



## High Heat and the Insulin Resistant Horse

High heat increases the risk of an acute laminitic episode for any horse with IR. That means that your horse with IR does not need an external trigger such as carbohydrates or fructans to have a laminitic episode. Heat, with or without humidity, amplifies the risk of damaging consequences.

Why does this happen? High Heat dramatically increases metabolic rate; including digestion, so there is significantly more hydrochloric acid produced and secreted into the stomach. This lowers pH thereby increasing intestinal acidity which enhances the risk of colic and/or a laminitic incident. IR horses have a proclivity towards biliary interference which lowers intestinal pH putting them more at risk when intestinal acidity is increased. Lamina stretching is also very common for horses in summer heat even with those who have not had any problems in the months leading to this heat. Endocrine metabolism is increased as well during high heat, increasing liver and pancreatic endocrine activity. This means the liver produces more glucose, secreting some of this excess into blood circulation and transforming the rest into glycogen. The glycogen is then stored in fat and muscle tissue making fat deposits more prominent such as a cresty neck. This makes a horse more likely to tie up or just be stiffer especially in the hind end. The increased glucose secreted into the bloodstream signals the pancreatic beta-cells to secrete more insulin into the blood thereby raising insulin values above the already hyperinsulinemia level your horse was at going into the heat. All of this increases laminitis risk.

**What you can do:** The EMS/Cushing's/IR formula has been created to deal with all of these issues therefore: if your horse is on a standard dose of 4 scoops X 2, increase to 4 scoops X 3 and if necessary increase to 5 scoops. Once the heat and/or dampness recede you can return to your normal dosage protocol.

Source: Dr. Joseph Thomas <http://www.forloveofthehorse.com>