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## Merle & Health

Dogs that have two copies of the merle version of a gene called Silv, "double merles", virtually always have abnormally developed eyes which frequently are blind. Normal merles, those with only one copy, will not have these defects.

Double merles may also be deaf due to lack of pigment in the inner ear. White markings on or around the ears are associated with this form of deafness and the same mechanism causes deafness in double merles but with a different genetic base.

Areas of white marking, pronounced in many double merles including most of those among Australian Shepherds, typically cover pink skin. If the skin is exposed (eye rims, lips, nose) or sparsely covered with hair (sometimes the top and end of the muzzle) there is risk of UV sun damage if the dog spends a lot of time in intense sunlight.

While there are suggestions in scientific papers dating back several decades that double merles are more prone to a variety of health issues other than those mentioned above, most particularly heart and digestive issues, this appears to be inaccurate. The diseases observed in those long-ago studies may have been an artifact of the particular group of dogs studied rather than the fact they were double merles.

Some people refer to double merles as "lethal whites." This also is inaccurate. Lethal genetic conditions typically kill the individual before it reaches an age at which it can reproduce. This clearly is not the case with double merles. That said, these dogs do have serious disabilities. They should not be bred and it is advisable to avoid breedings between merles from which they arise.