

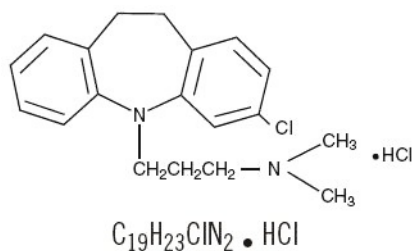
# Clomipramine

**BRAND NAME: CLOMICALM, ANAFRANIL**

AVAILABLE IN  
5 mg, 20 mg, 40 mg, 80 mg  
TABLETS  
approved for veterinary use  
25 mg, 50 mg, 75 mg  
CAPSULES  
for human use

## BACKGROUND

The market for medication to treat anxiety disorders in people is not surprisingly very large. People want to be free from worry and stress without suffering drowsiness, addictiveness, or any other untoward side effects. In the beginning, medications for anxiety relief such as the benzodiazepine family of drugs (of which Valium<sup>®</sup> is a member) were complicated by sedative side effects and chemical dependence. These unacceptable side effects drove researchers to seek a better solution. The tricyclic antidepressants, so named for their chemical structure, represent the results of these efforts.



*chemical structure of clomipramine*

Of course, anxiety is not a problem exclusive to humans. Many pets have anxiety about separation from their owner, aggressive pets with whom they share their home, loud noises such as thunderstorms, and other issues. The medications used to help animals with these issues are the same medications that humans use. Clomipramine is the first to achieve FDA approval for use in dogs as well as humans.

The precise mechanism of action (i.e., exactly how these drugs work) is not known fully but it is believed that they act by increasing the activity of the neurotransmitter serotonin in the brain. Serotonin, in simple terms, is associated with the cozy, happy feelings of comfort. Clomipramine inhibits the removal of serotonin in the brain so that the serotonin present is present for a longer time.

Clomipramine is thus classified a selective serotonin re-uptake inhibitor or SSRI. These are terms with which one may be familiar from discussions of human anti-anxiety medications.

## HOW THIS MEDICATION IS USED

While clomipramine is only approved for use in humans and dogs, it is also widely used in cats. It is helpful in treating:

- Separation anxiety or other forms of anxiety
- Feline inappropriate urination (house soiling)
- Obsessive compulsive disorders
- Dominance aggression

## SIDE EFFECTS

Clomipramine has what are called anticholinergic side effects. This means that clomipramine inhibits the involuntary functions mediated by the neurotransmitter acetylcholine. These are not usually significant but the list of anticholinergic side effects to watch for includes:

- Retention of urine/difficulty passing urine
- Reduced intestinal motility
- Increased eye pressure
- Heart rhythm disturbance (especially in patients with unregulated hyperthyroidism or taking thyroid supplementation)

Other side effects reported include: vomiting, diarrhea, and sedation.

## INTERACTIONS WITH OTHER DRUGS

Clomipramine is incompatible with monoamine oxidase inhibitors. This means clomipramine may not be used in conjunction with anti-tick collars containing amitraz (the Preventic<sup>®</sup> collar) or with Promeris Canine for flea and tick control. It should not be used with amitraz containing dips commonly used against demodectic mange. It may not be used with selegiline (Anipryl<sup>®</sup>).

Anti-thyroid medications such as methimazole carry a risk of blood dyscrasias meaning that some blood cell lines may be suppressed. When these drugs are used in combination with clomipramine the risk of this side effect is increased.

Cimetidine (Tagamet<sup>®</sup>) may slow the removal of clomipramine, effectively increasing the potential to reach a toxic blood level.

## CONCERNS AND CAUTIONS

Several weeks of use are needed before one may expect to see a therapeutic effect.

- Clomipramine should not be used in patients with seizure disorders as it may facilitate seizures.
- Clomipramine may affect male fertility but does not seem to cause trouble when used during pregnancy.
- Clomipramine may exacerbate glaucoma.

It does not matter if this medication is taken with food or not. It is well absorbed from the intestinal tract either way.

- Clomipramine definitely crosses into the milk of nursing mothers.
- An overdose of approximately 12 times the recommended dose is often lethal.
- Tricyclic antidepressants may alter blood glucose levels.

In a 2003 study published in the Journal of Veterinary Internal Medicine, it was found that clomipramine lowered thyroid test values in at least 35% of patients. These dogs were not believed to actually have hypothyroidism; results were interpreted to mean that a dog on clomipramine could be erroneously diagnosed as hypothyroid.

The canine version of clomipramine (Clomicalm<sup>®</sup>) is manufactured by Novartis Animal Health. Their web page detailing this product and including the actual product insert is at:

[www.clomicalm.novartis.us/product\\_label/en/index.shtml](http://www.clomicalm.novartis.us/product_label/en/index.shtml)



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

<http://www.marvistavet.com>