

Trapped Neutrophil Syndrome

TNS stands for Trapped Neutrophil Syndrome. It is an immune deficiency in Border collies. It is an inherited disorder that is very common in all populations of Border collies with more than 10% of both working and show dogs carrying the defective gene and capable of having affected puppies.

- TNS is a condition where the bone marrow produces neutrophils but they are not released into the bloodstream. This results in an impaired immune system that cannot fight infections.
- Symptoms are variable, many of the reported TNS puppies have been born looking normal but others have been born small.
- Some puppies with TNS have been small and fine boned with narrow heads at some point but this may not be evident until approx 16 weeks.
- A common first sign is a bad reaction to vaccinations with signs of fever.
- Blood tests may show an abnormally low segmented neutrophil level but TNS can only be definitely diagnosed by bone marrow biopsy.
- Any puppy that shows any signs of infection or failure to thrive is a possible case of TNS.
- There is no cure for TNS and it appears to always be fatal eventually. Antibiotic and steroid treatment can help affected dogs live a relatively active life.
- TNS is an autosomal recessive condition.
- The symptoms are extremely variable and will depend on the bacteria that the pup encounters. There may also be other genes that effect the disease expression.
- Some dogs do not show symptoms until later in life. Older puppies & young adult dogs diagnosed with immune system problems may have TNS so they should also be tested with the DNA test

There is no evidence that carriers of the TNS defect have increased immune problems.