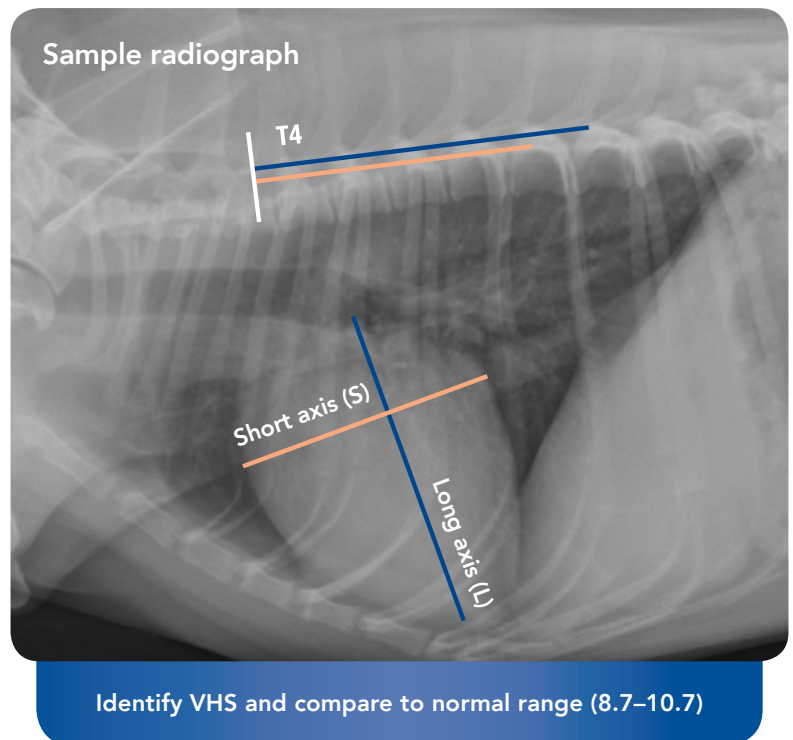# CALCULATE YOUR PATIENT'S VERTEBRAL HEART SCORE (VHS)[1]

FOLLOW THESE STEP-BY-STEP INSTRUCTIONS

1 Using a lateral thoracic radiograph, ensure the thoracic vertebrae T4 to T12 are clearly delineated.

2 Using **calipers**, measure the longest axis of the cardiac silhouette from the carina of the mainstem bronchus to the apex (designated "L").

3 Transfer this long axis measurement to the vertebrae, starting at the cranial edge of T4, and count the number of vertebrae that fall within the caliper points.

4 Using **calipers**, measure the short axis at the widest part of the cardiac silhouette, perpendicular to the long axis measurement (designated "S").

5 Transfer this short axis measurement to the vertebrae, starting at the cranial edge of T4, and count the number of vertebrae that fall within the caliper points.

6 Sum the 2 measurements. **VHS = L + S**

Sample radiograph

T4

Short axis (S)

Long axis (L)

Identify VHS and compare to normal range (8.7–10.7)

SAMPLE VHS CALCULATIONS FROM RADIOGRAPH ABOVE

This example: **Long axis line = 5.2, Short axis line = 4.4**

VHS = L + S
   = 5.2 + 4.4
   = 9.6
   = in normal range

You can use VHS calculations to help identify dogs with advanced preclinical mitral valve disease.

Reference: 1. Buchanan JW, Bucheler J. Vertebral scale system to measure canine heart size in radiographs. *J Am Vet Med Assoc.* 1995;206(2):194–199.