



**VETERINARY VOICE:
Tips of the Trade**

**Internal Medicine- Valley Fever Treatment Recommendations
Part 1: Azoles**

<p>What is the first line of therapy for coccidioidomycosis?</p>	<p>The first line therapy for coccidioidomycosis is typically one of the azole drugs. These drugs are considered fungistatic and work by inhibiting ergosterol synthesis in fungal cell membranes.</p>
<p>What is some important information about the use of fluconazole?</p>	<p>1) Fluconazole (Diflucan®)</p> <ol style="list-style-type: none"> a. Considered the drug of choice for the treatment of coccidioidomycosis especially with CNS infections b. Absorption: more predictable and complete than other azoles c. Formulations: Human generic and compounded formulations appear to be effective although the human generic product may have greater efficacy in some patients than the compounded/bulk formulations d. Monitoring: hepatic enzymes periodically e. Dose: (Dogs/Cats) 10 mg/kg PO q 12 hrs
<p>Itraconazole?</p>	<p>2) Itraconazole (Sporanox®)</p> <ol style="list-style-type: none"> a. Absorption: variable in dogs and cats and should be administered <u>with food</u> to improve absorption. b. Formulations: Most human generics are poorly absorbed and should be avoided except potentially the Sandoz brand which <i>may</i> have adequate absorption. Therapeutic drug monitoring may be helpful to determine adequate drug levels. Compounded formulations are highly unstable and not recommended. c. Side effects: (hepatic, vasculitis, and gastrointestinal) are more common than with fluconazole d. Monitoring: hepatic enzymes should be monitored periodically e. Dose: (Dogs/Cats) 2.5 mg/kg PO q 12 hrs or 5 mg/kg PO q 24 hrs
<p>Ketoconazole?</p>	<p>3) Ketoconazole</p> <ol style="list-style-type: none"> a. Absorption: variable (orally) in dogs and cats and should be administered <u>with food</u> to improve absorption and is best absorbed in an acidic environment. b. Side effects: (dose- related hepatic injury, vomiting, and diarrhea) more common than with fluconazole or itraconazole c. Monitoring: hepatic enzymes should be monitored periodically. d. Drug interactions: Potent inhibitor of hepatic cytochrome 450 enzymes and will inhibit metabolism of drugs (e.g., anticonvulsants, cyclosporine, and cisapride) e. Dose: Dogs 10-15 mg/kg PO q 8-12 hrs, Cats 5-10 mg/kg PO q 8-12 hrs
<p>Voriconazole?</p>	<p>4) Voriconazole (Vfend®)</p> <ol style="list-style-type: none"> a. Second-generation triazole antifungal drug with similar structure to fluconazole. b. Absorption: Oral absorption is better and is more active and potent than fluconazole c. Side effects: Vomiting and hepatotoxicity is less commonly seen than the other azoles but possible at higher doses. Neurological side effects have been reported. d. Monitoring: Hepatic enzymes should be monitored periodically e. Dose: 5-10 mg/kg PO q 12hrs f. May be cost prohibitive
<p>Questions? Internal Medicine Experts: Robert Vasilopoulos, DVM, DACVIM, MS Michael Matz, DVM, DACVIM</p>	<p>The Veterinary Specialty Center of Tucson has board-certified internists available for questions and consultations on internal medicine conditions during the weekdays. A member of the internal medicine team is on-call 24/7 to provide consultations to VSCT emergency doctors and to perform emergency procedures (endoscopy, ultrasound) for patients seen by the VSCT emergency service. Board-certified internists have four additional years of training and are certified by the American College of Veterinary Internal Medicine (internal medicine) to assure competency in advanced veterinary internal medicine.</p>