# EVALUATION OF A POINT-OF-CARE VISCOELASTIC COAGULATION MONITOR (VCM-VET) WITH PRELIMINARY ESTABLISHMENT OF HEALTHY ADULT HORSE REFERENCE INTERVALS

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Introduction:

Viscoelastic coagulation testing is used to assess hemostasis, primarily in research and teaching institutions. A novel, portable, Viscoelastic Coagulation Monitor (VCM-Vet) was developed as a user-friendly, chemistry-free, real-time hemostasis assessment device and adapted for veterinary use. Whole blood is loaded into single-use cassettes between 2 glass capillary plates initiating coagulation, minimizing technical variability of traditional viscoelastic techniques. The VCM-Vet plates move in relation to each other and numeric metrics clotting time (CT), clot formation time (CFT), alpha angle (AA), A10, A20, maximal clot firmness (MCF), LI30, and LI45 are reported. Objectives were to assess variability between VCM-Vet devices testing blood collected from sick and healthy horses and determine reference intervals for healthy adult horses.

Methods:

Blood collected by direct jugular venipuncture from university-owned horses and abnormal clinical patients was applied directly from the syringe into 2 VCM-Vet cassettes to determine coefficients of variation (CV)(N=102) for reported metrics. Healthy adult horses were used for reference range determination (N=48) at two different institutions (University of Illinois [N=21] and University of California-Davis [N=27]). Statistical analysis was performed with commercially available software.

Results:

CVs for each parameter were within clinical tolerance, although generally lower for tests ran at Illinois versus California. Healthy horse reference intervals were determined both for individual institution and combined, with differences attributed to blood collection method.

Conclusions:

VCM-Vet is a user-friendly, reliable option for rapid assessment of hemostasis in horses. Technical variations in syringe and needle size result in large reference intervals for CT and CFT, supporting establishment of standardized blood collection protocols.