



ECG Interpretation



The Flow

1st: Vena Cava

2nd: Right Atrium

3rd: Right Ventricle

4th: Pulmonary Artery

5th: Lungs

6th: Pulmonary Vein

7th: Left Atrium

8th: Left Ventricle

9th: Aorta

10th: The rest of the
body



HEART TERMINOLOGY



PRELOAD: Volume of blood left in the heart after contraction

AFTERLOAD: Resistance; How hard the ventricle is pushing to get blood out

SYSTOLIC: Contracting Phase

DIASTOLIC: Relaxation Phase



HEART TERMINOLOGY



P Wave: *Atrial* Depolarization

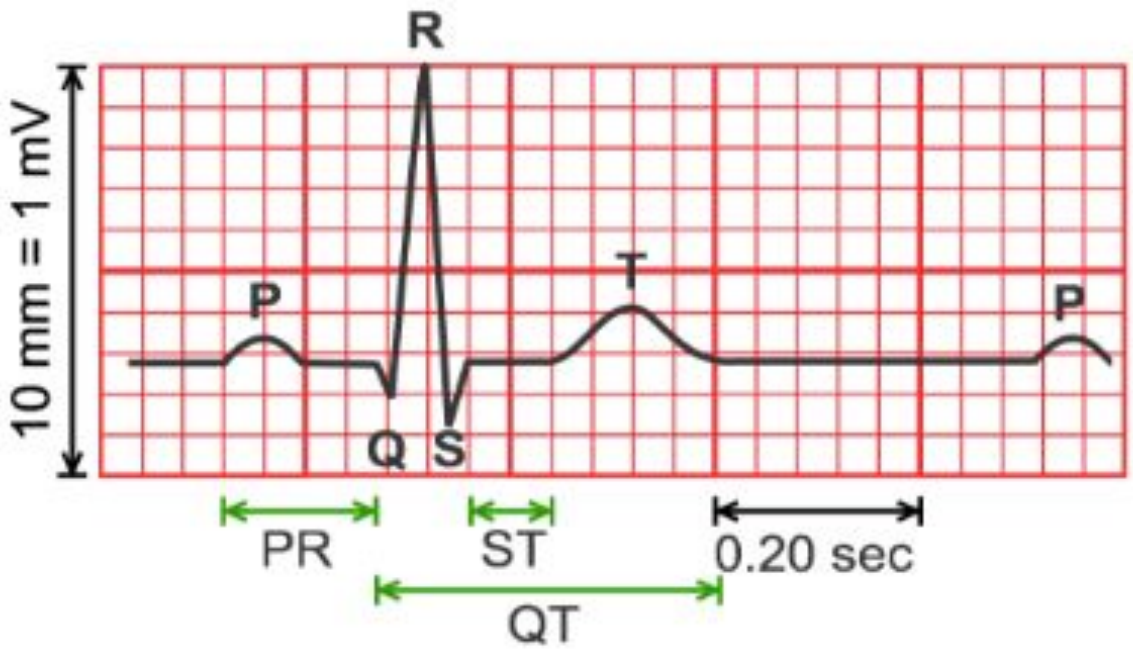
PR Segment: Time between *atrial* depolarization and ventricular depolarization

QRS Wave: *Ventricle* Depolarization

ST Segment: *Ventricle* Contraction

T Wave: *Ventricle* Repolarization





All Together





**NO ECG?
CHECK
PULSE
DEFICITS!**

HEART RATE

One hand on heart
listening with
stethoscope

FEMORAL PULSE

One hand on femoral
artery feeling for a pulse

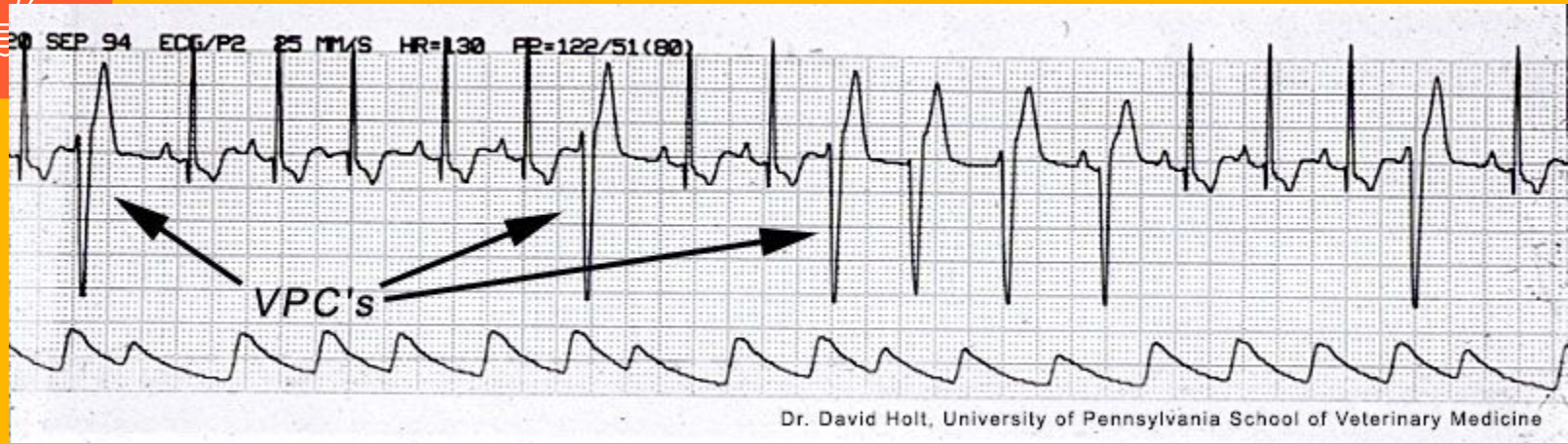
THEY SHOULD MATCH



QRS COMPLEXES

ATRIAL: *Tall & Skinny*

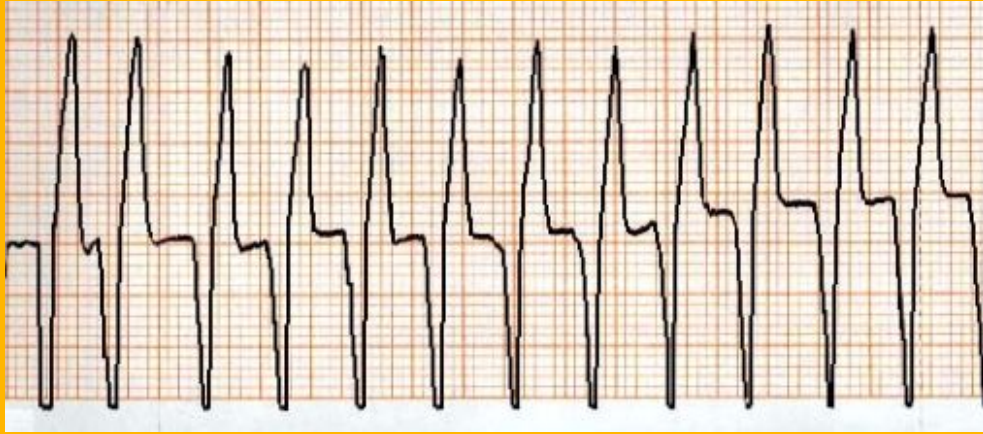
VENTRICULAR: *Fat & Wide*



Ventricular Premature Contractions (VPCS)

Large T Wave that goes in opposite direction of wide QRS.

Causes: Hypoxia, Pain, Trauma or Lyte Imbalance



VENTRICULAR TACHYCARDIA

VPCs with High Heart Rate >180 longer than 30 seconds

Heart never relaxes - no real pulse - no perfusion

Treatment: Tell DVM to start Lidocaine CRI



HYPERKALEMIA

Tall T waves because the increase in Potassium (K) hurts the heart

Treatment: Give Dextrose to open up cells to absorb K that is outside of the cells. Or Calcium Gluconate to protect heart.





VENTRICULAR FIBRILLATION

Too many circuits firing at once - FATAL

Undulation of baseline, Needs to be Shocked





ATRIAL FIBRILLATION

Poor Atrial Contractions - Regularly Irregular Rhythm

P Waves replaced by small fibrillations - High HR

Needs medications like quinidine or other heart meds



SUPRAVENTRICULAR TACHYCARDIA

Tall and Skinny QRS

Weak - Collapsed - Pale MM - HR >250



1st Degree Heart Block

PR Segment Longer than usual

Asymptomatic - Old and young Flat Faced Dogs

(English Bulldogs)



2nd Degree Heart Block

P Wave not always followed by a QRS

Atria is firing but electrical activity is blocked

(Seen in Anesthesia when Atropine is first introduced)



3rd Degree Heart Block

Most Dangerous of the Blocks, FATAL

P Waves not associated whatsoever with QRS

Additional P Waves - Needs a Pacemaker



Thanks!

Any questions?

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