



PARESIS (WEAKNESS)

What is Paresis?

Paresis may be seen as the decreased use of limbs, incoordination or limb weakness. Often other signs such as urine scalding, knuckling, or falling over are seen prior to loss of function of the hind legs.

What can cause Paresis?

This condition can be caused by many things and is often a progressive condition, slowly getting worse with age. Injury (either to bone, soft tissue (muscles) or nerves), spinal disc disease, spinal cancers, a parasitic infection of the CNS (*Encephalitozoon Cuniculi*) and a range of other causes can cause paresis.

- *Injury*: Injury may cause damage to bones, muscle or tendons or the nerves themselves. All of these can cause changes to movement of the limbs and in the case of nerve damage, other neurological signs. Sudden or even slow onset of paresis can be due to injury. This can be due to a recent injury, and often an injury event is observed. If this is the case often time, treatment and rest may improve the situation. Old injuries may also cause a sudden or slow onset of signs. Often injury maybe when young or not observed by owners. Recovery may never be 100%, only time (weeks to months) may tell.
- *Encephalitozoon Cuniculi (EC)*: EC is a single celled organism that commonly infects rabbits. Rabbits are infected through ingesting or inhaling the spores (that are passed in the urine of animals with active infection) or from the mother during pregnancy. The prevalence of EC in rabbits is reported from 40-70%, with seemingly healthy rabbits harbouring this parasite. One study showed that only a ¼ of healthy rabbits suffer from active infection, often later in life after having it for many years.
 - EC commonly targets the brain, the lens in the eyes and the kidneys. Although many rabbits can live quite normally with an infection some rabbits can show signs of kidney disease (drinking and urinating more), balance problems (head tilts), seizures, spinal problems (difficulties walking, urine scalding and paralysis). A blood test is available that tells us if your rabbit has produced antibodies to this parasite. Although this is useful to rule out EC as a cause of symptoms, a positive result only indicates chronic or latent infection. A positive result does not necessarily mean that the parasite is causing the symptoms in a sick rabbit. The only definitive test for an active infection is to take a sample of brain (not really an option for a living rabbit).
 - Can we cure an EC infection? Unfortunately, as this organism lives in cysts, and total elimination is generally thought to be impossible. Rabbits previously exposed to EC are at a risk that stress or another suppressive factor (eg another medical condition) may act as a trigger for reactivation of the infection.





- Fenbendazole (panacur) and similar drugs may decrease and limit the load of EC in the body. It is recommended to treat rabbits testing positive for EC with fenbendazole for an initial course of 30 days and then treat for a course of 9 days every 6 months.
- **Arthritis:** Arthritis is a common cause of urine scalding, underlying pain or general lethargy in some rabbits. Radiographs (x-rays) of the back and legs may indicate joint changes. We also often trial an oral pain relief, and cartrophen injections to increase joint mobility. If these treatments are successful we can use oral pain relief intermittently throughout their life.
 - If meloxicam (anti-inflammatory medication) is used for pain relief long term, regular blood tests is advised as this medication can put pressure on the kidneys. Cartrophen helps treat, manage and prevent arthritis.
 - Cartrophen is initially given as a course of 4 injections (One injection once a week for 4 weeks). After this, the injection is repeated approximately every 1-3 months for the average rabbit.
- **Spinal Tumours:** This is a relatively uncommon cause of paresis however in some cases cancers have been seen. Radiographs may show signs of a cancer but often further imaging such as CT or MRI scans are required. Treatment would involve major and experimental surgery with a specialist.

What other health concerns can occur?

Urine Scalding: Conditions causing paresis can sometimes also affect urinating and bladder control. Rabbits with poor 'stance' can urinate on themselves causing scalding and dermatitis. The bladder may also have decreased function with either constant urine dribbling or urinating when pressure placed on the abdomen.

Kidney Disease: EC, a common cause of paresis can also affect the kidney. The many medication used to treat paresis can also affect the kidneys. Regular blood tests should be undertaken to monitor the kidneys function and if kidney disease is suspected medications may need to be changed. Kidney conditions can be found with blood tests and urine tests.

Pressure sores: Although mainly seen on the hip and hock points pressures sores can show as matting of fur or scabs or ulcers. Prevention is with soft bedding and changing your bunnies position if they struggle to move around well themselves.

What other treatments can I consider?

Acupuncture has been shown to be helpful in some individuals. Gentle massage of muscles also helps to decrease tension in muscles not used and stimulates blood flow. Simple physio moves such as flexing and extending joints will also assist with muscle tone. These should be undertaken two to three times a day for 10 minutes.





How should I provide nursing care for my rabbit?

Rabbits with paresis require constant nursing care which is required multiple times every day. Nursing care may consist of providing food and water within easy reach and supplementing food with critical care if a decrease in weight is seen. Soft bedding is required to prevent pressure sores, these may need to be changed two to three times a day due to urine and faecal staining. Cleaning the bottom regularly may be required for incontinent rabbits or those with urine scalding.

Successful nursing care takes time and commitment and will mean many and constant visits to your vet. If you are unable to undertake intensive nursing care then please consider euthanasia, as minimal care often results in poor quality of life.

Your bunnies quality of life should always be considered and with many bunnies becoming food focused when their mobility decreases this should not always be considered a sign of contentment. Owners who have a close bond with their bunnies often know the other individual signs of contentment and can use these as a guide for quality of life.

If you have any other questions or concerns please don't hesitate to contact us.

