URINARY TRACT INFECTIONS: A Pet Owner's Guide

Urinary tract infections are one of the most common disorders affecting dogs. It has been estimated that nearly one out of every seven dogs will be affected by this type of problem over the course of their lifetime.

Fortunately, this problem does not occur often in healthy cats. However, other diseases can damage their normal urinary tract defenses and leave feline patients vulnerable to developing urinary tract infections as well.

SIGNS OF TROUBLE
If your pet has a urinary tract infection, the most likely signs include:

- Blood in urine, which may also have a foul odor
- Difficulty urinating
- More frequent urination
- Urination in inappropriate places

Any of these signs are indicative of a serious, and sometimes life-threatening, health problem and should prompt you to call your veterinarian immediately.

DIAGNOSIS AND TREATMENT
If a urinary tract infection is suspected, your veterinarian will want to take a sample of your pet’s urine to confirm the diagnosis and determine the specific type of bacteria responsible. The signs of a urinary tract infection are similar to those of a urinary blockage, so it is important to identify the true problem so that the correct treatment can be given.

If a urinary tract infection is diagnosed as the culprit, your veterinarian will prescribe an antimicrobial that is effective against the type of bacteria that caused the problem. It is important that you give the drug exactly as your veterinarian has instructed. Missing a dose or two, or not completing the entire course of the treatment, can have serious consequences and lead to a relapse of the condition.

Once you’ve finished giving the medication to your pet, your veterinarian may take another urine sample to make sure the infection is gone. If not, you will need to continue the medication for a longer period. Recurring infections may indicate problems with urinary stones or other conditions and warrant further testing.

Urinary infections are common but usually not serious if caught early. With prompt treatment, your pet will feel better ... fast.

Prompt treatment with an effective antimicrobial like Baytril® (enrofloxacin) can help resolve urinary tract infections in your pet.

Caution is recommended in patients with known central nervous system disorders.
Antibacterial Tablets for Dogs and Cats

**Description:** Enrofloxacin is a synthetic chemotherapeutic agent from the class of the quinolone antibacterial derivatives. It has antibacterial activity against a broad spectrum of Gram-negative and Gram-positive bacteria (See Table I). It is absorbed from the digestive tract, penetrating into all measured body tissues and fluids (See Table II). Tablets are available in three sizes (275 mg, 550 mg, and 1,100 mg) as enrofloxacin hydrochloride tablets.

**Chemical Nomenclature and Structural Formula:**

*significant abbreviations are indicated in bold.

**Actions:**
- **Microbiology:** Quinolone antibacterial derivatives are classified as DNA-gyrase inhibitors. The mechanism of action of these compounds is very complex and not fully understood. The site of action is believed to be a group of proteins, a synthetic ATPase. The effect on eukaryotes causes the inhibition of DNA synthesis through prevention of DNA supercoiling. Among other things, such compounds lead to the degradation of cell membranes. They may also inhibit bacterial membrane integrity.
- **Enrofloxacin is bactericidal in vitro against Gram negative and Gram positive bacteria. The minimum inhibitory concentrations (MICs) were determined for a series of 39 strains of bacteria representing 9 genera of natural isolates from dogs and cats, selected primarily because of resistance to one or more of the following antibiotics: ampicillin, chloramphenicol, cefazolin, cephalaxin, chloramphenicol, clindamycin, trimethoprim, streptomycin, tetracycline, nuphthromycin. The MICs for various concentrations of drug against these organisms are presented in Table III. They were found to be susceptible to enrofloxacin in vitro but the clinical significance has not been determined for some of the isolates.
- **Susceptibility of organisms to enrofloxacin should be determined using enrofloxacin: 5 mg disc. Speciation studies should be collected prior to the initiation of enrofloxacin therapy.

**TABLE I: MICs for Enrofloxacin Against Canine and Feline Pathogens (Diagnostic laboratory isolates, 1984)**

<table>
<thead>
<tr>
<th>Organisms</th>
<th>Isolates</th>
<th>MIC Range (mg/ml)</th>
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<tr>
<td>E. coli</td>
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<td>0.063 – 0.125</td>
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<td>S. pseudintermedius</td>
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<td>0.1 – 1.0</td>
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<td>M. p.</td>
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<td>A. ammonius</td>
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<tr>
<td>S. caprae</td>
<td>3</td>
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</tr>
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<td>0.063 – 0.125</td>
</tr>
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<td>S. zooepidemicus</td>
<td>3</td>
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*Includes feline isolates.

The susceptibility of 12 isolates of sensitive canine urinary pathogens was also investigated and is listed in Table II.

**TABLE II: MICs for Enrofloxacin Against Canine Urinary Pathogens (Diagnostic laboratory isolates, 1985)**

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**Dosage and Administration:**

**Dogs:**
- **Adults:** Administer orally at a rate to provide 5 (2.2 to 6.7 mg/kg) of body weight. Selection of the appropriate dosage should be based on the clinical history, severity of disease, and susceptibility of the pathogen. Animals which receive doses in the upper end of the dosage range should be carefully monitored for signs which may indicate unacceptable depression, and vomiting.

**Cats:**
- **Adults:** Administrators should be informed that if the infection is in a body site where drug is physiologically concentrated. A report of the infection is in a body site where drug is physiologically concentrated. A report of the following adverse experiences associated with treatment of cats treated with enrofloxacin should be submitted to the manufacturer.

**PRECAUTIONS:**

- **Urine:** in cats. In rare instances, use of this product in cats has been associated with Renal Toxicity. Do not exceed 5 mg/kg of body weight per day in cats. Safety in breeding or pregnant cats has not been established. Keep out of reach of children.

**ADVERSE REACTIONS:**

- **Dogs:** The following adverse experiences, although rare, are based on observations following veterinary administration of the drug. The categories of reactions are listed in decreasing order of frequency.

**Gastrointestinal:** Nausea, vomiting, diarrhea, anorexia, lethargy, depression, abdominal pain or discomfort, discoloration of feces.

**Non-Gastrointestinal:** Convulsions, ataxia, head tilt, behavioral, seizure, behavioral, exophthalmia, vomiting, aggression.

**Immediate Actions:**

**Animal Health:**

**References:**


Bayer BayerCare LLC

Shamane Minton, Kansas 66210 U.S.A.

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