## **Prognosis for Horses with Colic**

A large retrospective study in the USA documented an overall survival rate of 60% for horses with colic and a survival rate of 50% for those horses undergoing abdominal surgery, including those euthanized during surgery for inoperative conditions. Survival rates for horses with strangulating obstruction and inflammatory diseases were only 24% and 42%, respectively. In contrast, horses with an undefined cause for the colic episode had a survival rate of 94%. When the segment of the GI tract was considered, the survival rates for conditions affecting the small intestine and stomach were poorer than for those affecting the large colon. In addition, conditions that interfered with both the passage of ingesta and the intestinal blood supply dramatically decreased the chances of survival. The results of more recent studies are far more promising, with survival rates for horses undergoing emergency abdominal surgery often >80%. Furthermore, there have been reports documenting survival rates of 70% for horses requiring resection of strangulated small intestine or correction of large-colon volvulus. In earlier retrospective studies, these conditions were associated with survival rates ≤30%. Although data on longterm survival (ie, the horse returning to its intended use) are more difficult to obtain, recent findings indicate that most horses that die or are euthanized because of serious problems do so within 3 mo after surgery.

Values obtained from several variables are often combined to predict survival in horses with colic. Prognostic indicators include pain assessment, intestinal distention, mucous membrane color, and cardiovascular system function. Survival rates are highest for horses with mild abdominal pain and are lowest for horses with severe pain. Horses with palpable intestinal distention have lower survival rates than horses lacking evidence of intestinal distention, and survival rates are even lower if no intestinal sounds are audible on auscultation of the abdomen. Red mucous membranes are frequently associated with endotoxemia, which decreases the survival rate. Cardiovascular system function reflects the degree of shock and, therefore, correlates with the prognosis for survival. For instance, horses with low systolic blood pressure or a high heart rate have a decreased chance of survival.

Of the laboratory analyses used to predict survival, blood lactate concentration and the anion gap are used most often. Measurement of blood lactate has been used as an indicator of tissue perfusion, with increasing concentrations of lactic acid corresponding with poor tissue perfusion. In recent studies, changes in blood lactate concentration over time have been particularly useful to determine the prognosis for survival, with increasing concentrations being associated with a poor prognosis. Furthermore, changes in peritoneal fluid lactate concentrations over time have been used to help identify horses that require emergency abdominal surgery. Similarly, the anion gap (the calculated difference between the measured cations and the measured anions) reflects the generation of organic anions, most notably lactic acid, due to reduced tissue perfusion. The concentration of protein in the peritoneal fluid also has been used to predict survival, with higher concentrations associated with a poorer prognosis.

Reference: <http://www.merckvetmanual.com/mvm/digestive_system/colic_in_horses/overview_of_colic_in_horses.html#v4499615>