

## FACT SHEET - Von Willebrand Disease (vWD)

**Affected Breeds:** Dobermann – Type I (70%)  
Manchester Terrier (35%)  
Welsh Corgi Pembroke – Type I (7%)  
Airedale - Type I  
Poodle– Type I (36%)  
Scottish Terrier– Type III (27%)  
Shetland Sheepdog– Type III (10%)  
German Short-Haired Pointers – Type II  
Greyhounds  
Basset Hound

The blood-clotting disorder **Von Willebrand Disease (vWD)** was first identified in humans in the 1920s by Finnish doctor Dr. E. A. von Willebrand. It is a haemophilia-like disease, typified by the reduced quantity or absence of a certain clotting factor – the von Willebrand factor (vWf) - in the plasma. The factor is a glycoprotein and is necessary for the normal platelet function of blood clotting. Platelets are components of blood that assist with clotting; vWD does not lower the amount of platelets, but does change their constitution. Research has shown that 12 blood clotting ‘factors’ exist - vWD affects levels of Factor VIII.

vWD is unlikely to cause death, with most forms of the disease mild or in many cases difficult to detect. However, in some cases and particular breeds (eg. Scottish Terriers) Type III vWD cases can be life threatening or severe.

There are two forms of vWD – Inherited and Acquired. Inherited vWD (autosomal recessive) is the most common form of vWD in dogs and is divided into three types:

*Type I:* Probably the most common as it is found in most breeds of dogs and inherited as an autosomal dominant trait. Bleeding disorders are due to reduced levels of vWf and is generally less severe than the other two types.

*Type II:* Low concentration of abnormal vWf. Also inherited as a dominant trait and is the rarest of the three.

*Type III:* The complete absence of vWf in affected dogs, thus the most severe of the three. Inherited as an autosomal recessive trait. Any episodes of bleeding usually require transfusions of blood or supply of the missing vWf.

A Direct Marker (gene) Test allows an accurate assessment of the disease and is 100% accurate. Unlike the Indirect Marker Test, the direct test does not require pedigree information as it can be used to diagnose an individual dog. Research has shown that carrier or affected dogs can show variable levels of vWf expression, therefore some affected dogs may bleed severely while other affected dogs may show very little bleeding.

*It should be noted that vWD is not a death sentence for dogs, in fact many dogs with the disease can live quite normal lives and show no complications e.g. carriers of the recessive form who do not have the disease. With careful mating strategies and genetic screening, the breeder can begin to bring the percentage of carriers or affected in their pedigree down and make an impact on the levels seen in breeds.*