

# Amitriptyline

**BRAND NAME: ELAVIL**

AVAILABLE IN  
10 mg, 25 mg, 50 mg,  
75 mg, 100 mg & 150 mg  
TABLETS

## BACKGROUND

Amitriptyline was developed out of a need in human medicine for anti-anxiety and anti-depressant medications in the treatment of mental illness though, in humans, it has gained some popularity for the treatment of chronic pain syndromes, especially interstitial cystitis.

This medication creates its effects via several mechanisms:

- By blocking the way cells of the nervous system transport biochemicals called “**amines**,” amitriptyline is able to increase the levels of circulating neurotransmitters, especially a neurotransmitter called “**serotonin**.” This mechanism seems to be at the route of amitriptyline’s anti-anxiety and psychoactive properties. In humans, this medication is used in the treatment of anxiety, bipolar disorders, and depression. This property also is responsible for amitriptyline’s sedation side effect.
- The same blockage of the amine pump leads to increased levels of the neurotransmitter “**norepinephrine**.” Norepinephrine is an important neurotransmitter in the “**sympathetic**” nervous system as described below.
- Amitriptyline is a strong antihistamine.
- Amitriptyline also has what are called “**anticholinergic**” effects which requires some explanation. The part of the nervous system which regulates an assortment of involuntary operations is called the “**autonomic nervous system**.” It is divided into two areas: the “**sympathetic**” system which is responsible for generating changes during a “fight or flight situation” (such changes include increased circulation to muscles, increased heart rate, pupil dilation etc.) and the “**parasympathetic**” nervous system which is responsible for maintaining the body’s “status quo.” The parasympathetic system uses “**acetylcholine**” as its chief neurotransmitter. An anticholinergic medication, disrupts acetylcholine and creates side effects such as dry mouth, urinary retention, constipation, dried respiratory secretions.

Amitriptyline is a member of the class of drugs called “tricyclic antidepressants.”

## HOW THIS DRUG IS USED

With amitriptyline becoming widely used in human mental illness, it was not long before small animal uses for this medication came to light. Amitriptyline has been used in animals for separation anxiety, for inappropriate urination in cats, for feline lower urinary tract disease in cats, and for obsessive grooming behaviors in both dogs and cats. In many of these conditions it is not clear which of the above described mechanisms of action are responsible for the desired effects.

Amitriptyline is usually given once or twice daily and can take a couple of weeks before it is possible to judge its effectiveness. It can be given with or without food. If a dose is accidentally skipped, give it when it remembered and adjust the timing of the next dose accordingly. Do not double up on the next dose. Tablets should be stored at room temperature.

## **SIDE EFFECTS**

The most common side effect is drowsiness/sedation.

Anticholinergic side effects would probably not be surprising: dry mouth (manifested in animals often as frequently licking of the lips), urinary retention, constipation.

**The most potentially dangerous side effect that happens with a realistic frequency is the exacerbation of a cardiac rhythm disturbance. For this reason, an EKG screening, or at least careful listening for heart rhythm changes, has been recommended before starting this medication.**

Tricyclic antidepressants can alter blood sugar levels.

## **INTERACTIONS WITH OTHER MEDICATIONS**

Tricyclic antidepressants such as amitriptyline cannot be safely used with monoamine oxidase inhibitors such as Deprenyl (Anipryl®) or with tramadol, a pain reliever.

The use of cimetidine (Tagamet®) can interfere with the desired effect of amitriptyline.

Amitriptyline is best not used in conjunction with other drugs with anticholinergic effects, drugs that stimulate the sympathetic nervous system, or with other psychoactive drugs.

Use of the intestinal motility modifier cisapride leads to heart rhythm disturbances when it is combined with certain other medications. Amitriptyline is one of those medications so these two drugs should not be used together.

Itraconazole and ketoconazole (antifungal agents) can increase blood levels of amitriptyline thus increasing the toxicity potential. Cyproheptadine may decrease amitriptyline levels rendering it ineffective.

Amitriptyline should not be used in dogs that use an amitraz-based tick control product.

## **CONCERNS AND CAUTIONS**

Amitriptyline is removed from the body via the liver. Patients with abnormal liver function may have trouble with this medication. Periodic liver enzyme evaluation (blood testing) is a good idea for patients on this medication long term.

Amitriptyline should not be used in pregnancy or lactation, in patients with seizure disorders, or in patients with cardiac rhythm disturbances.

Diabetic pets should avoid the use of amitriptyline.

Last revised: 6/7/2020



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Additional drug and general pet care information can be found on our world wide web site:  
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