

Digoxin

Digoxin is a medication that has a long history of use in the treatment of heart disease and heart failure. Currently, its most important role is in the treatment of certain kinds of *arrhythmias*, or abnormalities in the electrical activity of the heart. Specifically, digoxin slows conduction of electricity through selected parts of the heart, and is valuable for certain arrhythmias that include abnormally rapid heart rates. Digoxin also causes the heart to contract a bit more strongly, referred to as a *positive inotropic effect*. However, the minimal increase in pumping strength has not been shown to be truly important. Finally, digoxin appears to improve overall quality of life for some people with heart failure. Although this latter effect is appealing, it remains unproven in veterinary medicine and is more difficult to assess in animals.

As is true for any antiarrhythmic medication, an *electrocardiogram (EKG)* must be performed before and several days after initiation of therapy with digoxin. This is a recording of the heart's electrical activity, and is used to document and characterize the type and severity of the arrhythmia present (first EKG), and later assess its response to treatment (second EKG). Medical therapy is initiated and later modified as necessary based on the results. This may include adjustment of the dose of digoxin if blood levels permit this (see below), or the addition of a second antiarrhythmic agent.

Digoxin is a medication that requires close monitoring in order to minimize the chances of side effects, and to ensure that an adequate dose is being used to achieve the desired effect (typically a reduction in heart rate). Approximately 1 week after beginning or adjusting treatment, and periodically thereafter, a blood digoxin level should be measured. For this test, blood must be obtained between 6 and 8 hours after the last dose for dogs, or between 8 and 12 hours after the last dose for cats. In order to correctly interpret these results, it is important for doses to be consistently and regularly administered as directed on the pill container.

Like any medication, digoxin can have side effects for some animals, particularly if the concentration of the drug becomes too high in the bloodstream. The most common symptom is a decrease in appetite within a few days of beginning treatment. Lethargy may also be noted, and less commonly vomiting or diarrhea. Fortunately, symptoms generally subside within 1 to 2 days of temporary discontinuation, and a lower dose can often be reinitiated without problems.

Any change in the administration of digoxin should be discussed first with a doctor. If any of the above symptoms are noted, or if you have any questions or concerns, please call your veterinarian or Veterinary Specialty Services immediately to discuss an appropriate plan. Problems that are caught early are more easily corrected and less likely to require a visit to the hospital.