

PASTEURELLA IN RABBITS

How they catch it

Pasteurella is a bacterial disease that affects the respiratory tract, the windpipe and lungs, of rabbits. There are different strains of *Pasteurella* which can cause different clinical signs including difficulty breathing, discharge from the nose, red or watery eyes, sneezing and snoring and swellings around the face.

Pasteurella can be spread from rabbit to rabbit or picked up from the environment by several routes:

- Spread in the air from the environment or an infected rabbit. The rabbit breathes in the bacteria and becomes infected
- Direct contact with infected material or another rabbit
- Can be spread from a pregnant doe to her kits when she gives birth if the doe is infected with *Pasteurella*
- The main point of entry into the rabbit is by nasal contact or through open wounds. Once the bacteria has gotten into the rabbit it can spread to the lungs and respiratory tract.

Diagnosis

There are other diseases which can produce similar respiratory signs in rabbits. In order to treat the condition properly the bacteria or virus causing the disease must be identified. This involves taking a nasal swab from the rabbit to culture the bacteria in the rabbit's respiratory tract. To perform this a cotton swab is inserted into the rabbit's nose to collect some of the nasal secretions. These are sent off to the lab where they are transferred onto a gel which allows any bacteria present in the sample to grow. The resulting bacterial growth is then examined and the bacteria identified. It takes time for the bacteria to grow so this test may take a couple of weeks to show results.

Patient Factors

Like people, different rabbits are different and will have varying levels of resistance to catching disease. Many factors affect whether a rabbit will catch the disease and if it does, what signs it will show. It is not uncommon for rabbits to have a low level of *Pasteurella* in their respiratory tracts and not show any signs of disease. These factors can be divided into those associated with the rabbit (host factors) and those related to the environment. As an owner, the environmental factors are easiest to control to minimise risk to your rabbits. Sometimes a change in the environment or stress can cause a rabbit that has been infected with *Pasteurella* but has been coping fine, to start showing clinical signs.

Host factors:

- The rabbit's immune system
- The rabbit's general health
- If the rabbit is on any medication that affects the immune system

Environmental Factors:

- The cleanliness of the rabbits housing
- Ventilation – having well ventilated housing for your rabbits reduces the spread of airborne bacteria.
- Nutrition – feeding a balanced diet will help keep the rabbit healthy so it can fight off infection
- Overcrowding – having too many rabbits in a small space can make rabbits feel stressed which suppresses their immune system and makes rabbit to rabbit transmission of the disease
- Stress

Possible outcomes of infection

Depending on the strain of *Pasteurella* and the host and environmental factors listed above, different rabbits will respond differently to the infection. The possible outcomes for an infected rabbit are:

- The rabbit gets infected but is able to fight off the infection with its own immune response. The infection is cleared and the rabbit gets better
- The rabbit is infected and starts showing clinical signs. The rabbit is given treatment with antibiotics and the infection is cleared so the rabbit gets better.
- The rabbit is infected and shows clinical signs. The rabbit receives antibiotic treatment but because of the rabbit's immune response or the strain of the bacteria the infection cannot be cleared. The rabbit remains infected. From this point there are different outcomes
 - The rabbit becomes a persistent carrier of the disease but doesn't show clinical signs
 - The rabbit is chronically infected (remains infected for a long time) and develops snuffles or rhinitis
 - The infection may spread to other areas and cause problems. It can cause abscesses, spread to the lungs and cause pneumonia, spread to the sinuses or cause persistent watery or red eyes.

Treatment Options

Pasteurella is sensitive to many different antibiotics. A specific antibiotic is can be chosen by taking a nasal swab and culturing the bacteria and testing which antibiotic the bacteria from that rabbit are most susceptible to. The primary treatment often involves giving the selected antibiotic daily over a 30 day period. This provides the rabbit with the best support to clear the infection.