

Top 5 Clinical Situations That Can't Wait

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Whether in general practice, an emergency hospital, or a specialty clinic, veterinarians face certain clinical situations that warrant immediate triage, assessment, and treatment. The following 5 emergencies are potentially life-threatening, and veterinary professionals must ensure that triage and assessment occur the moment the patient arrives. This means being prepared before an actual emergency. The team should be educated so they know what clinical signs to identify—both over the phone and at initial presentation—and clients should be informed about signs to watch for and when to seek immediate veterinary attention, even if this means an urgent visit to an emergency practice.

1 Poisoning

The overall prognosis for poisoned patients is often excellent with prompt therapy, decontamination, and supportive care.¹ Because of the narrow time frame for decontamination, poisoned patients should never wait to be seen; they must be assessed immediately. First, the potential exposure should be calculated and a determination made as to whether it is toxic. If exposure is nontoxic, further treatment is unlikely to be warranted. If exposure is toxic, primary treatment focuses on decontamination and, if appropriate, detoxification. Immediate stabilization is warranted after a brief toxicology triage has been performed. If the toxicant, toxic dose, expected clinical signs, or mechanism of action of the toxin is unknown, an animal poison control center should be consulted promptly for life-saving information.

For poisoned patients, treatment is generally aimed at symptomatic supportive care, including the following:

- Decontamination (eg, emesis induction, activated charcoal administration, if appropriate)
- Antidotes (eg, fomepizole/ethanol, 2-PAM, atropine, *N*-acetylcysteine)
- Reversal agents (eg, naloxone, flumazenil)
- Fluid therapy (eg, balanced isotonic crystalloids)
- Gastrointestinal support (eg, antiemetics, antacid therapy)
- Neurologic support (eg, anxiolytics, muscle relaxants, anticonvulsant therapy)
- Cardiovascular support (eg, anxiolytics, beta blockers, antiarrhythmics)
- Miscellaneous therapy (eg, vitamin K₁, hepatoprotectants)
- Patient monitoring (eg, ECG, blood pressure, minimum database [packed cell volume, total solids, blood gases])
- Other supportive care as indicated

2-PAM = 2-pyridine aldoxime methyl chloride, FAST ultrasound = focused assessment with sonography in trauma



Top 5 Clinical Situations That Can't Wait

1. Poisoning
2. Gastric dilatation–volvulus
3. Acute collapse or recumbency
4. Respiratory distress
5. Trauma

Find More



See **Decontaminating the Poisoned Patient** at cliniciansbrief.com/article/decontaminating-poisoned-patient

continues

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Gastric Dilatation–Volvulus

Gastric dilatation–volvulus (GDV) is a life-threatening emergency that often results in sudden death in dogs; however, the prognosis with surgical correction is excellent. Sudden death is typically related to lack of observation by the pet owner and rapid onset of clinical signs. Thus, pet owners and veterinary team members should be aware of the importance of identifying clinical signs strongly suggestive of GDV (eg, retching, unproductive vomiting, abdominal distension) so that immediate veterinary attention can be sought. Other clinical signs of GDV include hypersalivation, anxiety, pacing, “sprung ribs” (ie, rib cage distended from the stomach), tachycardia, tachypnea, and abdominal pain.²

Initial stabilization includes placement of a large-bore intravenous catheter, fluid resuscitation, and stomach decompression (either trocarization using aseptic technique or orogastric decompression under sedation; the author prefers trocarization). Once the patient has been stabilized, surgical correction of the stomach, along with gastropexy, should be performed. Postoperative care includes fluid therapy, analgesic therapy, nutritional support, antiarrhythmic therapy (if warranted), blood pressure and ECG monitoring, and supportive care. Although the prognosis for GDV is excellent with prompt surgical intervention (success rates >98%), the prognosis decreases with the presence of gastric necrosis (66%).³

3

Acute Collapse or Recumbency

Any patient presenting in acute collapse or acute recumbency should be assessed immediately. Causes for acute collapse

can be divided into general organ or body systems:

- Shock (eg, hypovolemic or circulatory shock secondary to pericardial effusion, hemoabdomen)
- Musculoskeletal (eg, orthopedic disease, immune-mediated joint disease)
- Neurologic (eg, vestibular disease, fibrocartilaginous emboli [FCE], intervertebral disk disease [IVDD], lower motor neuron disease)
- Infectious (eg, Lyme disease, discospondylitis, meningitis)
- Cardiopulmonary (eg, feline aortic thromboembolism, vascular event secondary to hypertension, severe dyspnea resulting in collapse)
- Trauma (eg, fracture, shock, traumatic brain injury)

Not all conditions are immediately life-threatening (eg, FCE), but those that are (eg, hypovolemic shock) or that require immediate surgical intervention (eg, IVDD with no motor function or deep pain sensation) must be promptly identified and treated. Prompt assessment and diagnostic workup and appropriate medical or surgical intervention should be initiated. The prognosis varies with the severity of underlying disease.

4

Respiratory Distress

Any patient demonstrating clinical signs of tachypnea, labored breathing, hemoptysis, orthopnea, or cyanosis should be assessed immediately by a veterinarian. It is important to remember that the presence of pink mucous membranes is *not* an indicator of appropriate oxygenation, as severe hypoxemia (eg, PaO₂ <40–50 mm Hg; normal, 80–100 mm Hg) must be present before clinical signs of cyanosis are seen.⁴ It is important to remember that the severity of cyanosis may be masked by the

presence of anemia, and again, mucous membrane color *should not* be used to evaluate the severity of hypoxemia.⁴ There are numerous causes for respiratory distress, which can be divided according to anatomic locations:

- Cardiac (eg, cardiomyopathy, valvular disease, pericardial disease, congenital abnormalities)
- Upper airway disease (eg, collapsing trachea, laryngeal paralysis, foreign body obstruction, granuloma, neoplasia)
- Lower airway disease (eg, feline asthma, chronic bronchitis)
- Pulmonary parenchymal disease (eg, neoplasia, pneumonia, noncardiogenic pulmonary edema)
- Pleural space conditions (eg, pneumothorax, pleural effusion, diaphragmatic hernia, neoplasia)
- Mediastinal disease (eg, neoplasia)
- Respiratory “lookalikes” (eg, pain, fever, metabolic acidosis, opioid administration)

Treatment is based on the underlying disease process but generally includes oxygen therapy and appropriate drug therapy. The latter may include diuretics, bronchodilators, inhaled drug therapy, and specific cardiac intervention (eg, antiarrhythmics, digoxin). Diagnostic and therapeutic procedures such as thoracocentesis or pericardiocentesis may be necessary to stabilize the patient. The prognosis varies with the severity and treatability of underlying disease.

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Trauma

Any patient suspected or witnessed to have undergone trauma should be assessed immediately. Blunt or penetrating trauma may result from vehicular

ECG = electrocardiogram, FAST ultrasound = focused assessment with sonography in trauma, FCE = fibrocartilaginous emboli, GDV = gastric dilatation–volvulus, IVDD = intervertebral disk disease

trauma, high-rise syndrome, animal bite wounds, weapons (eg, gunshot, arrow), animal abuse, and other causes. Even seemingly stable patients may have underlying injury (eg, pneumothorax, diaphragmatic hernia, uroabdomen) that could lead to life-threatening complications, and patients may deteriorate rapidly. Immediate veterinary assessment and stabilization of the cardiovascular, respiratory, and central nervous systems is critical. Diagnostic workup should include baseline blood work, assessment of oxygenation (eg, arterial blood gas, pulse oximetry), ECG, blood pressure measurement, radiographs, and FAST ultrasound.⁵ Treatment may necessitate oxygen therapy, stabilization (eg, fluid therapy), analgesia, thoracocentesis,

thoracostomy tube placement, or even surgical intervention. In general, the prognosis for trauma is fair to good with intervention.

Conclusion

Clinicians must be able to appropriately distinguish minor emergencies from those that are potentially life-threatening. The entire team must be ready to prioritize these patients and immediately triage and assess any patient presenting in an emergency situation. These are patients that cannot wait to be seen. With rapid recognition of emergency patients, life-saving care can be initiated and warrant a potentially good outcome. ■ **cb**

References

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2. Reimer SB. Gastric dilation and volvulus syndrome. In: Tilley LP, Smith FWK, eds. *Blackwell's Five-Minute Veterinary Consult: Canine & Feline*. 4th ed. Ames, IA: Blackwell Publishing; 2007:520-521.
3. de Papp, Drobatz KJ, Hughes D. Plasma lactate concentration as a predictor of gastric necrosis and survival among dogs with gastric dilatation-volvulus: 102 cases (1995-1998). *JAVMA*. 1999;215(1):49-52.
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The Smith's dog just ate _____ and she's _____

- lethargic (with illustration of grapes)
- hyperactive (with illustration of chocolate)
- vomiting (with illustration of medicine bottles)
- panting (with illustration of cleaning supplies)
- drooling (with illustration of a potted plant)

ASPCA Animal Poison Control Center

For animal-related emergencies call: 888.426.4435

ACCIDENTS HAPPEN. THAT'S WHY WE'RE HERE.

With over 2 million cases handled since 1978, the ASPCA Animal Poison Control Center is the leading animal poison control center in the country. Available 24/7/365, our staff of board certified toxicologist and emergency medicine specialists, veterinarians, veterinary technicians, and veterinary assistants, are dedicated to providing you with the most up to date toxicology information when you need it most.