A normal sinus rhythm on an electrocardiogram (ECG or EKG) represents the typical electrical activity of the heart. The ECG waveform consists of several components, each with its characteristic parameters:

1. \*\*P-Wave\*\*:

- Duration: Typically less than 0.12 seconds (120 milliseconds).

- Amplitude: Usually no more than 2.5 mm in height.

- Shape: Rounded and upright.

- Represents: Atrial depolarization (contraction).

2. \*\*QRS Complex\*\*:

- Duration: Typically less than 0.12 seconds (120 milliseconds).

- Amplitude: The Q and S waves are usually no more than 2.5 (3) mm in depth, and the R wave is typically greater than 5 mm in height.

- Shape: The QRS complex can vary in shape, but it's typically narrow and pointed.

- Represents: Ventricular depolarization (contraction). It's the most significant component of the ECG.

3. \*\*T-Wave\*\*:

- Duration: Usually less than 0.2 seconds (200 milliseconds).

- Amplitude: Normally less than 5 mm in height.

- Shape: It is typically rounded and follows the QRS complex.

- Represents: Ventricular repolarization (recovery).

4. \*\*PR Interval\*\*:

- Duration: Typically between 0.12 and 0.20 seconds (120 to 200 milliseconds).

- Represents: The time it takes for the electrical impulse to travel from the atria to the ventricles through the AV node.

5. \*\*QT Interval\*\*:

- Duration: The corrected QT interval (QTc) varies with heart rate but is typically less than 0.44 seconds (440 milliseconds) in adults. It can be calculated using different formulas, such as Bazett's formula (QTc = QT / √RR), Fridericia's formula, or other correction methods.

These parameters can vary slightly between individuals and may also change with age. It's important to note that deviations from these normal values or abnormal ECG waveforms can indicate various cardiac conditions and may require further evaluation by a healthcare professional. Additionally, the paper speed (usually 25 mm/s) and voltage calibration (usually 10 mm/mV) on the ECG machine can affect the visual representation of these parameters on the ECG tracing.

Ventricular tachycardia

**QRS** complex of VT equal or greater **than 0.10s duration** and greater than **30 mm** yung **r to r intervals**

r-r interval and QRS complex of MVT ay equal (parepareho lahat ng QRS ccomplex shape and duration)

Irregular r-r intervals at QRS complex ng PVT (magkakaiba ang **QRS** complex **or** mag kakaiba yung **r-r** intervals)

For atrial fibrillation

ang focus dapat ng system ay yung r to t intervals

p waves less than 1.2 mm in height and ang individual r to r intervals ay not equal.

Atrial fibrillation yung heart rate is less than 60 or above 100 (mostly 300-600 bpm). Kasi yung normal is 60-100. That means mas maraming qrs complex wave ang makikita or mas less sa normal

Irregular QRS complex either mas marami or mas konti and hindi same height ang QRS complex and narrow QRS complex.