

Pet:	
Owner:	
Referring Vet:	Appointment Date:

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ECG INTERPRETATION

Calibration: 1 mV = _____ mm (1 box = _____ mV) 1 sec = _____ mm (1 box = _____ sec)

Rate and Rhythm

Heart Rate: _____ per minute (Normal dog: Giant 60-140, Med-Lg 70-160, Toy 80-180, puppy 70-220)
(Normal cat: 100-240)

Normal Rhythm: Sinus rhythm Respiratory Sinus Arrhythmia

Tachycardia - Sinus tachycardia Supraventricular Tachycardia Ventricular Tachycardia

Re-entry rhythm

Bradycardia - Sinus bradycardia 2nd degree AV block (type I) 2nd degree AV block (type II)

3rd degree AV block

Variable heart rate - Sick Sinus Syndrome Atrial fibrillation Periods of asystole

Abnormal pacemaker: Idioventricular rhythm Other

Intermittent arrhythmia: Unifocal VPCs Multifocal VPCs Ventricular bigeminy Vtach bursts

Measurements (Lead II)

Normals

P wave: height _____ mV width _____ sec

Dog: <0.4 mV <0.04 sec

Cat: <0.2 mV <0.04 sec

PR interval: _____ sec

Dog: 0.06-0.13 sec

Cat: 0.05-0.09 sec

QRS:

QRS width _____ sec

R height _____ mV

S depth _____ mV

Dog <40lbs: <0.05 sec

Dog >40 lbs: <0.06 sec

All Dogs: <3.0 mV

All Dogs: <0.8 mV

Cat: <0.04 sec

Cat: <0.9 mV

Cat: <0.8 mV

QT interval: _____ sec

Dog: 0.15-0.25 sec

Cat: 0.07-0.24 sec

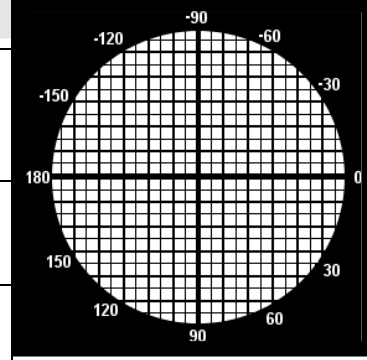
Mean Electrical Axis: (normal dog 40° to 100°) (normal cat 0° to 160°)

Estimate:

Calculate by Graph:

Isoelectric lead	MEA	Isoelectric lead	MEA
Lead I (+ in aVF) Lead I (-in aVF)	+90° -90°	Lead aVR (+ in III) Lead aVR (-in III)	+120° -60°
Lead II (+ in aVL) Lead II (- in aVL)	+150° -30°	Lead aVL (+ in II) Lead aVL (-in II)	+60° -120°
Lead III (+ in aVR) Lead III (- in aVR)	+30° -150°	Lead aVF (+ in I) Lead aVF (-in I)	0° ±180°

Lead I: (x axis)	High: _____ Low: _____ Net: _____
Lead aVF: (y axis)	High: _____ Low: _____ Net: _____
MEA	Vector:



Conclusions:

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ECG Key

Calibration: 1 mV = 10 mm (1 box = 1 mV)

1 sec = 25 mm (1 box = 0.04 sec)

1 sec = 50 mm (1 box = 0.02 sec)

Measurements

P wave:

Wide P wave, notched P wave – LA enlargement

Tall spiked P wave - RA enlargement, P pulmonale

Varying P wave – “wandering pacemaker,” increased vagal tone (heart failure not likely), chronic respiratory disease is one possible cause

Lack of P wave – atrial standstill

Dropped P waves – SA block (2nd degree)

PR interval:

Short PR interval – accessory pathway

Long PR interval – AV Block

Every P wave followed by a QRS – 1st degree AV block – cue to increased vagal tone

Some P waves not followed by a QRS – 2nd degree AV block

Mobitz Type 1 – PR progressively longer until a QRS is dropped

Mobitz type 2 – QRS randomly dropped

P waves and QRS complexes not related – each has its own rate (QRS slower) – 3rd degree AV block

QRS:

Wide QRS – bundle branch block, LV enlargement

Tall R – LV enlargement, Left Bundle Branch Block

ST segment:

Greater than 0.1 mV off baseline in cats and 0.2 mV in dogs – regional myocardial hypoxia, hypothermia, hypokalemia, digitalis toxicity

Mean Electrical Axis:

MEA <40 in the dog or <0 in the cat – Left Axis shift

HCM

Left Bundle Branch Block

MEA >100 in the dog or >160 in the cat – Right Axis Shift

RV enlargement

Right Bundle Branch Block

