

# Bloat and Vagal Indigestion in Cattle

“Vagal Indigestion” is a term used in veterinary medicine to describe certain types of malfunctioning of the stomach system, often resulting in distention of the rumen and thus bloating.

The vagus nerve (*nervus vagus*) plays an important role in the development of this disease and therefore became its name-giver. *Nervus vagus* is a cranial nerve, originating from the brain, and extends down the neck, into the chest cavity and down towards the abdomen, where it innervates several organs including the stomachs of the cow. Damage to this nerve can occur along its entire length and can lead to functional limitations of the gastric system and ultimately result in outflow problems from the forestomach.

Unfortunately, in many cases, the cause of vagal indigestion cannot be determined but among the possible causes are:

- Lung diseases such as bronchopneumonia
- Ingestion of sharp foreign bodies such as metal wire and nails that traumatise the stomach wall
- Liver abscesses causing inflammation and infection of the internal abdominal wall (peritoneum)
- Twisting and/or displacement of the abomasum
- Mechanical obstruction and/or abomasal outflow failure e.g. due to impaction or, in rare cases, tumours of the abomasum

**The clinical signs of Vagal Indigestion** mainly include bloating of the rumen and circumferential enlargement of the animal's abdomen.

In some cases, you may see a “papple shape” while looking at the cow from behind. This means that her left side will be bloated and shaped like an apple with the distention being round and on the upper side of the abdomen, and that her right side will be bloated and shaped like a pear with the distention being on the lower side of the abdomen.

Vagal Indigestion is divided into four types, depending on the location of the functional impairment of the nerve:

## **TYPE 1 or “free gas bloat”**

is marked by a failure of eructation; the animal cannot push the gas out due to disturbances of the contraction of the stomach.

This can be caused by inflammatory lesions around the *nervus vagus* at any location but is often caused by lesions in the chest cavity associated with pneumonia (think of this if you have calves with lung infections)

## **TYPE 2 or “omasal transport failure”**

Occurs due to a malfunctioning of the omasum and therefore its failure to transport its contents to the abomasum resulting in fluid



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accumulating in the rumen leading to distention and digestive disorders. This is often caused by adhesions and abscesses of the wall of the reticulum, caused by traumatic foreign body ingestion

### **TYPE 3 or “pyloric output failure”**

Is associated with disturbances in the emptying of the abomasum which can be caused by an impaction of the abomasum, or a twisted or displaced abomasum. Due to the involvement of the abomasum this type will lead to severe electrolyte imbalances and an animal that appears very sick.

### **TYPE 4**

Often occurs in late pregnancy and may be a result of the enlarging uterus pressing on the abdominal portions of the vagus nerve

Any type of Vagal Indigestion needs veterinary attention and treatment.

The prognosis depends on the duration of the symptoms and their severity but in case of serious damage to the *nervus vagus* the symptoms are very likely to be non-reversible and the prognosis is grave.

