

# For Your Information

Courtesy Of:

## Cotati Large Animal Hospital

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## Caprine Arthritis Encephalitis Virus

Caprine Arthritis Encephalitis Virus (CAE) is a virus in the family *Retroviridae*. Other viruses in this group include Feline Leukemia Virus (FIV), Bovine Leukemia Virus (BLV), and Human Immunodeficiency Virus (HIV). CAE is important worldwide and has a major impact on lifetime animal productivity and import/export restrictions in the dairy goat industry

### Clinical Signs

1. Polyarthritis: the most common form of the disease. Generally occurring in animals over 1 year of age. The knees are most commonly involved followed by the stifles, hocks and hips
2. Encephalitis: a less common for that can be seen in kids 2-4 months old. Rear leg weakness progresses forward to cause paresis in all the limbs over 5-10 days. Kids have good mental status and **do not** have a fever.
3. Chronic interstitial pneumonia: can be seen in both kids and adults
4. Mononuclear cell infiltration of the udder. Results in decreased milk production in does. The gland becomes firm, but the milk is normal looking

### Epidemiology:

Transmission occurs from doe to kid through nursing, and between adults through prolonged contact. Once infected, viremia and shedding occur throughout life. Only 25% of infected animal show any clinical signs. In California, seroprevalence (number of animals that test positive for the disease) ranges from 41-80%. There are no known vectors and reservoirs.

### Diagnosis:

Diagnosis is by virus isolation, or by serological detection of antibodies to the virus. The ELISA test is the most common screening test used, it detects antibodies to the virus. Animals will not test positive, or be seropositive, until 4-16 weeks after they are infected due to the lack of viral antibodies in the animal's blood. However, during this time they will still shed the virus and infect other animals. Maternal antibodies in the colostrum prevent kids from being accurately tested until they are 6 months old. Because of all this owners should be cautious about the possibility of getting a false negative result with CAE, especially if they have had animals test positive in the past. This can make removing the virus from a herd a difficult and lengthy process.

**Treatment:**

There is no effective treatment for the disease. We can only keep the animals comfortable through pain management and good quality feed.

**Control/Prevention:**

1. Isolate newborn kids at birth. Do not let them come into contact with the does even to nurse.
2. Feed goat colostrum that has been treated at 131 F (56 C) for 60 minutes. This will inactivate the virus without destroying the colostrum. Do not use colostrum from seronegative does since they may still be shedding the virus.
3. Feed kids pasteurized goat milk or a high quality milk replacer. The use of any goat products always carries some risk.
4. Maintain CAE negative animals in a separate herd (no shared fence lines, waterers or feeders, no nose-to-nose contact)
5. Milk CAE negative animals first and make sure to thoroughly clean the milking machines after milking the positive does.
6. Sexually transmitting CAE from buck to doe and vice versa is very rare but possible so be cautious
7. Use individual sterile needles, clean blood contaminated equipment (hoof trimmers, clippers) between animal.
8. CAE virus lives only a short time in the environment, so a facility should only have to be disinfected and left without animals for two weeks before re-introducing CAE-free animals to the area.