

DAMORY LODGE EDWARD STREET BLANDFORD FORUM DORSET DT11 7QT  
TEL : 01258 452 626 FAX : 01258 453 548 [www.damoryvets.co.uk](http://www.damoryvets.co.uk)

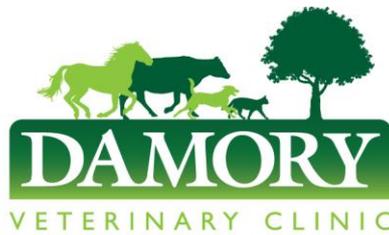
## **Cryptosporidiosis**

Cryptosporidium is a protozoan parasite that can infect a large number of species including humans. The newborn calf is particularly susceptible and cryptosporidium can be found in both calves with diarrhoea and those that are apparently healthy. Although its relevance in diarrhoea outbreaks has become difficult to determine, it is usually present in higher numbers in those with diarrhoea. It can either cause diarrhoea alone, but is more commonly found in mixed infections along with other pathogens such as E.coli, rotavirus and coronavirus.

Almost every calf is exposed to the organism soon after birth as the infective stage (oocyst) can be found in small numbers in the faeces of older cattle. As it is able to infect a variety of species, wildlife can act as a possible reservoir of infection. Importantly, cryptosporidium is a zoonosis, therefore it can infect humans so extra precautions should be taken when handling affected calves.

Unlike other coccidia, cryptosporidium oocysts are immediately infective when they are passed out in the faeces. Suckled rather than dairy calves are more often affected and signs of infection are usually seen between 5 and 15 days of age. Once ingested, the oocysts mature inside the calf and pass into the small intestine. Here they attach to the lining of the gut causing loss of surface area and malabsorption, leading to an enterocolitis with resultant diarrhoea. Affected calves will start passing infective oocysts in their faeces from about 5 days after infection.

The oocysts are very resistant and can persist in a cool and damp environment for several months. They are resistant to most disinfectants but are killed by 5% ammonia, formaldehyde or 10% formal saline. Freezing the oocysts or heating to above 65°C is also effective. Infection is more common over the winter months and often there is a build up in infection over this period. In the most severe outbreaks mortality can reach 25%, however, this is very unusual and in most cases the disease will run its course and, although a high proportion of calves will become infected, they will survive provided they have adequate nursing.



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### **Clinical Signs**

Following ingestion of the oocysts there is an incubation period of 2-5 days. Initially the calf will have a reduced appetite and become lethargic, before developing intermittent diarrhoea and becoming dehydrated. There is a characteristic profuse green, mucoid diarrhoea which will persist for several days. Unlike bacterial and viral enteritis, dehydration and acidosis do not appear to be the main causes of death, instead there tends to be a progressive wasting with loss of bodyweight and in some cases emaciation. The recovery period is prolonged in severe cases and can take between one to three weeks.

### **Diagnosis**

Diagnosis is based on examination of the faeces. Oocysts can be detected in the faeces using special stains, an immunofluorescence test can also be used and there is now an ELISA test available which is easy to perform and can give a rapid result.

### **Treatment**

Affected animals should be separated and given a warm, dry bed and high quality nursing. Depending on severity, fluids and electrolytes should be given either orally or intravenously. Milk or milk substitute should be re-introduced as the calf improves and should be given little and often to try and improve digestion.

Halocur is licensed for both the prevention of new cases and to reduce the effects of the diarrhoea in those already affected. It is an oral drench that must be given every day for seven consecutive days. For prevention of diarrhoea treatment should be started within 24-48 hours of birth and for reduction it should start within 24 hours of the onset of diarrhoea.



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## Prevention

Prevention is centred on reducing exposure of vulnerable calves to the high level of infection present. Affected calves should always be separated from others as the massive numbers of oocysts present in their faeces are immediately infective. It is virtually impossible to completely eliminate cryptosporidium as it is likely to be present in small numbers in the faeces of older animals. The massive and rapid multiplication of the organism inside susceptible calves then allows disease to occur.

High standards of hygiene will help to ensure that concurrent infections are kept to a minimum. Immunosuppressed animals are more at risk from other infections; therefore it is essential to ensure that colostrum intake over the first 10 days of life is sufficient and that the colostrum is of good quality. Ideally an all-in all-out system should be adopted with the calf building being cleaned out, disinfected and left dry and empty between calving periods. If the problem is severe then specific oocyst destruction will be needed using 5% ammonia and 10% formal saline. Calving boxes must also be very clean and dry with plenty of straw.