

## **Complex Vertebral Malformation (CVM)**

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Complex Vertebral Malformation (CVM) is a Holstein genetic defect that causes aborted fetuses and stillborn calves. Affected calves are often stillborn, typically 1-2 weeks prior to the expected calving date, however, many fetuses are also aborted earlier in the gestation period. The most noticeable defects are malformed legs with flexed and rigid pasterns. A shortened neck may also be noticed. Because the physical defects are so subtle, many affected calves and fetuses go unrecognized. Definitive diagnosis of CVM usually requires a necropsy or autopsy to detect abnormal curvature of the spine, fused vertebrae and fused or missing ribs. Vertebral abnormalities vary from severe to subtle and may require radiographic studies or careful dissection of the spine to be distinguished.

ImmGen, Inc., College Station, Texas can do CVM testing on blood, hair, semen or tissue specimens. Details on the test are available on their website at <http://www.immgen.com/Services/Traits/CVM.html>. In order to insure that ImmGen has all the information needed to provide an accurate interpretation of test results, each sample or specimen should be accompanied by a record of identification form prepared by the Holstein Association. Any questions or requests for testing material should be directed to the Holstein Association Quality Assurance Department at 800-952-5200.

A good source of additional information on CVM is on the NAAB website at <http://www.naab-css.org/education/aboutCVM.html>.