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To: Clients of the Animal Health Diagnostic Center (AHDC)

Subject: Testing Service Update

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*Please share this information with your practice manager and professional staff*

## Result interpretations for Clinical Pathology's chemistry analyzer

On December 1st, 2008 the Clinical Pathology laboratory went live with our new chemistry analyzer, the Hitachi Modular P. Since we have not yet completed establishing reference intervals for all species on this new analyzer (with the exception of alpacas), we will be using our old intervals for the next few months. Based on correlations done in the laboratory between the new and old Hitachi analyzers (which use the same reagents and procedures), we found the following differences which may impact result interpretation:

**Magnesium:** Due to a change in calibrator, values may be slightly higher on the new analyzer (average increase of +0.1 mg/dL) in all species.

**Calcium:** Values may be slightly lower on the new analyzer. This depends on the species (average decrease of -0.3 mg/dl in the cow and horse, -0.1 mg/dl in the cat, 0 bias in the dog).

**Total and indirect bilirubin:** Values are lower on the new analyzer when total bilirubin is > 2 mg/dL. This may affect the upper limit of the reference interval in horses only, but the bias was evident in dogs and cats as well. The average bias in the horse was -0.2 mg/dL.

**Fructosamine:** Values may be slightly lower with the new analyzer in the dog (average decrease of -13 mg/dL) and cat (average decrease of -3 mg/dL).

**AST:** In the horse, values may be slightly lower with the new analyzer (average decrease of -8 U/L).

**Cholinesterase:** Values are lower in the cat (average decrease of -86 U/L) and bovine (average decrease of -13 U/L), but slightly higher in the dog and horse with the new analyzer.

### Other common differences we have found are:

- ALP trends lower at higher concentrations in all species. This is particularly apparent at ALP concentrations > 150-200 U/L.
- GGT trends lower at higher concentrations, particularly at values > 40 U/L.
- Triglycerides trend lower at higher concentrations, particularly values > 100-200 mg/dL.