

## Acepromazine and Chlorpromazine

Theresa A. Kelley CVT, CPDT  
September 2007  
February 2010 (updated)

Acepromazine (PromAce ®) and Chlorpromazine are two commonly used phenothiazine tranquilizers in veterinary clinics. Their primary method of action is as a Dopamine antagonist, which suppresses both normal and abnormal behavior, including a decrease in coordinated locomotor responsiveness. They are not anti-anxiety drugs and do not provide any analgesia (pain relief).

Ace has a variety of uses (ex: anti-nausea, anti-emetic, decrease itching due to allergies) but is routinely used to sedate fearful or aggressive dogs and cats prior to veterinary visits or as an at-home remedy for noise phobias (thunderstorms, fireworks).

Chlorpromazine (Thorazine ®) is almost identical to Acepromazine and is just as potent. When called Thorazine, it elicits a much stronger reaction from audiences as it was the first antipsychotic to be commonly used in the 1950s and 1960s. Chlorpromazine is used in veterinary medicine as an anti-emetic (anti-vomiting and nausea) and a tranquilizer.

Research has shown these drugs function primarily as chemical restraints without affecting the animal's emotional behavior. While under the effect of Ace, the animal still has a very strong fear, anxiety, avoidance or arousal response, but it does not physically display these reactions and is less able to react. The dog or cat appears calm and relaxed but mentally is lucid and still having an intense emotional reaction to its surroundings. Ace is a dissociative agent and prevents the patient from understanding his environment in a logical manner. So, the actual fear level of the animal is increased. Compounding the situation, the animal is being restrained and it makes a negative association with the entire experience.

According to veterinary behaviorist Dr. Vint Virga, DVM, ACVB, this is one of the reasons, why clinics are seeing so many animals, who have been previously given Ace, continuing to be fearful during veterinary exams. It becomes a never-ending cycle of chemical restraint and continued fear for the patient. Another potential danger from using Ace, is their fear may intensify to a level, where they override the physiological effects and can physically break through the chemical restraint. The animal seems 'out of it', but is having an intense emotional reaction and bites. Dr. Virga has seen serious trauma (typically to faces) to veterinary staff, when trying to restrain an animal on Ace and break-through occurs. He has also observed that clients have an overall negative response to the use of Ace for their pet and speak unfavorably of it. Owners leave with a highly sedated animal, which is ataxic or immobile and the drug effects may require up to 12 hours to disappear.

Ace is appropriate as a tranquilizer for the happy, jubilant, bouncing Labrador, who has no anxiety, stress or fear. These dogs simply need to be slowed down so an examination, ear swab, mouth exam, etc. can be performed. Ace is also appropriate when used as a pre-operative agent in a balanced anesthesia, with other drugs (ex: atropine) as it helps to lower the overall amount of anesthesia required and has antidysrhythmic (prevents arrhythmia, erratic heart rhythm) effects.

Side effects of Ace include (but are not limited to): increased noise sensitivity and startle response, decreased respiration, bradycardia leading to cardiovascular collapse (dogs and cats), hypotension, erratic thermoregulation leading to hypothermia or hyperthermia, a decrease in seizure thresholds, muscle spasms, excitation and sudden aggression (break-through response), absent pulse, unconsciousness. The duration of Ace also varies in each individual, thus making the fearful or aggressive patient even more unpredictable.

**Note:** Ace should never be used as a tranquilizer for animals traveling due to the erratic thermoregulation effects (inability to control body temperature in cold or hot conditions).

Veterinary behaviorists now prefer the use of Benzodiazapenes such as Diazepam (Valium) and Alprazolam (Xanax) as alternative drugs which affect the central nervous system and actually reduce anxiety, stress and fear. They have a calming and amnesic effect on the patient and their fast acting effects begin within 30 minutes to 2 hours after oral administration. The dog or cat is sedated, its muscles are relaxed and their fear and anxiety is greatly reduced or eliminated.

Ace, used to sedate fearful animals, is no longer appropriate. Its use should be discontinued. We, as owners, need to advocate for our pets and do what is in their best interest both physically and emotionally. So, if your veterinarian wants to prescribe Acepromazine or Chlorpromazine to 'calm' your fearful Fido or Fluffy, politely decline the offer and ask for one of the newer alternative medications.

For veterinarians who want to research the effects of Acepromazine and Chlorpromazine drugs, two very good reference books are "The Handbook of Behavior Problems of the Dog and Cat" by Landsberg, Hunthausen, and Ackerman, and "Veterinary Psychopharmacology" by Sharon Crowell-Davis.

\*\* The author would like to thank Dr. Virga for providing detailed information on Acepromazine and Chlorpromazine. Dr. Virga is a board-certified Diplomate of the American College of Veterinary Behaviorists. Dr. Virga currently attends companion animal cases in East Greenwich, Rhode Island and zoo animal cases on site at zoological gardens and wild animal parks. His special interests include stereotypic behaviors, self-directed behaviors, and environmental and social enrichment for captive wildlife. For more information, please visit his web site at: <http://www.vintvirga.com/>

Copyright © 2007-2012, All Rights Reserved  
This information may not be copied, used, distributed or reprinted  
in any form without the written permission of the author.