Clinical Setting: 78 y F with history of a-fib, CHF, CAD presenting with sudden onset of generalized weakness and dyspnea.

HR - 180

BP - 90/53

RR - 16

SpO2 - 94%

Temp - 99 F

This is a case of **Bidirectional Ventricular Tachycardia**.

The rate is between 175-200 - the key is noting all QRS complexes. Look at lead V2 for the most accurate depiction of the rate. In some other leads, it is tempting to call the negatively deflected QRS a T wave.

There are no p waves. The QRS complexes are wide, and vary in axis. Lead II and V6 are probably the easiest to appreciate the 180-degree rotating axis.

This is consistent with Bidirectional V-Tach. This usually happens with digoxin (or other digitalis-containing compounds) toxicity. Digoxin leads to bidirectional V-Tach because of increasing intracellular calcium concentrations in the myocardium, causing increased automaticity (making the myocardium more sensitive and prone to ventricular arrhythmias), in combination with blocking the AV node. You also see increased PVC’s in more mild toxicity, “slow a-fib” is a common rhythm, and other AV blocks even up into complete heart block. A-fib with complete heart block would be very suspicious for digitalis toxicity.

Other symptoms - visual changes are the textbook answer - you see yellow-green reversals (some thought that caused changes in Van Gogh’s late works - he may have taken Foxglove-containing digitalis for seizures). You can also see GI symptoms and mental status changes.

There are other EKG’s that can be mistaken for bidirectional V-Tach.

1. This is a case of SVT with every other beat RBBB, making it appear bidirectional. [An Unusual Tachycardia](https://hqmeded-ecg.blogspot.com/2016/08/an-unusual-tachycardia.html)
2. Here is a case of SVT with alternating bundle branch blocks (RBBB then RBBB+LPFB, and repeat) - [A Bizarre EKG](https://hqmeded-ecg.blogspot.com/2017/03/altered-mental-status-seizure-extreme.html)