



ENZYMES VS. ANTIBIOTICS for otitis externa

By Naomi A. Kirby Sismour, DVM, MS

Otitis externa is an itchy infection of the external ear canal. An estimated 80% of cases are due to environmental or food allergies. Acute otitis externa in dogs and cats can take two to four weeks to resolve, and chronic ear infections can take months.

Allergies in pets can't be cured, but their complications can be managed. In some cases, a prophylactic regimen might be needed for the rest of the animal's life due to frequent reoccurrences of otitis. In rare cases, animals may be placed on systemic antibiotics in conjunction with topical antibiotics. Systemic antibiotics have their own set of potential adverse effects, including but not limited to gastrointestinal upset or allergic reaction.

Repeated and sustained use of antibiotics can cause genetic alterations within groups of bacteria, and may lead to a microorganism becoming resistant to an initially effective antimicrobial drug. There are three main strategies microbes use to develop antibiotic resistance: they prevent the drug from reaching its target, they alter the target, and they inactivate the antibiotics. Repeated and improper use of antibiotics is also the suspected culprit in the development of highly resistant microbes such as methicillin-resistant *Staphylococcus aureus* and *Pseudomonas aeruginosa*.

ZYMOX® Otics are a line of enzymatic ear solutions that work without antibiotics and won't contribute to antibiotic resistance. They include an otic solution with 1% hydrocortisone; an otic without hydrocortisone; and an advanced formulation for highly resistant cases (i.e. MRSA, *Pseudomonas*). All the products share a patented formulation of enzymes that works synergistically to form its antibacterial, anti-fungal and anti-yeast properties.

Unlike antibiotics, which require the ear to be cleaned before application of a topical, the enzymes within ZYMOX products mean that no pre-cleaning is required. This is because the pus and infectious debris serve as a catalyst to initiate the enzymatic process. This feature has proven to be a real benefit in increasing pet owner compliance because the products are so easy to use.

When considering which ZYMOX product to use and recommend consider the following:

- **With 1% hydrocortisone:** For use in red inflamed ears in the presence of infection.
- **Advanced Formula:** For use in highly resistant cases such as MRSA and *Pseudomonas*. This otic features additional enzymes formulated to destroy the biofilm slime layer that protects and hides the DNA of a microbe.
- **Without hydrocortisone:** For long-term use as well as for pregnant or lactating females.

There are many mechanisms by which bacteria may become resistant to antibiotics, and numerous factors play a role. ZYMOX products provide safe, effective, long-term solutions that won't cause bacterial resistance and can be very easily administered by the pet owner. For the best results, follow the directions, carefully read the warnings on the label, and complete the full course of use.



Dr. Naomi Kirby Sismour is the Technical Services Manager at PKB Animal Health (pkbanimalhealth.com).

