

Veterinary Practice News

Sections Topics About Us



Straight from the Horse's Mouth: Antibiotics, Antifungals, Antivirals

Straight from the Horse's Mouth: Antibiotics, Antifungals, Antivirals

When it comes to these drugs, there's a lot of misinformation and misunderstanding. Here's what you need to know.

BY DON JERGLER

Published: 2014.09.23 07:05 AM



PETER HERMES FURIAN/SHUTTERSTOCK

When it comes to antibiotics, antifungals and antivirals, there are lots of do's, don'ts, misinformation and misunderstanding, veterinary experts say.

“Veterinarians should be aware that just because a pharmacokinetic study of a new drug has been performed in horses doesn’t mean that enough information now exists to use that drug,” said Virginia R. Fajt, DVM, Ph.D., a clinical associate professor of Veterinary Physiology and Pharmacology at Texas A&M University.

While pharmacokinetic data are important for understanding how horses dispose of a drug, the data must either already exist or be generated to understand how concentrations of drugs in horses relate to effects of the drug, Dr. Fajt cautioned.

SPONSORED CONTENT

“This is particularly important when it comes to antimicrobial and antifungal drugs, because their efficacy will depend on how much drug it takes to inhibit the growth of these pathogens, and the inhibitory concentrations may be different for horse pathogens than pathogens from other species of animals,” Fajt said.

Consider This

An added consideration to take into account when prescribing drugs is what the

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)

"Horse owners want a drug that is 100 percent safe, effective, cheap and easy to give," said Dr. Davis, an associate professor of equine internal medicine at North Carolina State University's College of Veterinary Medicine. "Currently, we do not have a single antibiotic that fits that description."

The long-acting injectible antibiotics, like Excede in horses and food animals and Convenia (cefovacin from Zoetis Inc.) in dogs and cats, have become popular in veterinary medicine because they increase owner compliance and cooperation from patients, Davis said.

"I think this is the way many new drugs will be developed in the future, but horse owners have to be aware of the drawbacks of these formulations, particularly in the case of adverse events and a lack of efficacy," Davis said.

"Once these drugs are administered, they are present in the animal for prolonged periods, making adverse events that do occur more difficult to treat. Additionally, more appropriate treatments may not be able to be administered until drug concentrations are depleted, due to potential drug interactions."

A new broad-spectrum antimicrobial called Equisul-SDT from Aurora Pharmaceutical is available and licensed for use in horses.

This product is similar to other licensed products, such as Uniprim from Neogen Corp. and Tucoprim from Zoetis, in that it's a combination of sulfadiazine and trimethoprim, but it is an easy-to-use suspension that is labeled for twice-daily administration, Davis said.

"The twice-daily administration will result in higher blood concentrations of the drugs, which means it will be effective against a greater number of bacteria," she

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)

ceftiofur crystalline free acid, or the brand Excede from Zoetis. This is a long-acting injectible formulation for which two doses given four days apart provides therapeutic blood concentrations for 10 days, she said.

Since it was first approved in 2009, a great deal of research has been done on this product.

"Extended dosing regimens have been investigated, and it has been shown that dosing on Days One and Four, followed by once weekly dosing for up to five doses, will provide effective concentrations in the blood and the lungs for up to 32 days," Davis said.

Bad Reactions

The major adverse reaction associated with this drug is swelling at the injection site, which can range from minor to a very hot, painful area with accompanying high fevers, she said.

To help reduce the incidence of these reactions Davis suggests splitting the dose into two sites; administering no more than 10 mL per site; using a 16-g, 1.5-inch needle; drawing up drug with one needle and then injecting the drug with a separate needle per site.

Samuel Hurcombe, BSc BVMS (Hons) Dipl. ACVIM, Cipl. ACVECC, thinks it's important to keep one thing in mind.

"I think regarding a lot of these medications, it is important to realize they are often being used off-label and so that must be understood by both veterinarian and client before being used," said Dr. Hurcombe, a clinical associate professor and specialist in equine emergency surgery and internal medicine at Cornell

Specialists at Cornell University

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)

the specific (Federal Drug Administration) approval process for a very specific indication.”

He added, “Judicious use of these drugs including an appropriate indication, duration of therapy and monitoring are essential.”

Davis likes the new formulation of sulfadiazine-trimethoprim because it is labeled for twice-daily dosing.

“The once-daily dosing results in concentrations below minimum inhibitory concentration by 24 hours, and since the drugs are cleared at different rates, the trimethoprim is even lower, which results in a loss of synergism of the combination,” she said.

Options

Frequently used as anti-inflammatory medications are doxycycline and minocycline, because they have been shown to have some effect in modulating certain mediators of inflammation, particularly in cases of osteoarthritis and corneal disease, Davis said.

“While this is an interesting use of these compounds, and there is some evidence of their usefulness in humans, many practitioners are giving very low doses and treating for prolonged periods of time,” she said. “I worry that this may be promoting the development of bacterial resistance due to exposure to subtherapeutic concentrations of antibiotic. This may result in our inability to use these in cases of bacterial infection, and they are one of the few groups of oral antibiotics that we can use in horses.”

Murphy said antivirals like Valacyclovir (Valtrex in the human form)

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)

"It has much better pharmacokinetics than Acyclovir as it is absorbed better in horse GI tract," Hurcombe said.

Antiprotozoans like diclazuril, marketed as Protazil, are used as a daily top-dress feed additive for the treatment of equine protozoan myeloencephalitis.

Hurcombe says the drug is "palatable, well tolerated and effective."

"I think it is also cheaper than Marquis (ponazuril), which is the other FDA-approved EPM medication," he added.

For the management of pituitary pars intermedia dysfunction (PPID, or Cushing's disease), Hurcombe likes pergolide, marketed as Prascend by Boehringer Ingelheim.

Hurcombe also noted that the Oncept melanoma vaccine, which is marketed by Merial for dogs with oral melanoma, "is being tried by equine clinicians in horses with melanoma following surgical debulking and/or chemotherapy/radiation."

"There are limited reports this far, but from my personal experience it has shown promise," he added.

Texas A&M's Fajt said that regardless of experts' preferences, there will always be concerns.

"There will continue to be concerns about inappropriate use of drugs that inhibit the growth of or kill infectious organisms, because use may select for resistant strains of those organisms," Fajt said.

"This has been less of a concern with antifungals, because of their expense and duration of therapy, but should always be in the back of the mind when using an

ring."

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)

0 Comments

Sort by **Oldest**



Add a comment...

 Facebook Comments Plugin

Read More

[Archive »](#)

Veterinary Service Grants Available from USDA

The Veterinary Services Grant Program will be accepting applications soon from veterinarians who want to expand their services to underrepresented areas and rural clients.

What to Watch For When Breeding Mares

Ensure equine breeding success with these tips.

Equine Dentistry for the Mixed-Animal Practitioner: A Guide

Find out what you need to know.

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)

SIMPLE PATH TO MUCOSAL PROTECTION



VANGUARD^B
ORAL

LEARN MORE

©2016 Zoetis Inc. SAB-00297A





Does Your Cat Have Lower Urinary Tract Disease? 3 Signs to Look For

Sponsored by Royal Canin

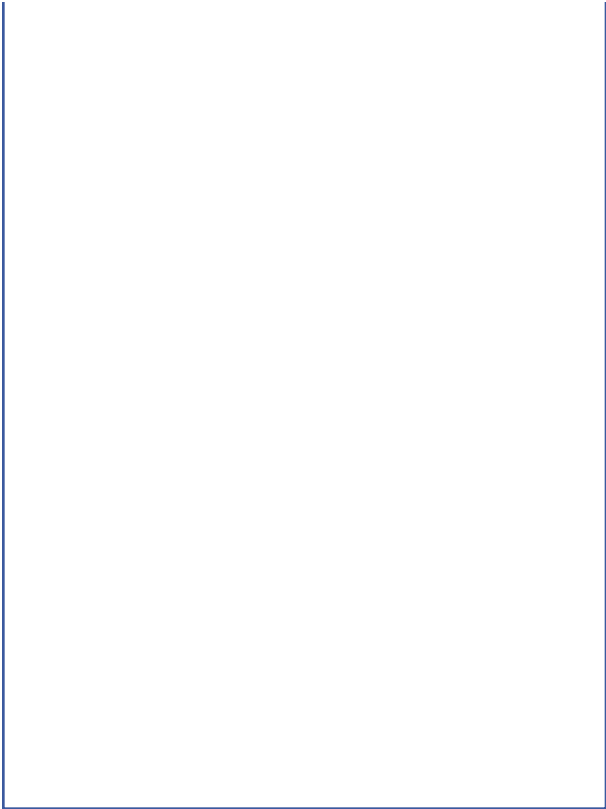


Sponsored By **Quicken**

Get 40% Off America’s #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)



Free Newsletter

Get the latest news, info and products free by entering your email here:

Email*

Submit

Editor's Picks

[More »](#)

[5 Things We Love and Sometimes Hate in the Veterinary Practice](#)

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)

6 Exam Codes Every Veterinary Practice Needs

Reasons to be a Veterinarian

Veterinary Practice News Blogs

The Magazine



- Subscribe
- Digital Access
- Advertise With Us
- Contact Us
- Web Exclusives

MORE OPTIONS
FEWER PLACES FOR
CIRD TO HIDE

VANGUARD Rapid Resp
INTRANASAL

LEARN MORE

©2016 Zoetis Inc. SAB-00292A

Sponsored By **Quicken**

Get 40% Off America’s #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [Quicken]

Learn More

Tibial Plateau Leveling Osteotomy

2016.03.24

Are you ready to move on to the next level in cranial cruciate ligament repair? This interactive course includes lectures and laboratories to teach...



Continuing Education amidst Zion National Park!

2016.03.24

Vet Lectures and The International Union of Veterinary Cyclists are hosting 15 hours of RACE-approved CE March 24-27, 2016 amidst the...

AAHA Austin 2016

2016.03.31

Join AAHA in Austin, March 31 - April 3, 2016. Even if you've attended the past 80 years of AAHA conferences, you'll experience...



Minimally Invasive Joint Surgery & Arthroscopy

2016.04.01

This three day comprehensive course is designed for general practitioners or specialists interested in learning minimally-invasive techniques for...



Axial Skeleton & Upper Limb Ultrasound for Equine Practitioners - A 2-day Practical Course

2016.04.01

This course was developed to provide attendees with the theoretical knowledge and the practical skills of ultrasound image acquisition and...

Practical Orthopedics of the Pelvic Limb

2016.04.17

This two-day course emphasizes practical knowledge and hands-on surgical laboratory experience for the treatment of the most



hopedic...

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [Quicken]

[Learn More](#)

This two-day course emphasizes practical knowledge and hands-on surgical laboratory experience for the treatment of the most common orthopedic...



Intermediate Abdominal Ultrasound

2016.04.21

This course is designed for veterinarians who ultrasound animals at least once every other week. The course will review basic physics, but most of...



Reconstructive Surgery: Management of Problem Defects - Course

2016.04.24

This intensive two day course closely pairs lectures with direct laboratory application of the surgical techniques covered using cadaver specimens....



Flexible & Rigid Endoscopy

2016.04.28

This course combines the Flexible GI Endoscopy workshop and the Rigid Endoscopy workshop to create a full 4 day lecture and hands-on lab covering...



Infectious & Vector Borne Disease for the General Practitioner

2016.04.30

One topic, in-depth immersion learning in America's finest city. Catch the wave of knowledge with the San Diego County VMA! Classroom seating for...

Infectious & Vector Borne Disease for the General Practitioner

2016.04.30

One topic, in-depth immersion learning in America's finest city. Catch the wave of knowledge with the San Diego County VMA. Classroom seating...

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)

Clinical Pathology for the General Practitioner

2016.04.30

One topic, in-depth immersion learning in America's finest city. Catch the wave of knowledge with the San Diego County VMA. Classroom seating for...

2016 MVMA Spring CE Conference

2016.05.11

MVMA Spring CE Conference* Wednesday, May 11, 2016 8:30 am – 5:00 pm (6 CE Credits) Best Western Royal Plaza, Marlborough, MA Track 1:...

2016 North Carolina Workshop in Laboratory Animal Medicine

2016.05.12

The course is appropriate for veterinarians specializing in laboratory animal medicine, especially those preparing for ACLAM board certification....



3rd Annual New York State Veterinary Conference

2016.05.13

May 13-15, 2016 – Westchester Hilton, Rye Brook, NY The event features over 50 companion animal sessions for the whole veterinary team....

Core Surgery Procedures for the Small Animal GP

2016.05.15

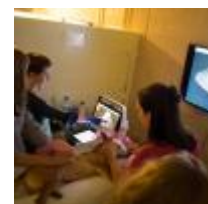
In this course veterinarians will learn, review, and practice the principles of soft tissue surgical procedures that are performed commonly in...



Small Animal Ultrasound

2016.05.21

This two day course is designed to give veterinarians and veterinary technicians hands on experience with diagnostic abdominal ultrasonography in...



Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [\[Quicken\]](#)

[Learn More](#)

Invasive Hemodynamic & Respiratory Function Monitoring and Techniques of Mechanical Ventilation

American College of Animal Welfare Third Annual Short Course

2016.06.01

The ACAW and the NC State CVM invite veterinarians interested in gaining specialized knowledge regarding animal welfare assessments, issues, and...



Search

Category:

All

Submit an event »

View all listings »

**MORE OPTIONS
FEWER PLACES FOR
CIRD TO HIDE**

VANGUARD[®] Rapid Resp
INTRANASAL

LEARN MORE

©2016 Zoetis Inc. SAB-00292A

Sponsored By **Quicken**

Get 40% Off America's #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [Quicken]

Learn More



- Ed
- News
- Practice Management
- Cat/Dog
- Equine/Large Animal
- Avian/Exotic
- Medicine
- Veterinary Practice Staff
- Videos
- Vet Schools
- Events
- Classifieds
- Magazine
- Contact Us
- About Us
- Advertise With Us
- More Sites from I-5 Publishing
- Meet the Team
- Terms of Use



My Account

Copyright 2016 I-5 Publishing. All rights reserved.

EquiVISTA | Privacy Policy

Sponsored By **Quicken**

Get 40% Off America’s #1 Personal Finance Software

Save \$\$\$ now when you buy Quicken, then use the software to keep track of your spending- saving you money in the long run. [Quicken]

Learn More