

Most Common Bacteria That Cause Death In Neonate Canines

There are many types of bacterial infections that can occur in the neonate pup, but the most common types that have occurred in autopsied neonate canines less than 4 weeks of age are several of the Staphylococci species especially *Staphylococcus aureus*, *Escherichia coli*. As well as beta-hemolytic Streptococci, especially species *Streptococcus Canis* being the most prevalent of the Streptococci, but also *Streptococcus agalactiae* or *equi*, subspecies *zooepidemicus*. These species can often be identified as 'normal' flora of an adult canines urogenital tract and is often the site of infection during birth, especial attention should be given to puppies born already out of the embryonic sac, as these puppies will have the most direct contact with the mothers reproductive tract. In the adult canine small amounts of these bacteria is kept under control with the natural balance of good and bad gut bacteria and often poses no outward symptoms. The neonate pup is a different story because of its underdeveloped immune system, immature good gut bacteria, and lower body temperature, which allows opportunistic infections from these common bacteria.

What is an opportunistic infection you ask, it is when a body undergoes a stressful condition, lowering natural immunities, and allowing, usually several overgrowths of bacteria that is normally kept in check by the body. This combined effort of several lesser infections causes a domino effect that continues to lower the bodies immune and defenses as more and more bacteria overgrow. Causes of the initial stressors can be birth, a dirty environment which would have an excessive amount of feces, allowing for greater infection rates. A puppy becoming chilled, or not receiving enough antibodies from the mother, or even just a large litter can stress out puppies by having the constant stress of having to compete for a limited food, and the constant movement that a larger litter entails, so individual rest per puppy is down, as well as the mess per pup often being up and this will often result in the smaller pups becoming weaker due to minor bacterial opportunistic infections.

Now lets look a little closer at a few of these bacterial infections. *Staphylococcus aureus*, a gram positive round bacterium, that is a type of normal body flora frequently found in the nose, respiratory tract, and skin and in overgrowth it is a major cause of most skin infections. These can include pimples, impetigo, boils, cellulitis, folliculitis, carbuncles, scalded skin syndrome, and abscesses, to life-threatening diseases such as pneumonia, meningitis, osteomyelitis, endocarditis, toxic shock syndrome, blood stream infections, bone or joint infections, bacteremia, and sepsis. Transmission of *Staphylococcus* is mainly through touching of contaminated surfaces, like during the birth process or through afterbirth contaminating bedding.

Escherichia coli, however is a gram negative bacteria, read harder to kill with fewer broad range antibodies. It is rod shaped and many harmless strains are commonly found in the lower intestines of warm blooded organisms, and are actually beneficial to the host by providing vital K2 as their waste, but some strains can cause serious food poisoning due to food contamination and this is often the case for dog food recalls that have led to the death of puppies and adults generally through intense diarrhea that kills through dehydration. *E. coli* is shed in the fecal material and reproduced rapidly for three days before numbers start to decline outside of the host, during this time contamination of the environment happens which can lead to multiple outbreaks in the area. As with most bacteria incubation time from infection time is 3-4 days but can be as little as one day and as long as 10 days.

References

Neonatal Mortality in Puppies Due to Bacteremia by *Streptococcus dysgalactiae* subsp. *dysgalactiae*

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<http://jcm.asm.org/content/44/2/666.full>

Staphylococcus aureus

From Wikipedia, the free encyclopedia

https://en.wikipedia.org/wiki/Staphylococcus_aureus

Causes and Symptoms of *Staphylococcus aureus*

Minnesota Department of Health Fact Sheet

Revised February, 2010

Download a print version of this document: [Staphylococcus aureus Fact Sheet \(PDF: 35KB/1 page\)](#)

<http://www.health.state.mn.us/divs/idepc/diseases/staph/basics.html>

Escherichia coli

From Wikipedia, the free encyclopedia

https://en.wikipedia.org/wiki/Escherichia_coli