

Your Partner in Reproductive Science

The ROYAL CANIN® philosophy, *Knowledge is to be Shared*, has been made possible in part through our partnership with you – the professional dog breeder. In an effort to return the favor, we'd like to share science-based reproduction and best kennel practices education.



Neonates: Disease & Prevention

Excerpt from *The Canine Reproduction Guide: A Breeder's Handbook*
Doctor of Veterinary Medicine, P. Pierson

The pathology of puppies that are less than two weeks old makes it difficult to make an accurate diagnosis of symptoms, which are often very similar, regardless of the cause.

Bacterial Diseases

Most bacterial diseases in newborn puppies are due to germs from their surrounding environment. The priority for the prevention of all these diseases is to maintain strict hygiene in the whelping box. Statistics show that nearly 15% of newborn puppies die before they are 15 days old – one half after difficult whelping and poor resuscitation, and the other half from infectious diseases.

Neonatal septicemia may affect entire litters, where there is bacteria present in the maternity area or, most often, where the mother is harboring microbes in her vagina, which means that puppies are infected at birth. Certain bacteria present in the mother's genital tract (such as mycoplasmas) may be devastating. Within a matter of days, newborn puppies may become ill and often start to cry incessantly refusing to suckle. Treatment with antibiotics must be started as soon as possible, although this does not necessarily prevent a fatal outcome.

There may also be more localized bacterial infections. A poorly disinfected umbilical cord may become infected and then hyperemic during the days that follow birth – this is known as omphalitis.



One reason for death of a newborn puppy is often malnutrition when the fetus is developing while still in the uterus. Ensuring the Mother dog's nutritional needs are met is critical to proper fetal development & growth.

This condition can degenerate into peritonitis (abdominal infection) and should never be taken lightly. The veterinarian will need to administer antibiotics inside the peritoneum. Proper care and attention paid to umbilical cords – such as thorough disinfection and regular monitoring – are very effective in preventing this condition.

When the mother has a mouth infection (stomatitis) or tartar on her teeth, or when puppies are coated with small pieces of dried and cross-infected placenta, varying levels of purulent scabs may appear on their

bodies (neonatal pyoderma). Puppies must then be washed with an antiseptic shampoo, and sometimes kept apart from their mother.

Before the eyes open at 15 days old, neonatal ophthalmia can cause the eyeball to swell and pus to appear when pressure is applied. The veterinarian should act quickly in opening the palpebral aperture and cleaning the eye with an ophthalmic solution, otherwise puppies may become blind.



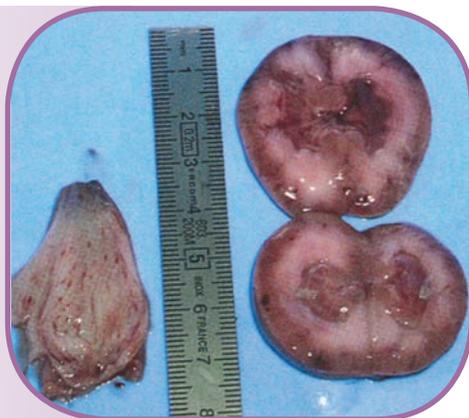
Neonatal ophthalmia, often associated with inadequate hygiene when handling puppies, takes the form of swollen eye-lids and a discharge of pus.

Viral Diseases

The best-known neonatal viral disease is canine herpes virus. This disease is virtually symptomless in adults, which may sometimes show signs in the genital system (infertility, warts on genital mucous membranes) or the respiratory tract (coughing, catarrh). Puppies are infected in the uterus, at birth or immediately after, and the incubation period is from 4 to 6 days.

Symptoms are not easily attributable – digestive disorders (bloat, diarrhea), nervous disorders (convulsions), strident crying. Sometimes, to the contrary, puppies will fade away without manifesting any other symptoms. Autopsy is then the only way of confirming the suspicion of this disease.

Herpes virus causes kidney lesions that are recognizable on autopsy.



Congenital Malformations

Depending on the breed, between 1 and 15% of newborn puppies have potentially fatal disorders. If such problems are internal (heart defect, for instance), they can only be detected after death, under autopsy. Others are more readily visible, such as hydrocephalus, cleft palate, and imperforate anus (preventing the puppy from excreting its stools). The last two can sometimes be corrected with surgery.

Digestive Disorders

In practice, the diseases seen most frequently in puppies in the critical phase are coronavirus, parvovirus and leptospirosis. One of the many things these viral diseases have in common is the property of causing acute or chronic digestive disorders and diarrhea. Since the puppy is, at the same time, in a phase of dietary transition, breeders are often inclined to suspect the food. However, it is essential here to explore all hypotheses in order to avoid the same phenomenon repeating itself in future litters. Conversely, for acute diarrhea, often accompanied by damage to cells in the digestive tract, it is advisable not to give puppies anything orally until a medical opinion can be given, to prevent any risk of permanent sensitization to food.



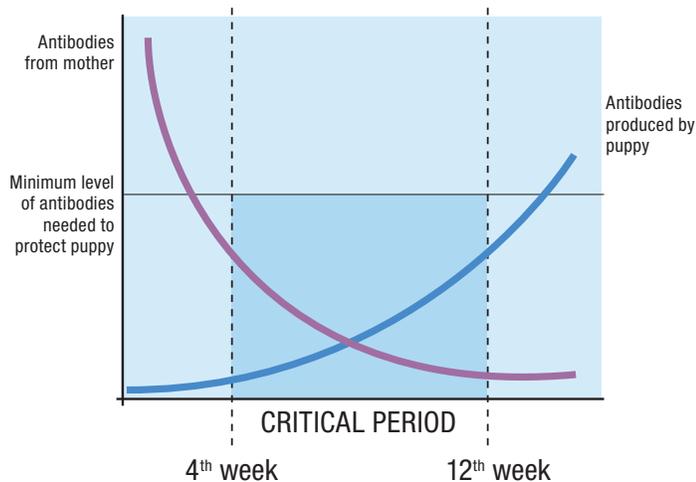
Diarrhea may cause the puppy's general condition to deteriorate very quickly.

Prevention

First and foremost is the prevention of disease, but there is no specific treatment for viral diseases associated with weaning. The best that can be done is to resort to symptomatic treatment to support the puppy, such as dressings, antidiarrheal, and maybe perfusions.



In the case of parvovirus, it is the vaccination protocol that needs to be adapted to the kennel's situation. There is no ideal solution, since it depends on each group's specific situation as to whether it is best to apply so-called 'conventional' protocols in a healthy environment, or protocols for infected sites.



During the critical period, puppies are no longer protected by antibodies from the mother and many develop diseases against which the mother has been vaccinated.

No matter what the scenario vigilance in hygiene measures is critical. Placing pregnant females in the maternity area must be done at least 15 days prior to whelping, and they must also be cleaned and groomed before being put into the dedicated area. Parasites, can exist in their hair for relatively long periods, so there is a risk of contaminating puppies several weeks later. There are many ways of disinfecting the surroundings. It should be noted that parvovirus is often resistant to acid disinfectants. Chlorine bleach is effective, but only when used on clean surfaces, since it is inactivated in the presence of organic matter. ■



The Dr. Is In

There is no universal solution for diseases associated with weaning. In order to protect puppies adequately, the first imperative is to maintain a clean and suitable environment – first by cleaning, then regularly disinfecting the premises. Vaccination protocols need to be adapted to the kennel, in line with its case history. In the case of diarrhea or puppy mortality, it will always be necessary to identify the cause, and in particular to take samples for diagnostic purposes (viral swabs, autopsy in case of death), without jumping to conclusions. Finally, the affected litter must be kept away from other puppies, so as to limit the spread of the disease in the kennel before identification of the true cause.

Alain Fontbonne, DVM, MSc, dipl. ECAR,
Paris, France

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