



Caprine Arthritis Encephalitis

Caprine Arthritis Encephalitis (CAE) is a serious disease of goats, which can lead to loss of production, animal welfare concerns and death.

What is Caprine Arthritis Encephalitis (CAE)?

It is a serious disease that causes major production losses in goats world wide through mastitis, ill-thrift, arthritis, pneumonia, paralysis that moves up the body, and brain disease (encephalomyelitis). CAE is also considered an animal welfare issue. There is no cure for CAE.

The disease is also known as 'big knee' and is caused by a lentivirus or 'slow' virus associated with encephalomyelitis in kids and slowly-developing disease syndromes in older goats.

How is the disease spread?

The main spread of the virus between goats is through drinking infected milk either as a kid or as an adult.

The virus does not cross the placenta and kids born to infected does, generally, do not always have the disease. However, there is a risk of spread during the birth process if the kid is contaminated with blood due to vaginal tears.

Goats kept in close quarters can spread the virus through respiratory secretions, eg nasal discharge, and cough, saliva and tears.

Venereal spread may also occur.

Transfer sometimes occurs by blood on gear such as vaccination needles, tattooing equipment, dehorning and foot/fibre shears, or through exposure to open wounds.

People may also contribute to the spread of infection with contaminated hands, clothing, equipment and footwear.

A clean goat herd will most likely become infected by a CAE-positive goat coming on to the property.

How do I know if my goats have CAE?

Symptoms can vary markedly between animals, with most well managed goats showing no obvious clinical signs.

The signs of CAE are mainly due to the body's reaction against the infected cells. Clinical signs include:

- hard udder (indurative mastitis)
- arthritis in any joints, most notably the carpal joints (big knee)
- pneumonia
- neurological symptoms leading to progressive paralysis. (Kids less than six months of age are more likely to show neurological disease)

The majority of CAE infected goats do not show any obvious signs

Clinical signs can appear in an infected goat if the goat is exposed to stressful situations such as poor nutrition and overcrowding, which means well managed infected goats may never show clinical signs.

The best way to know if your herd has CAE is to have all animals over six months of age blood tested (serology). This testing is arranged through your private veterinarian.

Repeated blood testing during a 12-month period will detect the majority of infected goats (a very small number may take longer to detect).



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The CAE status of goats should be determined in goats six months and older. Adult does should not be tested in the period from one month either side of kidding as inconsistent results could occur. No goat should be tested within one month of any vaccination.

What can I do to prevent CAE in my goats?

Join a CAE accreditation program and only buy goats from other accredited herds as this provides the best form of protection.

Insist on a fully completed and signed *National Goat Health Statement* from the seller.

If you lend or agist your goats and intend for these animals to return to your property, make sure you assess the CAE risk of the property where they are going before sending them and remember people and objects such as grooming tools, feed bins, rugs and trailers can transfer CAE from one property and herd to another.

Follow the *National Kid Rearing Plan* which promotes hygienic management of the kids to avoid contamination by CAE from birth until maturity. If practised, in conjunction with test and culling of serological positive goats, owners can reduce the level of infection on a property over time. Herd management can further reduce the exposure of susceptible goats to the virus.

If my goats were to get CAE, how would I manage that?

Producers should:

- consult a veterinarian for advice on developing a comprehensive biosecurity plan
- rear kids according to the *National Kid Rearing Plan*
- isolate infected goats and send them direct to slaughter as soon as possible

- inform intended recipients of goats you may be selling or agisting of your CAE status by using a *National Goat Health Statement*
- keep goats well fed, in good condition and maintain an effective worm and animal disease control program
- inform neighbours and ensure boundary fences are stock-proof to ensure goats are not able to contaminate the environment of neighbouring properties, including run-off or be contaminated by neighbouring stock

Producers should avoid:

- feeding pooled milk to kids and/or adult goats, unless the milk is from an accredited CAE-free goat herd or has been effectively pasteurised (heated to greater than 56° Celsius for a minimum of 10 minutes)
- exposure to feed or water that may have been infected with secretions
- keeping goats of unknown or infected status in close confinement
- sharing equipment between goats without sterilisation
- allowing people to handle a number of goats (especially udder or mouth) from different sources
- untested goats being milked as a common group
- mixing of goats with unknown statuses from different farms at one site, e.g. at shows and sales

CAE accreditation programs:

Further information on CAE Accreditation can be obtained from the state departmental website:

NSW: www.dpi.nsw.gov.au/agriculture/livestock/goats/health/cae-accreditation-scheme

Queensland: www.daf.qld.gov.au/about-us/contact-us

South Australia: www.dairygoatssa.com

More information about biosecurity for goats, including the *National Goat Health Statement* and the *National Kid Rearing Plan* can be found at www.farmbiosecurity.com.au/industry/goat

Biosecurity is vital

Remember, CAE is spread through milk, blood and by aerosol, physically contaminated objects like feed buckets, brushes and dirty personal protective equipment and with animal movements. To avoid contamination practise good on-farm biosecurity including: secure your fences; avoid sharing equipment; and keep your goats away from goats of unknown status. Additionally, always ask for a *National Goat Health Statement* when agisting or purchasing stock to ensure CAE is not imported into your herd from outside sources. For more biosecurity information and tips visit www.farmbiosecurity.com.au



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This fact sheet has been developed by Animal Health Australia and the Goat Industry Council of Australia on behalf of the national goat industry and the state departments of primary industries.