

Pulpy Kidney

(Enterotoxaemia)

Pulpy Kidney (enterotoxaemia) is a disease that can cause the death of sheep, cattle and goats. It often results in the death of animals otherwise considered to be in good condition, and is often difficult to diagnose.

What is Pulpy Kidney?

Pulpy Kidney (enterotoxaemia) is a disease caused by the toxin of *Clostridium perfringens (welchi)* Type D absorbed from the intestinal tract. There are five types of this bacteria known to affect food animals. They are classified as types A, B, C, D or E according to the toxins they produce. Type D is typically responsible for Pulpy Kidney. Pulpy Kidney generally presents as sudden death. Occasionally excitement, incoordination and convulsions may be observed prior to death.

What causes the disease?

The bacteria that cause Pulpy Kidney normally exist, in small numbers, in the gut of healthy animals. The disease develops when bacterial numbers increase dramatically, and when the environment in the intestine favours toxin production. *C. perfringens* Type D bacteria may survive in the intestinal passage to the duodenum where they can multiply and produce toxin.

Normally, the movement of material through the intestine keeps the bacterial population and toxin levels low and, therefore, safe. However, factors which alter the environment in the intestine, may then allow the multiplication of bacteria and higher levels of toxin production.

Why is Pulpy Kidney hard to diagnose?

Post-mortem signs are not specifically diagnostic for the disease; bloat, for instance, is often confused with Pulpy Kidney. Also, gut contents must be examined for toxin within a few hours of death. Toxin may only have been produced in a short section of the intestine, which can be up to 30 metres long. Finally, the toxin is unstable and may be difficult to identify using laboratory tests. Isolation of *C. perfringens* bacteria from the gut is rare and, if found in small numbers, may not be regarded as abnormal.

What factors lead to Pulpy Kidney?

Predisposing factors contributing to the disease Pulpy Kidney include a gut environment suitable for bacterial growth in the intestine and a slowing in the movement of material through the intestinal tract. This can be caused by increased feed intake, new or better pasture, dramatic change in diet, or grain based diets. Pulpy Kidney is most likely to occur during periods of greatest pasture growth and feed availability.

How can we prevent outbreaks of Pulpy Kidney?

The first defence against enterotoxaemia is to avoid those situations which predispose the

animal to bacterial growth and toxin production. However, many of these situations are otherwise normal, or even essential management actions (e.g. grain feeding, moving stock to better pasture).

Can we rely on vaccination?

Correct vaccination procedure will provide excellent protection against Pulpy Kidney. Regular booster vaccinations are required to maintain protection.

Is vaccination worthwhile?

In combination with appropriate management strategies, vaccination will additionally reduce losses due to Pulpy Kidney. Given that it is often the best, fastest growing animals that will die, vaccination is definitely worthwhile.

Pfizer's Ultravac[®] 7 in 1, Ultravac[®] 5in1, Glanvac[®] 6 range and Glanvac[®] 3 range provide protection against Pulpy Kidney and other Clostridial diseases. Ultravac[®] 7in1 will also provide protection against Leptospirosis in cattle and Glanvac[®] will prevent Cheesy Gland in sheep. Additionally, Glanvac[®] is formulated with selenium and/or vitamin B₁₂ to enable trace element supplementation, if required.

For previously unvaccinated cattle, sheep and goats, two doses of the preferred vaccine, 4 to 6 weeks apart, is necessary for initial immunity. Depending on the species, a follow-up booster is required for ongoing protection. Calves may need to be boosted as soon as 3 months after the initial course, 6 months for goats, and annually for sheep. Vaccination is aimed at reducing the risk on a whole herd basis and booster vaccination is most appropriately timed just prior to the high-risk period. Vaccination of cows before calving, and ewes prior to lambing will result in good passive protection being passed on to the young animals. This passive protection lasts for 6 to 8 weeks.

If you are planning on moving stock onto lush pastures or onto grain, it is recommended that a dose of Ultravac 5 in 1 is given 14 days prior to this event, so that your animals are protected before they are at risk of Pulpy Kidney.

Dose Rates

Ultravac[®] 7 in 1 2.5mL for cattle
Glanvac[®] 1mL for sheep/ 1mL for goats
Ultravac[®] 5in1 2mL for cattle/ 1mL for sheep

For more information call 1800 022 442 to be contacted by your local Pfizer Professional Sales Representative or call the Pfizer Animal Health Technical services Team on 1800 814 883.