95% inhibition of merozoite production (IC_{95}) was observed when infected cultures were treated with 1.0 ng/mL diclazuril. The clinical relevance of the in vitro cell culture data has not been determined.
PHARMACOKINETICS IN THE HORSE
The oral bioavailability of diclazuril from the PROTAZIL® (1.56% diclazuril) Antiprotozoal Pellets at a 5 mg/kg dose rate is approximately 5%. Related diclazuril concentrations in the cerebrospinal fluid (CSF) range between 1% and 5% of the concentrations observed in the plasma. Nevertheless, based upon equine pilot study data, CSF concentrations are expected to substantially exceed the in vitro IC_{95} estimates for merozoite production (Dirikolu et al., 1999)[2]. Due to its long terminal elimination half-life in horses (approximately 43-65 hours), diclazuril accumulation occurs with once-daily dosing. Corresponding steady state blood levels are achieved by approximately Day 10 of administration.
EFFECTIVENESS
Two hundred and fourteen mares, stallions, and geldings of various breeds, ranging in age from 9.6 months to 30 years, were enrolled in a multi-center field study. All horses were confirmed EPM-positive based on the results of clinical examinations and laboratory testing, including CSF Western Blot analyses. Horses were administered PROTAZIL® (1.56% diclazuril) Antiprotozoal Pellets at doses of 1, 5, or 10 mg diclazuril/kg body weight as a top-dress on their daily grain ration for 28 days. The horses were then evaluated for clinical changes via a modified Mayhew neurological scale on Day 48 as follows:

0. Normal, neurological deficits not detected.
1. Neurological deficits may be detectable at normal gaits; signs exacerbated with manipulative procedures (e.g., backing, turning in tight circles, walking with head elevation, truncal swaying, etc.).
2. Neurological deficit obvious at normal gaits or posture; signs exacerbated with manipulative procedures.
3. Neurological deficit very prominent at normal gaits: horses give the impression they may fall (but do not) and buckle or fall with manipulative procedures.
4. Neurological deficit is profound at normal gait: horse frequently stumbles or trips and may fall at normal gaits or when manipulative procedures were utilized.
5. Horse is recumbent, unable to rise.

Each horse's response to treatment was compared to its pre-treatment values. Successful response to treatment was defined as clinical improvement of at least one grade by Day 48 ± conversion of CSF to Western Blot-negative status for *S. neurona* or achievement of Western Blot-negative CSF status without improvement of 1 ataxia grade.
Forty-two horses were initially evaluated for effectiveness and 214 horses were evaluated for safety. Clinical condition was evaluated by the clinical investigator's subjective scoring and then corroborated by evaluation of the neurological examination videotapes by a masked panel of three equine veterinarians. Although 42 horses were evaluated for clinical effectiveness, corroboration of clinical effectiveness via videotape evaluation was not possible for one horse due to missing neurologic examination videotapes. Therefore, this horse was not included in the success rate calculation.
Based on the numbers of horses that seroconverted to negative Western Blot status, and the numbers of horses classified as successes by the clinical investigators, 28 of 42 horses (67%) at 1 mg/kg were considered successes. With regard to independent expert masked videotape assessments, 10 of 24 horses (42%) at 1 mg/kg were considered successes. There was no clinical difference in effectiveness among the 1, 5, and 10 mg/kg treatment group results. Adverse events were reported for two of the 214 horses evaluated for safety. In the first case, a horse was enrolled showing severe neurologic signs. Within 24 hours of dosing, the horse was recumbent, biting, and exhibiting signs of dementia. The horse died, and no cause of death was determined. In the second case, the horse began walking stiffly approximately 13 days after the start of dosing. The referring veterinarian reported that the horse had been fed grass clippings and possibly had laminitis.
ANIMAL SAFETY
PROTAZIL® (1.56% diclazuril) Antiprotozoal Pellets were administered to 30 horses (15 males and 15 females, ranging from 5 to 9 months of age) in a target animal safety study. Five groups of 6 horses each (3 males and 3 females) received 0, 5 (5X), 15 (15X), 25 (25X) or 50 (50X) mg diclazuril/kg (2.27mg/lb) body weight/day for 42 consecutive days as a top-dress on the grain ration of the horse. The variables measured during the study included: clinical and physical observations, body weights, food and water consumption, hematology, serum chemistry, urinalysis, fecal analysis, necropsy, organ weights, gross and histopathologic examinations. The safety of diclazuril top-dress administered to horses at 1 mg/kg/day once daily cannot be determined based solely on this study because of the lack of an adequate control group (control horses tested positive for the test drug in plasma and CSF). However, possible findings associated with the drug were limited to elevations in BUN, creatinine, and SDH and less than anticipated weight gain. Definitive test article-related effects were decreased grain/top-dress consumption in horses in the 50 mg/kg group.
In a second target animal safety study, PROTAZIL® (1.56% diclazuril) Antiprotozoal Pellets were administered to 24 horses (12 males and 12 females, ranging from 2 to 8 years of age). Three groups of 4 horses/sex/group received 0, 1, or 5 mg diclazuril/kg body weight/day for 42 days as a top-dress on the grain ration of the horse. The variables measured during the study included physical examinations, body weights, food and water consumption, hematology, and serum chemistry. There were no test article-related findings seen during the study.
STORAGE INFORMATION
Store between 15°C to 30°C (59°F to 86°F).
HOW SUPPLIED
PROTAZIL® (1.56 % diclazuril) Antiprotozoal Pellets are supplied in 2-lb (0.9 kg) and 10-lb (4.5 kg) buckets.
REFERENCES
1. Lindsay, D. S., and Dubey, J. P. 2000. Determination of the activity of diclazuril against *Sarcocystis neurona* and *Sarcocystis falcatula* in cell cultures. *J. Parasitology,* 86(1):164–166.
2. Dirikolu, L., Lehner, F., Nattrass, C., Bentz, B. G., Woods, W. E., Carter, W. E., Karpiesiuk, W. G., Jacobs, J., Boyles, J., Harkins, J. D., Granstrom, D. E. and Tobin, T. 1999. Diclazuril in the horse: Its identification and detection and preliminary pharmacokinetics. *J. Vet. Pharmacol. Therap.* 22:374–379.

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08-10
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Equioxx® (firocoxib)

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

EQUIOXX® (firocoxib) is indicated for the control of pain and inflammation associated with osteoarthritis in horses. Firocoxib belongs to the coxib class of non-narcotic, non-steroidal anti-inflammatory drugs (NSAID).

CONTRAINDICATIONS: Horses with hypersensitivity to firocoxib should not receive EQUIOXX.

WARNINGS: EQUIOXX is for use in horses only. Do not use in horses intended for human consumption. Do not use in humans. Store EQUIOXX Tablets out of the reach of dogs, children, and other pets in a secured location in order to prevent accidental ingestion or overdose. Consult a physician in case of accidental human exposure.

Horses should undergo a thorough history and physical examination before initiation of NSAID therapy. Appropriate laboratory tests should be conducted to establish hematological and serum biochemical baseline data before and periodically during administration of any NSAID. NSAIDs may inhibit the prostaglandins that maintain normal homeostatic function. Such anti-prostaglandin effects may result in clinically significant disease in patients with underlying or pre-existing disease that has not been previously diagnosed.

Treatment with EQUIOXX should be terminated if signs such as inappetance, colic, abnormal feces, or lethargy are observed. As a class, cyclooxygenase inhibitory NSAIDs may be associated with gastrointestinal, renal, and hepatic toxicity. Sensitivity to drug-associated adverse events varies with the individual patient. Horses that have experienced adverse reactions from one NSAID may experience adverse reactions from another NSAID. Patients at greatest risk for adverse events are those that are dehydrated, on diuretic therapy, or those with existing renal, cardiovascular, and/or hepatic dysfunction. The majority of patients with drug-related adverse reactions recover when the signs are recognized, drug administration is stopped, and veterinary care is initiated.

Concurrent administration of potentially nephrotoxic drugs should be carefully approached or avoided. Since many NSAIDs possess the potential to produce gastrointestinal ulcerations and/or gastrointestinal perforation, concomitant use of EQUIOXX with other anti-inflammatory drugs, such as NSAIDs or corticosteroids, should be avoided. The concomitant use of protein bound drugs with EQUIOXX has not been studied in horses. The influence of concomitant drugs that may inhibit the metabolism of EQUIOXX has not been evaluated. Drug compatibility should be monitored in patients requiring adjunctive therapy.

The safe use of EQUIOXX in horses less than one year of age, horses used for breeding, or in pregnant or lactating mares has not been evaluated. Consider appropriate washout times when switching from one NSAID to another NSAID or corticosteroid.

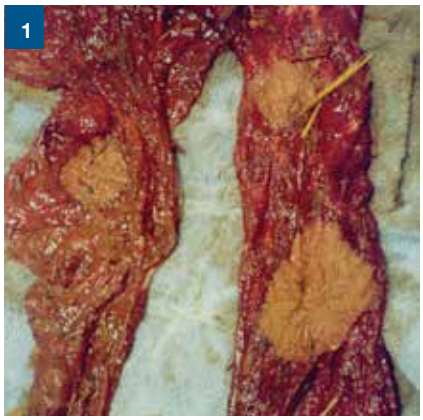
The Safety Data Sheet (SDS) contains more detailed occupational safety information. For technical assistance, to request an SDS, or to report suspected adverse events call 1-877-217-3543. For additional information about adverse event reporting for animal drugs, contact FDA at 1-888-FDA-VETS, or http://www.fda.gov/AnimalVeterinary.

Rev 10/2016

EQUIDONE® Gel
(domperidone)

Don't be left without **Equidone Gel** on your shelf this foaling season!

Prevention is worth EVERY PENNY







Equidone Gel is indicated **for the prevention of fescue toxicosis** in periparturient mares.

Clinical signs include:
- tough & thickened placentas [1]
- agalactia (no or low-level milk production) [2]
- weak & dysmature foals [3]
- increased gestation lengths





Dosing Chart: EQUIDONE Gel administered once daily starting 10-15 days prior to the expected foaling date (EFD) is safe and effective at preventing fescue toxicosis.

weight (lb)	weight (kg)	dose (cc)	domperidone (mg)
550-660	250-300	3	300
661-880	301-400	4	440
881-1100	401-500	5	550
1101-1320	501-600	6	660

Side effects of using EQUIDONE Gel may be premature lactation and failure of passive transfer (FPT) of immunoglobulins to the foal. FPT can occur even when mares are not dripping milk.

Dechra
Veterinary Products

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