

Musladin-Leuke Syndrome (previously Chinese Beagle Syndrome)

Those of you who follow International Beagle News may have heard of Chinese Beagle Syndrome or Musladin-Leuke Syndrome (MLS). The conditions are the same thing and MLS is the current correct name for this disorder. MLS is a genetic disorder, caused by a founder mutation (a gene mutation which has been dated to the foundation of the beagle population) which results in a beagle born with several defects characterised by short outer toes on the front and sometimes all four feet, high set creased ears on a flat skull with extra cartilage in them, slant narrowed eyes and very thick tight skin with little scruff. Such pups are small in stature with a very stiff gait BUT not all affected pups will show all these signs. The short toes make them walk like a ballerina on their middle toes. They have a very good gregarious temperament although many have been reported to develop seizures. There are some clear dogs that have conformational defects as above so we must be careful and not assume anything unless a dog has been DNA tested. Pictures and images are on the web site.

This condition was always assumed by breeders here not to be present in the UK BUT it is and we need to find out how widespread it is and over a sensible period of years try to eliminate it. Since the news broke there have been several people who feel they may have seen it and reports of beagles in packs having it so it likely as in other countries that we have had it unrecognised for some time. Since the UK beagle is based on packs it is possible the gene is present in many of the show beagles and may crop up at any time when two carrier parents are inadvertently mated together.

The disease has been described in detail in a scientific paper and this describes the distribution as being seen in England (we take that to mean Europe since it has been described personally), Australia, America and Japan and is unique to beagles. It is likely to have originated as a single mutation at the point the beagle was being developed and population spread around the world so probably the end of the nineteenth century. It is first described in the literature in the 1970's as being an incidence of 2-3% in the beagle population in Britain and Australia.

There are human diseases, which are similar called "Stiff skin syndrome" and also Geleophysic dysplasia both of which are rare inherited disorders. MLS sufferers have a thick inelastic skin, and thick fibrous muscles with little flexion even under anaesthesia. This leads to the stiff gait and also the hard inflexible abdominal wall. The facial features are produced as the bone is very dense and the ears and skin thickened pulling back the skin and hence the slanted eyes.

Further discussion of MLS can be found on the International web site www.salenko.co.uk/MLS. The only way to know which puppies are affected is to test, and there is a DNA test available from UC Davis in the USA. The gene causing the mutation is a recessive one so both parents need to be carriers to produce affected puppies. A recessive gene is one that is hidden (as opposed to a dominant gene which produces visible characteristics). For a discussion of genetics please see the web site.

Testing is simple and inexpensive so let's not pretend this is not here but test if possible.

The test has been developed in the USA when breeders spoke out and said they had the condition and got together with Dr Mark Neff to collect DNA and work out the hereditary pattern. We are fortunate that they spoke out and we can benefit from this.

A word of caution: we must not eliminate all carriers from our population at the outset of testing or we become too focused on the disease and forget other things. We can use this test as a tool and help us to only mate Clear dogs together or a Carrier with a Clear dog. This way affected puppies are not produced and we dilute the gene in the population. We run the risk of ruining the beagle in the UK if we do this too quickly. We must use the test over time to ensure we do not mate Carriers together and to help us make decisions about which puppies to keep in the future. Pups may be tested before they are sold as the only criteria is not to have eaten or drunk for 60 minutes before the swabs are taken.

