

CONTAGIOUS ECTHYMA IN BRITISH COLUMBIA WILDLIFE HEALTH FACT SHEET

Contagious ecthyma (CE), also known as orf, contagious pustular dermatitis, scabby mouth and sore mouth is a viral disease that infects domestic sheep and goats and a number of wild ungulate species around the world. The virus is a parapoxvirus and is also capable of infecting humans, causing painful skin lesions in areas of contact. The disease was first recognized in North American wildlife in Rocky Mountain bighorn sheep in Banff National Park in 1952. In British Columbia, it has since been seen sporadically in individuals or small numbers within herds of bighorn sheep and mountain goats. The last outbreaks reported in the East Kootenay were in Columbia bighorn sheep herd in the winter of 1999-2000 and Radium Hot Springs herd in 2004/05. A number of animals were observed with mild to moderate lesions that disappeared within weeks. No mortality was noted.

The first signs of infection by the CE virus are small swellings and pustules that enlarge, becoming covered with scabs and crusts. These proliferative lesions are usually present on the lips, oral tissues, muzzle, the lower leg or coronary band above the hooves and occasionally the udder. The lesions range from mild to very severe with clinical effects ranging from transient interference with feeding and locomotion to complete debilitation. In typical cases, lesions spontaneously heal within 2 - 4 weeks. The disease is spread by direct contact with the virus or scabs containing the virus. The virus is very resistant to environmental conditions, having been recovered from crusts after 12 years.

Any irritation or abrasion to oral tissues from coarse feed or salt is thought to increase transmission. Outbreaks of CE were seen in herds of bighorn sheep with access to salt blocks or road salt in several national parks in BC and Alberta during the 1950s and 60s. Nearby herds not accessing artificial salt sources tended to be unaffected. Any situation that increases the degree of contact between affected sheep increases the likelihood of contacting the virus and the development of the disease.

Lesions tend to be more severe in young or never before infected animals. Some reports have suggested that animals under physiological stress, such as males during or after the rut, animals that are heavily parasitized or in poor nutritional condition may show increased susceptibility to or effects of infection by the virus. Although the numbers of animals affected in a group may be high, death appears to be rare and is usually associated with secondary bacterial infections. Intense follow-up is rarely possible; but very young animals observed in extremely poor condition probably do not survive.

A study in Alberta saw a high prevalence of various degrees of CE in lambs in a herd during a period of high population density. The body mass of affected lambs was smaller. Despite this relationship, the presence of visible lesions was not associated with increased lamb mortality. The conclusion of this study was that CE did not appear to play a primary role in the population dynamics of the population but may have a role in long-term survival or the reproductive success of affected individuals.

Domestic sheep recovered from CE are highly resistant to reinfection. Wild sheep likely demonstrate a similar resistance. There is no treatment for the disease other than supportive care. Vaccines for the prevention of infection are rarely advised, even with domestic sheep, as they contain live viruses and are only used in situations where vaccinated animals can be quarantined. When live vaccines are administered the environment is contaminated with scabs containing the virus. Therefore, in the face of an outbreak of CE in wild ungulates, management recommendations are to first confirm the disease diagnosis then attempt to limit the concentration of affected and unaffected animals. It is advised to remove coarse feeds, artificial salt sources and try to control any factors suspected to cause additional stress to the affected herd. Finally it is strongly recommended to document as completely as possible the extent and course of the disease in the affected and potentially in-contact herds.