

# POTASSIUM BROMIDE THERAPY

Potassium bromide (sometimes abbreviated KBr or Bromide) is an anticonvulsant, antiepileptic medication that has been around for over a century. It was widely used in people for years, until other medications were developed which had fewer side effects. In human patients, it causes slurred speech and acne-like skin breakouts. These are understandably difficult for most human epileptic patients to tolerate. It is now rarely used in people, except occasionally in infants because of its safety.

Because potassium bromide is no longer used in people, it cannot be obtained from a human pharmacy. It comes in a chewable tablet, capsules or a vanilla-flavored liquid and it's given twice a day.

Potassium bromide works because bromide is an electrolyte similar to chloride, one of the major electrolytes in the body. Chloride is one-half of the molecule sodium chloride, commonly known as table salt. Because bromide and chloride are similar, your pet's body will not be able to tell the difference, and bromide will be able to freely circulate throughout the body. This allows bromide to get past the blood-brain barrier that keeps out some other drugs. The bromide passes into the brain cells and makes them less susceptible to the abnormal electrical activity which occurs during seizures.

Potassium bromide is a chemical combination of two electrolytes, potassium and bromide. Bromide can also be combined with sodium to form sodium bromide, which has the same medicinal effect. The chemical combination of these two electrolytes creates a compound which can be irritating to the stomach. Because of this, we recommend potassium bromide always be given with food. Some dogs are particularly sensitive to it, and need to get a small amount of yogurt or cottage cheese at each dose.

Bromide is extremely safe for use in pets. It is eliminated from the body through urine, stool, and sweat, the same as salt would be. It does not cause high blood pressure. It is not metabolized by the liver or kidneys, so does not cause toxicity to these organs, as some other anticonvulsants can. It can be used for years with minimal side effects. At high doses, many dogs become wobbly on potassium bromide; this problem can usually be resolved with an adjustment to dosage.

Many dogs on potassium bromide are also on Phenobarbital. Often the dose of phenobarbital can be lowered once potassium bromide is added. Phenobarbital can cause some long term toxicity problems with the liver, so we do try to use as low a dose as we can of this medication.

Potassium bromide does not begin working right away. It may take six to twelve weeks before we see improved seizure control with potassium bromide. Do not become discouraged by this fact. We will monitor blood levels 3 weeks and 3-4 months after starting the medication. Once the bromide is working we may be able to decrease the dosage of other seizure medications.

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You should see us three weeks after starting bromide, for a blood test. Studies have shown that three weeks after starting bromide, your dog's blood level will be about half as high as we expect it to get when it's at full strength. Sometimes the blood level at three weeks is lower than we expect, and we need to raise the dose at this point. The blood level should be checked again after 12 weeks and then every three months for the first year. After the first year, it should be checked one to two times yearly. If your pet's phenobarbital dose is being lowered down as your pet goes on the bromide, your veterinarian may suggest you come in more often for blood tests.

It is rare that we cannot achieve good seizure control with potassium bromide, sometimes in combination with phenobarbital. Even working dogs, such as seeing-eye dogs and police dogs are able to achieve good control, with a complete return to work. Do not be discouraged that it may take a few months to get the blood levels where we want them.

**ALWAYS REMEMBER:**

1. Give the potassium bromide with food. If your dog seems particularly sensitive to the bromide and vomits after taking it, give a small amount of yogurt or cottage cheese with each dose.
2. See us three weeks after starting the potassium bromide for blood testing.
3. See us every three months for blood tests during the first year.
4. It takes some time for potassium bromide to work; do not become discouraged if there is not an immediate improvement!