



Fast Fact Sheet: Equine Grass Sickness

What is it?

Equine Grass Sickness (EGS) is a serious condition that can affect horses, ponies, and donkeys. It is a neurological disease, meaning it affects the nervous system. Specifically, EGS damages parts of the nervous system that control involuntary actions such as breathing, heart rate, sweating, and digestion. The United Kingdom has the world's greatest numbers of EGS cases, though it is also well recognised in Argentina, Sweden, Denmark, and Germany, with comparatively fewer cases in France, Belgium, Italy, Holland, Norway, Finland, and Switzerland. Unfortunately, EGS is fatal in approximately 80% of cases. It usually has a sudden onset, affecting otherwise healthy animals.



Horse displaying clinical signs of Equine Grass Sickness (EGS)

Cause:

The exact cause of EGS is unknown. Current research aims to discover the cause. The way the disease acts suggests that a toxin is involved. It is thought that *Clostridium botulinum*, a soil-inhabiting bacteria, may be responsible for this toxin. Most EGS-affected horses have access to pasture grass. Some factors that have been correlated with EGS include high nitrogen levels in soil, soil disturbances, high clover content, increased stocking density, presence of domesticated birds, and recent stress.

Clinical Signs & Diagnosis:

There are three types of EGS:

1. Acute: Affected horses experience complete gut paralysis which causes a sudden onset of signs similar to severe colic. These include:

- Muscle tremors
- Patchy sweating
- Inability to eat
- Rolling and pawing at the ground
- Swallowing difficulty/inability
- High heart rate (60-120bpm)
- Distended stomach
- Foul-smelling liquid pouring out of nose
- Constipation, with any passed manure being small, hard, and possibly mucous covered.

Acute cases are fatal. The horse will die or require euthanasia within two days of symptom onset.

2. Subacute: These cases show similar, but less severe, signs to acute EGS. These include:

- Mild to moderate colic
- Drooling/ difficulty swallowing
- Droopy eyelids
- Patchy sweating

- Muscle tremors
- Rapid weight loss
- May still consume small amounts of food
- Reduced bowel motility

Subacute cases are also fatal. The horse will die or require euthanasia within seven days of symptom onset.

3. Chronic: These cases have a slower onset than acute or subacute EGS. Signs include:

- Some appetite may remain
- Mild intermittent colic
- Reduced gut sounds
- Rapid and severe weight loss, potentially leading to emaciation
- Distended stomach and constipation are not typically signs of chronic EGS

With supportive treatment, approximately 50% of chronic cases can survive.

In all forms of EGS the major signs are caused by partial or complete paralysis of the gastrointestinal (digestive) tract, from the oesophagus (throat) downwards.

Diagnosis of EGS is difficult due to its similarities with other, potentially more treatable, forms of colic. There are no non-invasive, definitive tests for EGS in live horses, so diagnosis depends largely on veterinary expertise and awareness of signs/ ability to differentiate from other colic. A definitive diagnosis can be made after death, by microscopic examination of nerve cells or part of the small intestine. A potential diagnostic test for live horses uses eye drops to reverse the drooping eyelids caused by EGS, although this test is not very accurate.

Should I call the vet?

Yes. If EGS is suspected, it is very important to get a vet immediately. Horses with acute or subacute EGS are suffering and should be euthanised as soon as they are diagnosed. Chronic cases have a chance of survival but will require aggressive treatment under veterinary supervision.

Treatment:

Treatment should not be attempted for acute or subacute EGS cases. Euthanasia is the only humane course of action.

Treating chronic cases can be attempted if the animal's pain is manageable, has some amount of appetite, and is still showing some interest in life. Treatment for these cases will involve pain management and fluid therapy to prevent dehydration. It is also essential to try to get these animals to eat. It is recommended to provide highly palatable, easily swallowed feeds such as molasses-soaked grains, pellets and/or beet pulp mashes. Offering soupy mashes that the horse can drink may help encourage intake. This is an exception to the general "feed forage first" rule of equine nutrition, as patients fed only roughage such as hay will not survive. Offering a buffet of different options is helpful. Once the appetite returns, the focus should become increasing energy and protein to recover losses. Feeding digestive supplements (e.g., live yeast) or prebiotics (e.g., beet pulp) can help support digestive system recovery.

An essential part of treating chronic cases is to provide as much human stimulation and company as possible. EGS horses seem to thrive on human contact, and it can make the difference between survival and death. Spend as much time as possible with the horse, also providing frequent grooming to remove sweat. If the animal is sweating excessively, rugging may be warranted.

Of those horses who do survive chronic EGS, many are able to make full recoveries and return to good health and full working abilities. Ongoing research is aimed at increasing the survival rate through identification of the cause, and development of a cure.

Risk Factors & Prevention:

EGS can affect any breed of horse or pony, as well as donkeys. However, UK-native equine breeds may be particularly at risk. EGS cases have ranged in age from 4 months to over 20 years, though most cases occur in animals between 2-7 years. EGS can occur at any time of year, but are most common between April and July, with a peak in May.

As the cause of EGS is unknown it is difficult to prevent. There is some indication that grass fields containing high numbers of clover and/or buttercups are a risk factor. Feed hay year-round to provide alternative forage if grazing horses in these types of pasture. If a horse has suffered from EGS, it is probably wise to remove other horses from the same field.

Selenium deficiency may be linked to EGS. Selenium is a mineral that is involved in the immune system. Many soils are low in selenium, so it needs to be provided through feed (e.g., balancers) instead. Selenium is toxic if too much is consumed, so work with a vet or qualified equine nutritionist to ensure appropriate amounts are provided.

Recent stressors (e.g., purchase, breaking in, mixing with strange horses, long distance travel, castration) may increase risk of EGS. Always make changes slowly, giving horses time to adapt. For example, if a new horse is purchased, gradually introduce him to new horses, maintaining his former feed schedule. Once he is integrated with his new companions, then slowly make any dietary changes.

Know your animal(s) well, monitoring them daily for any changes in demeanour, appetite, or condition. Alert your vet if you suspect your animal is feeling unwell.

Recommended Resources:

World Horse Welfare. [Equine grass sickness](#). [online article with links to further resources].

Equine Grass Sickness Fund. [Grass sickness in horses](#). [online article]

Equine Grass Sickness Fund [Infographic](#).

University of Edinburgh. [Equine grass sickness](#). [Infographic].

University of Edinburgh [Equine Grass Sickness CPD](#) This is an online short-course aimed at all horse people including horse owners. It can be undertaken at your own pace, and a portion of the proceeds go to finding the cause and cure for EGS.

The information in this fact sheet was collated by the World Horse Welfare education team and verified by relevant industry professionals. We always advise that appropriate veterinary advice is sought for any equine should their health be in question or in an emergency.