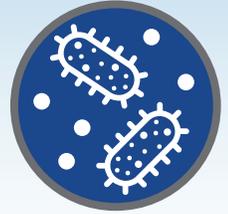




What Is Antibiotic or Antimicrobial Resistance (AR)?

AR occurs when bacteria adapt to survive challenges in their environments. When we use drugs (antibiotics) to treat infections in animals and people, bacteria can develop mechanisms to block or escape that challenge. Without effective antibiotics to control them, resistant bacteria can spread and cause illnesses or even deaths.



How AR Spreads

Bacteria and fungi encode their survival mechanisms as genes in their DNA. As they multiply, they can share copies of their DNA, including AR genes, with other bacteria nearby. Then the bacteria establish a population (infection) that can survive traditional antibiotics. Healthy and sick animals and people can spread these infections to others around them.

How to Combat AR

You can take several actions to help reduce the chances of bacteria developing AR. Your veterinarian should prescribe specific prevention practices for all animals and treatments for sick animals. In addition, here are some general tips from AR experts:

PRACTICAL TIP



Your veterinarian should always give you instructions for using antibiotics in your animals. This can be in medical records, prescription drug labels, or in the written Program of Veterinary Care. If you are ever unsure about when or how to use a medication, contact your veterinarian.

DID YOU KNOW?

These tips can save you time and money. Preventing infections saves the cost and time to treat them. Many animals with resistant infections need lengthy and expensive hospital stays or complicated procedures. And using an antibiotic when you don't need it wastes the cost of the drug and the time spent using it.

DO	DON'T
<p>Prevent overgrowth and spread of bacteria</p> <ul style="list-style-type: none"> ✓ Vaccinate against bacterial infections (such as <i>Bordetella</i>, <i>Leptospira</i>, <i>Borrelia</i>) when available ✓ Practice good sanitization and hygiene (bathing, handwashing, sanitization) with animals, people, and the environment ✓ Isolate sick animals, quarantine animals coming in or returning to the facility ✓ Use personal protective equipment like shoe covers, gloves, and gowns around sick animals 	<p>Take unnecessary bacterial risks</p> <ul style="list-style-type: none"> X Feed raw food diets X Share equipment among sick and healthy animals: <ul style="list-style-type: none"> - Food or water dishes - Grooming tools - Transport cages - Cleaning equipment
<p>Take additional infection control precautions when animals are immunocompromised</p> <ul style="list-style-type: none"> ✓ Pregnant or very young animals ✓ Allergic or digestive disorders ✓ Endocrine diseases (diabetes, Cushing's) ✓ Cancer 	<p>Allow health or environmental stressors to impact your animals' ability to fight infections</p> <ul style="list-style-type: none"> X Underlying conditions such as parasites X Overcrowding and/or fighting X Temperature and humidity extremes X Poor ventilation or cleaning practices
<p>Properly use antimicrobial drugs</p> <ul style="list-style-type: none"> ✓ ALWAYS consult a veterinarian before starting antimicrobial treatment ✓ Follow all instructions on use, dosage, storage, & duration ✓ Dispose properly when no longer needed 	<p>Overuse or abuse antibiotics</p> <ul style="list-style-type: none"> X Use antibiotics for group or preventive treatments without veterinarian's instructions X Keep extra or expired antibiotics for later use

Sources: Centers for Disease Control and Prevention, American Veterinary Medical Association, Food and Drug Administration

For more information on antibiotic or antimicrobial resistance, check out these sites:

- www.usda.gov (search 'antimicrobial resistance')
- www.cdc.gov (search 'drug resistance')
- www.avma.org/ (search 'antimicrobial use')
- www.fda.gov (search 'How to Safely Dispose of Unused or Expired Medicine - Video Transcript')

ANIMAL CARE AID

