

## Emergent Fluid Resuscitation for Hypotension

This retrospective study examined the effectiveness of IV fluid resuscitation in treating hypotension (defined as a systolic arterial blood pressure [BP] <90 mm Hg as measured using a Doppler device) by examining emergency room records from 35 dogs with hypotension. Dogs in cardiogenic shock were excluded from the study. IV fluid resuscitation included isotonic crystalloid therapy ( $n = 23$ ), synthetic colloid therapy ( $n = 1$ ), or both ( $n = 11$ ). IV fluid resuscitation in hypotensive dogs produced a significantly increased BP; 23 dogs regained a BP within normal range (>90 mm Hg) after receiving IV bolus fluid therapy within 1 hour of presentation. A crystalloid bolus was defined as a quarter to a third of a shock dose (80–90 mL/kg in dogs, 50–60 mL/kg in cats) with possible repeat doses of crystalloids. Dogs

that had a positive response in BP to the IV fluid therapy were less likely to be euthanized. Unexpectedly, heart rate was not significantly decreased by IV fluid therapy.

### ■ Commentary

This retrospective study outlined important points about hypotensive dogs presenting to an urban emergency room. If there was no response to fluid resuscitation, as evidenced by normalization of Doppler BP, euthanasia was more likely. In addition, no difference was found in regard to responders and nonresponders between the type of fluid used for initial resuscitation; the dose of fluids administered did not differ between the 2 groups. Although normalization of heart rate may be regarded as a sign of adequate fluid resuscitation, this study showed no differ-

ence in mean heart rate before and after fluid resuscitation for either group. Although sepsis-induced hypotension may be less responsive to fluid therapy because of the effects of inflammatory mediators on vascular tone, no difference was found between either group based on a septic diagnosis. Here, survival to discharge was only 26%, warranting a guarded prognosis.—*Lisa L. Powell, DVM, DACVECC*

### ■ ■ Source

Effectiveness of intravenous fluid resuscitation in the emergency room for treatment of hypotension in dogs: 35 cases (2000-2010). Silverstein DC, Kleiner J, Drobatz KJ. *JVECC* 22:666-673, 2012.

## Flea-Allergic Dermatitis: An Update

Decreasing feeding time for fleas and rapidly reducing their total numbers can help control flea-allergic dermatitis (FAD). Insect growth regulators (eg, lufenuron, pyriproxyfen, [S]-methoprene) and adulticides (eg, fipronil, imidacloprid, nitenpyram, selamectin, dinotefuran, metaflumizone, spinetoram, spinosad) were compared and mechanisms of action reviewed.

A recent concept of a *pruritus threshold* suggests that reducing (vs eliminating) the flea burden may sufficiently control signs of FAD, as cats can tolerate some pruritus. For indoor cats, control is likely attainable through host treatment only, while indoor/outdoor cats can benefit from environmental treatment as well.

Recommendation for treating the nonallergic indoor/outdoor single cat is monthly application of adulticide with larvicidal and ovicidal activity, such as the endectocides (eg, selamectin, fipronil, imidacloprid). The allergic cat in a multicat home should



receive a product that rapidly kills adult fleas (eg, nitenpyram, spinosad, dinotefuran) and an insect growth regulator (eg, lufenuron, pyriproxyfen). All household cats should receive an insect growth regulator. Environmental control includes mechanical removal and insecticides.

### ■ Commentary

This comprehensive review of traditional and newer flea products emphasized the importance of understanding flea biology when devising a control strategy and reviewed misconceptions regarding flea biology and control strategies. Of note, fleas are not contagious between pets but primarily acquired from the environment; therefore, don't forget how helpful a vacuum cleaner can be.—*Glenn Allen Olah, DVM, PhD, DABVP (Feline)*

### ■ ■ Source

Flea control in cats: New concepts and the current armoury. Siak M, Burrows M. *J FELINE MED SURG* 15:31-40, 2013.