

Update on California's Deer Adenovirus
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In 1993, a new disease syndrome was discovered in black-tailed deer and mule deer in California that resembled classic hemorrhagic disease (SCWDS BRIEFS Vol. 3, No. 2). The outbreak caused widespread mortality in wild deer and also was observed in deer held by wildlife rehabilitators. Attempts to isolate hemorrhagic disease viruses (i.e., epizootic hemorrhagic disease and bluetongue viruses) failed, but investigators were able to demonstrate the presence of an adenovirus by electron microscopy. After considerable effort, an adenovirus was isolated from affected deer. The virus appears to be most closely related to bovine adenovirus type 5 but is thought to be unique. Experimental trials have shown that the virus can be transmitted by injection, orally, or by contact between infected and susceptible deer. Acute infection results in a fatal hemorrhagic disease syndrome characterized by pulmonary edema and hemorrhagic enteritis due to blood vessel damage. A more chronic form results in severe oral and stomach ulcerations. Initial pathology studies were conducted with black-tailed deer, but more recently, the investigators infected white-tailed deer with fatal results. Additional studies are planned, including development of methods to assay for virus and to test for antibodies. At present, information on the status of wild deer in California or elsewhere is not available; however, review of old diagnostic cases indicated that infection has been present in California for many years. The range of cervids that can be infected by this apparently novel virus is unknown. The discovery of this previously unknown deer pathogen has obvious significance to wildlife managers in the Southeast and elsewhere, particularly in regard to relocation of deer.