

## Anaphylaxis: A Detailed Review

This article reviewed anaphylaxis causes, diagnosis, treatment, and prognosis in detail, focusing on dogs and cats but also reviewing human literature. Anaphylaxis is a sudden, acute systemic allergic reaction. In dogs and cats, the most common causes are insect and reptile venom, antimicrobial agents, NSAIDs, opiates, vaccines, blood-based products, radio-contrast agents, food, and physical factors such as cold and exercise.

Anaphylaxis is diagnosed via patient history and clinical signs. When triggered, anaphylaxis causes a massive histamine release in the skin, liver, lungs, and GI tract. In dogs, the GI tract and liver are primarily affected; in cats, the respiratory system is primarily affected. Histamine, along with other inflammatory mediators,

increases vascular permeability and smooth muscle contraction.

The mainstay of anaphylaxis treatment is epinephrine. Epinephrine is a vasopressor that will improve cardiovascular status. Use of a continuous epinephrine infusion as opposed to a single injection may prove beneficial. IV fluid therapy, H<sub>1</sub> and H<sub>2</sub> antihistamines, corticosteroids, and bronchodilators also improve cardiovascular function in anaphylactic patients. A biphasic reaction is possible. Prognosis can vary greatly—from death to full recovery. Cases with the most severe reactions often happen when parenteral antigen exposure occurs.

### ■ ■ Commentary

Ever had a patient present with clinical

signs of shock or death without having a history of illness? Or seen a small-animal patient develop cardiovascular collapse at the end of an IV injection of dexamethasone, or just die after a slow IV injection of cephalexin? I have, and there continues to be little information on the clinical syndrome of anaphylaxis in small-animal patients, particularly cats. Our standard of care (ie, epinephrine IM, dexamethasone, antihistamines) may not even be useful for acute anaphylaxis.—*Elke Rudloff, DVM, DACVECC*

### ■ ■ Source

Anaphylaxis in dogs and cats. Shmuel DL, Cortes Y. *JVECC* 23:377-394, 2013.

## The Straight Truth About Squished Noses

Brachycephalic syndrome (BS) is a combination of traits seen in dogs selectively bred for a short head. BS is classically described as a respiratory concern, with such abnormalities as stenotic nares, undersized nasal chambers, elongated and thickened soft palate, and malformed nasal conchae; however, this study looked to broaden the term to include other influences on quality of life (QOL) such as GI illness, sleep disturbances, and exercise intolerance.

One hundred client questionnaires were evaluated from owners of pugs and French bulldogs referred for surgical correction of BS. Clinical signs associated with BS first appeared at a mean age of 1.12 years. Ninety-one percent of owners reported that their dogs breathe loudly during sleep; 100% reported loud breathing during physical activity. Other reported issues included exercise intolerance (88%), problems with feeding (46%), and sleep problems (56%).



A major limitation to this study, however, was questioning clients who may not have appropriate knowledge of normal dog behavior and may therefore assess some signs as normal for brachycephalic breeds. It was clear, though, that owners felt their dogs were restricted in many facets of daily life, resulting in a reduced QOL.

### ■ ■ Commentary

While medical issues are relatively well understood by veterinary professionals, client perceptions are often unknown.

Owner-recognized issues (eg, exercise intolerance, difficulty eating, sleep disturbances) are vital. It is particularly important to ask about sleep disturbances and provide guidance for helping patients rest better through weight loss, surgical intervention, and/or use of extra pillows. In addition, this study identified the risk for overheating and exercise limitation, which may impact the human–animal bond. I applaud this type of study, as further understanding of specific lifestyle impact of owning a brachycephalic pet is crucial to owner education and possibly decreasing the degree of brachycephaly in dogs.—*Elizabeth A. Rozanski, DVM, DACVIM, DACVECC*

### ■ ■ Source

How does severe brachycephaly affect dog's lives? Results of a structured preoperative owner questionnaire. Roedler FS, Pohl S, Oechtering GU. *VET J* 198:606-610, 2013.

MORE ►