

# Measurement of Glucose Concentration by Use of a Wireless Continuous Glucose Monitoring System in Healthy Dogs

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**Purpose:** Blood glucose curves in the management for diabetic patients have several limitations including intermittent assessment of blood glucose concentration, hospitalization, patient restraint, and repeated phlebotomy. The aim of this study was to apply and evaluate the wireless continuous glucose monitoring system (CGMS) using healthy dogs.

**Materials and Methods:** Subcutaneous interstitial glucose concentrations were continuously monitored and recorded by use of a wireless CGMS in 7 dogs. During induced hyperglycemia, the interstitial glucose concentrations were compared with whole blood glucose concentrations measured using a glucometer and serum glucose concentrations measured using an automated chemistry analyzer, respectively.

**Results:** There were no significant differences between interstitial glucose concentrations, whole blood glucose concentrations and serum glucose concentrations. The interstitial glucose concentrations had a good correlation to serum glucose concentrations.

**Conclusion:** The wireless CGMS is a valuable tool for glucose concentration monitoring in dogs. Use of the CGMS for diabetic patients will provide accurate information over traditional blood glucose curves.

**Key words:** continuous glucose monitoring system, diabetes mellitus, dog

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