**Treatment fior Otitis Externa and otitis Media**

**For Topical Treatment**

* If exudate is present and tympanic membrane intact- Use an ear wash such as **Epiotic, OtiClens, Otirince,** or warmed preservative-free **normal saline** (home saline can be made from 1 teaspoon of salt and 1 pint of warm water) can be used.

\*Note: If planning to use an **aminoglycoside**, in treatment, it is necessary to cleanse or remove exudate since drugs in this group are inactivated in the presence of pus.

Be sure to dry ear before applying a cream or ointment.

* Topical agents are varied and use may be based on the organism(s) or condition being treated.
* Some of those agents the veterinarian may select are topical otic antibiotics or antifungals that may include a steroid such as: Treasaderm (containing neomycin sulfate, thiabendazole, and dexamethasone), or Gentocin Otic (containing gentamicin sulfate, and betamethasone valerate), or topical otics such as: Baytril Otic (enrofloxacin/silver sulfadiazine) primarily used for Gram-neg. infection, or Silver sulfadiazine (Silvadene), that may require an addition of a systemic or topical steroid to the treatment.
* In addition, an agent such as Tris-EDTA may be instilled in the ear canal prior to the use of topical otic antibiotics to enhance their activity.

**For Systemic Treatment:**

Begin long term systemic therapy for 3-6 weeks, with broad-spectrum antibiotics such as:

* [enrofloxacin](http://ratguide.com/meds/antimicrobial_agents/enrofloxacin_baytril.php)
* [doxycycline](http://ratguide.com/meds/antimicrobial_agents/doxycycline.php)
* [amoxicillin](http://ratguide.com/meds/antimicrobial_agents/amoxicillin.php)
* [chloramphenicol](http://ratguide.com/meds/antimicrobial_agents/chloramphenicol.php)
* [azithromycin](http://ratguide.com/meds/antimicrobial_agents/azithromycin.php).

If combination antimicrobial therapy is required, the following may be used:

* [enrofloxacin](http://ratguide.com/meds/antimicrobial_agents/enrofloxacin_baytril.php) and [doxycycline](http://ratguide.com/meds/antimicrobial_agents/doxycycline.php" \t "window)
* [enrofloxacin](http://ratguide.com/meds/antimicrobial_agents/enrofloxacin_baytril.php) and [amoxicillin](http://ratguide.com/meds/antimicrobial_agents/amoxicillin.php)
* [enrofloxacin](http://ratguide.com/meds/antimicrobial_agents/enrofloxacin_baytril.php) and [chloramphenicol](http://ratguide.com/meds/antimicrobial_agents/chloramphenicol.php" \t "window)
* [azithromycin](http://ratguide.com/meds/antimicrobial_agents/azithromycin.php) and [doxycycline](http://ratguide.com/meds/antimicrobial_agents/doxycycline.php" \t "window)

In addition, systemic corticosteroids such as [prednisone](http://ratguide.com/meds/endocrine_hormones/prednisone_prednisolone.php) may be given. Corticosteroids along with a systemic antibiotic should be started as soon as clinical signs of the illness first begin. Doing so can help to decrease the chance of the head tilt becoming permanent.

\*Note: The use of a corticosteroid either topically or systemically can aid in reducing exudate and tissue growth as well as relieve itching. Its use may predispose to yeast infections; however, the benefit of using a corticosteroid, in many cases with rats, far outweighs the risk. If yeast is present or of concern the veterinarian may choose to include a topical or systemic antifungal medication (already included in some topical medications) such as: [ketoconazole](http://ratguide.com/meds/anti-infectives/ketoconazole.php" \t "window) or [metronidazole](http://ratguide.com/meds/anti-infectives/metronidazole_flagyl.php" \t "window).

**Nursing Care**

* When cleaning ear of debris, or to soak up any drainage, a wick may be fashioned of cotton balls or absorbent towels. Care should be taken if using Q-tips (cotton swabs) in order to prevent abrasions to the tissue in the ear, and the packing of wax or debris against the ear drum.
* Give medications for the length of time prescribed. When administering topical agents: instill medicine, gently hold ear closed, and massage ear canal 30 to 60 seconds to ensure dispersion of medication.
* Maintain clean cage environment.
* Maintain safe environment particularly if head tilt is severe.
* Keep food and water within easy access to rat.
* Provide high calorie foods (e.g., avocado), or food supplements such as Nutri-Cal Paste, canned Ensure, soy or soy formula, along with a multi-vitamin and mineral supplement (can be found in pet store) if weight loss or food intake is poor.
* Contact veterinarian if infection worsens or does not resolve, or if there is decreased appetite and weight loss.