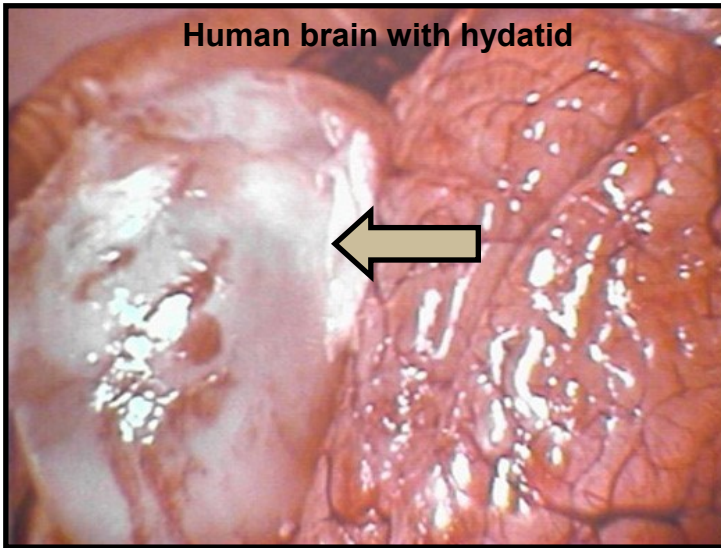


Wolves & Hydatid Disease

*Hydatid disease is a serious and sometimes deadly illness. Hydatid disease is well-documented worldwide. Wolves in the western United States are a known and uncontrolled carrier of *Echinococcus granulosus*, the cause of hydatid disease.*

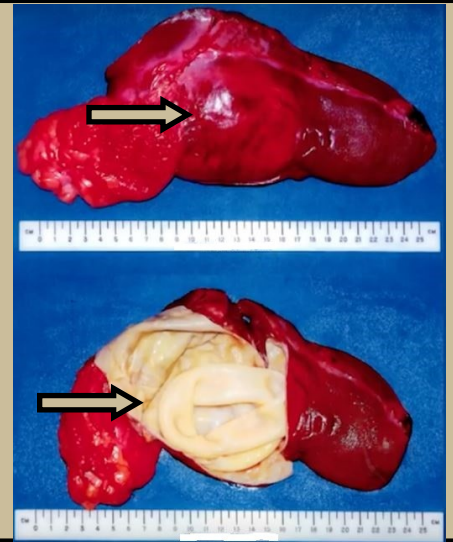
“If we generate dense wolf populations it is inevitable that such lethal diseases as hydatid disease become established.”

*Information for Outdoorsmen in Areas Where Wolves Have Become Common
Outdoorsman, February-March 2006 - Dr. Valerius Geist*



Human brain with hydatid

Hydatid
Cyst
In
Human
Liver



- Hydatid disease is caused by the tapeworm cyst *Echinococcus granulosus*
- The adult parasite occurs in the small intestines of canids (wolves, coyotes, foxes, and dogs) and felines (mountain lions and cats)
- Ungulates – deer, elk, moose, sheep, goats, caribou, reindeer, and antelope in the wild; and domestic sheep, cattle, buffalo, and goats – are the main intermediate host-group.
- **Humans can also be an intermediate host**
- According to the Center of Disease Control, the larval stage of *Echinococcus granulosus* is contracted as canids eat the organs of animals that contain hydatid cysts.
- Canids pass the parasite to ungulates, from eggs released in the canid feces. *Echinococcus* eggs can stay viable for up to a year.
- Humans typically are exposed to *Echinococcus* eggs through handling carcasses and skins, touching infected animals, and contact with feces of infected animals.

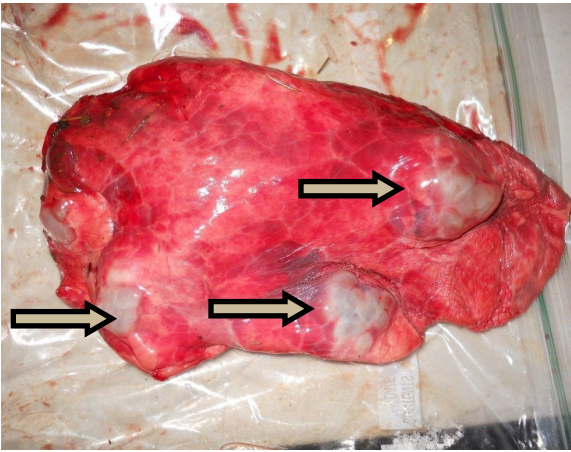
[Summarized excerpts from The Real Wolf: The Wolf as a Disease Carrier - Will N. Graves]

Routine deworming of domestic dogs disrupts the tapeworm life cycle to prevent eggs from being shed in feces.

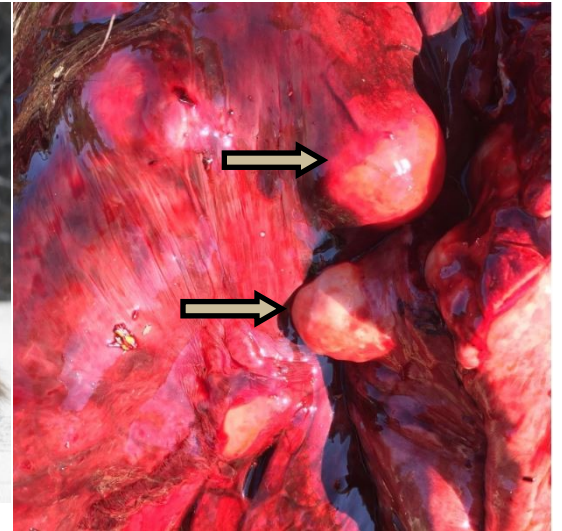
In the wild, rapidly expanding wolf populations continue to spread this potentially deadly parasite.

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“Most people do not understand the risk of contracting hydatid disease. Worldwide, and now in the northern United States where wolves are present, hydatid disease poses a significant risk to humans. *Echinococcus granulosus* eggs that are spread in infected wolf feces can be transmitted to both wild and domestic ungulates, domestic dogs, and humans. If a person is riding a 4-wheeler on a mountain trail or a tractor in a hay field, and runs over infected wolf feces, the *Echinococcus* eggs become aerosolized and can be inhaled or ingested. If your dog rolls in infected feces, *Echinococcus* eggs can end up in your house or barn, or you can ingest or inhale the eggs simply from petting your dog if it has been exposed. Hydatid disease in humans can take years to develop, and causes severely debilitating health problems that can result in death. With wolf populations dramatically expanding in other states; and wolves migrating into Colorado, the threat of this disease will soon be a reality here. We must keep this devastating disease out of Colorado.” [Denny Behrens - *BigGame Forever*]



Elk lung with hydatid cysts



Moose Lung with hydatid cysts

The U.S. Fish & Wildlife Service failed to adequately address wolves as a disease vector in the Final EIS

“Wolves will be given vaccinations when they are handled to reduce the chances of them catching diseases from coyotes and other canids. Wolves will eventually naturally develop resistance to exposure to canid diseases that are present in wildlife and domestic dog populations in the western United States. **Wolves will not significantly increase the transmission of rabies or other diseases.**” [Final Environmental Impact Statement (EIS): *The Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho*, April 14, 1994 U.S. Department of Interior Fish and Wildlife Service]

In Idaho, prior to wolf introduction, *Echinococcus granulosus* had not been previously identified

“In addition, one mountain goat and several mule deer and elk were found to have hydatid cysts in the lungs (*Echinococcus granulosus*), **likely with wolves as the definitive host of this previously unrecognized parasite in the state.**” [Idaho Department of Fish and Game Wildlife Health Laboratory Report - September 2006]

“We evaluated the small intestines of 123 gray wolves (*Canis lupus*) that were collected from Idaho, USA (n=63), and Montana, USA (n=60), between 2006 and 2008 for the tapeworm *Echinococcus granulosus*. The tapeworm was detected in 39 of 63 wolves (62%) in Idaho, USA, and 38 of 60 wolves (63%) in Montana, USA. ***The detection of thousands of tapeworms per wolf was a common finding.***” [Journal of Wildlife Diseases: *Echinococcus granulosus* in Gray Wolves and Ungulates in Idaho and Montana, USA - October 2009]

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