**Interpretive Comment**

**PTH 1-84 CANINE CALCEMIA PANEL** is a diagnostic tool to assist in the workup of hyper and hypo calcemia and includes PTH 1-84 which measures the complete PTH peptide sequence and is unaffected by PTH fragments; a particular problem in renal disease. To maintain calcium homeostasis, PTH and VitD work in concert to increase or decrease calcium absorption and/or resorption. PTH and VitD are inversely related; as VitD increases, PTH decreases.

**Calcium vs. PTH**
- **Normal**: Population based reference interval. The darker shaded area represents where the majority of healthy dogs should plot.
- **Hyperparathyroidism**: This area reflects PTH-independent hypercalcemia for which malignant neoplasia is often suspect. Other conditions includes certain granulomatous diseases, Addison's disease, hyperthyroidism and vitamin D intoxication.
- **Primary (1) Hyperparathyroidism**: This area reflects PTH-dependent hypercalcemia and due to an over-production of PTH - typically caused by a benign or malignant parathyroid tumor and in some instances 25(OH)D deficiency.
- **Secondary (2) Hyperparathyroidism**: This area reflects PTH-independent normo/hypocalcemia. Conditions causing secondary hyperparathyroidism includes 25(OH)D deficiency and kidney disease.
- **Hypoparathyroidism**: This area reflects PTH-dependent hypocalcemia and caused by insufficient amounts of PTH. Causes include damage to the parathyroid gland (trauma, chemo drugs, infection) and in certain autoimmune disorders.

**VitD vs. PTH**
- **Vitamin D** vs. **Parathyroid Hormone (PTH)** shows a normal inverse relationship between vitamin D and PTH; the shaded area represents the 95% confidence interval. The normal range of PTH tightens as vitamin D sufficiency is attained. The two graphs are useful in diagnostic workup. **Call VDI for consultation.**

**Interpretive comments are general in nature and in absence of detailed knowledge of patient status or treatment. For more information on specific cases, please contact VDI.**