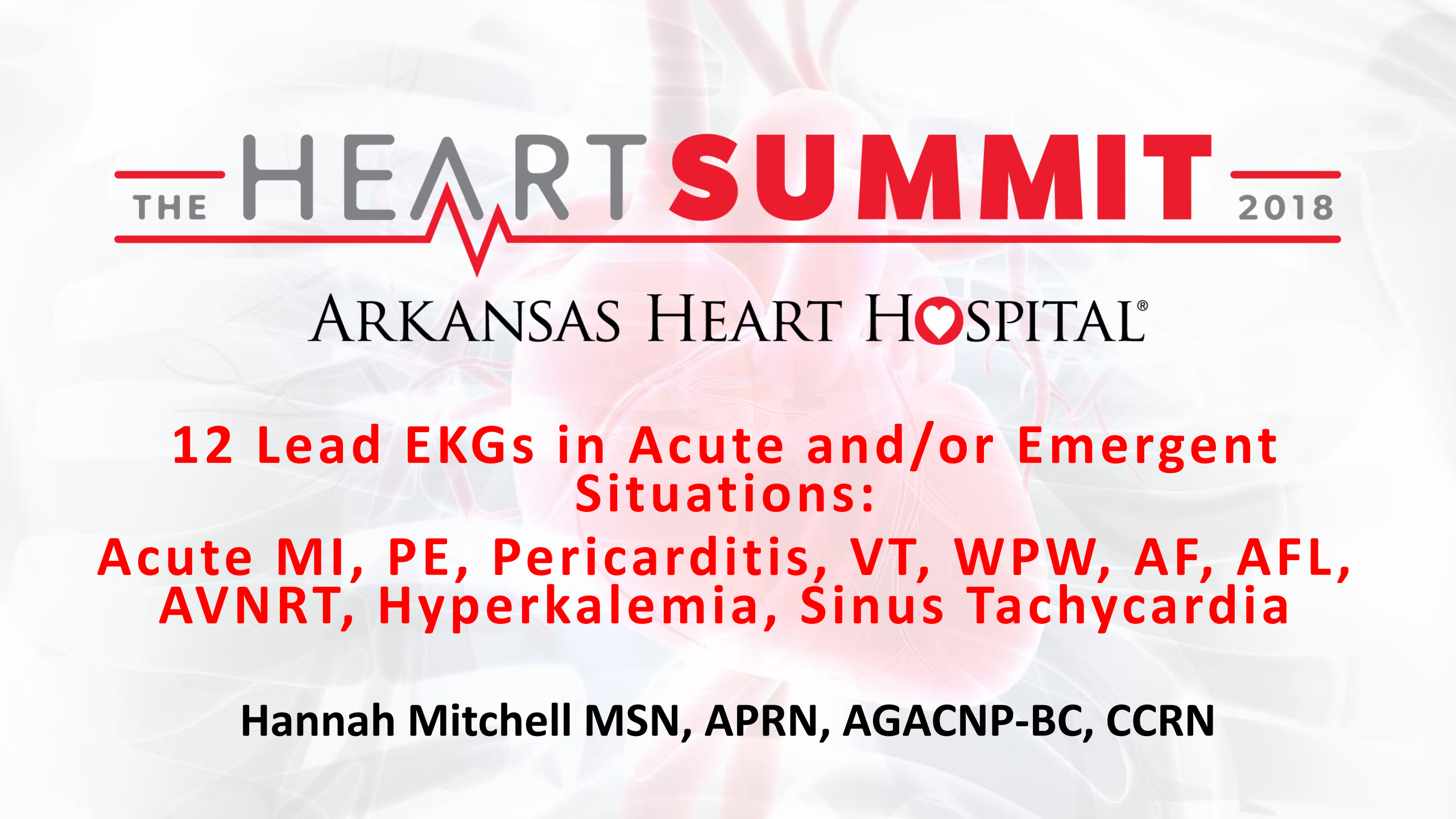


— THE HEART SUMMIT — 2018



ARKANSAS HEART HOSPITAL®

12 Lead EKGs in Acute and/or Emergent Situations:

Acute MI, PE, Pericarditis, VT, WPW, AF, AFL, AVNRT, Hyperkalemia, Sinus Tachycardia

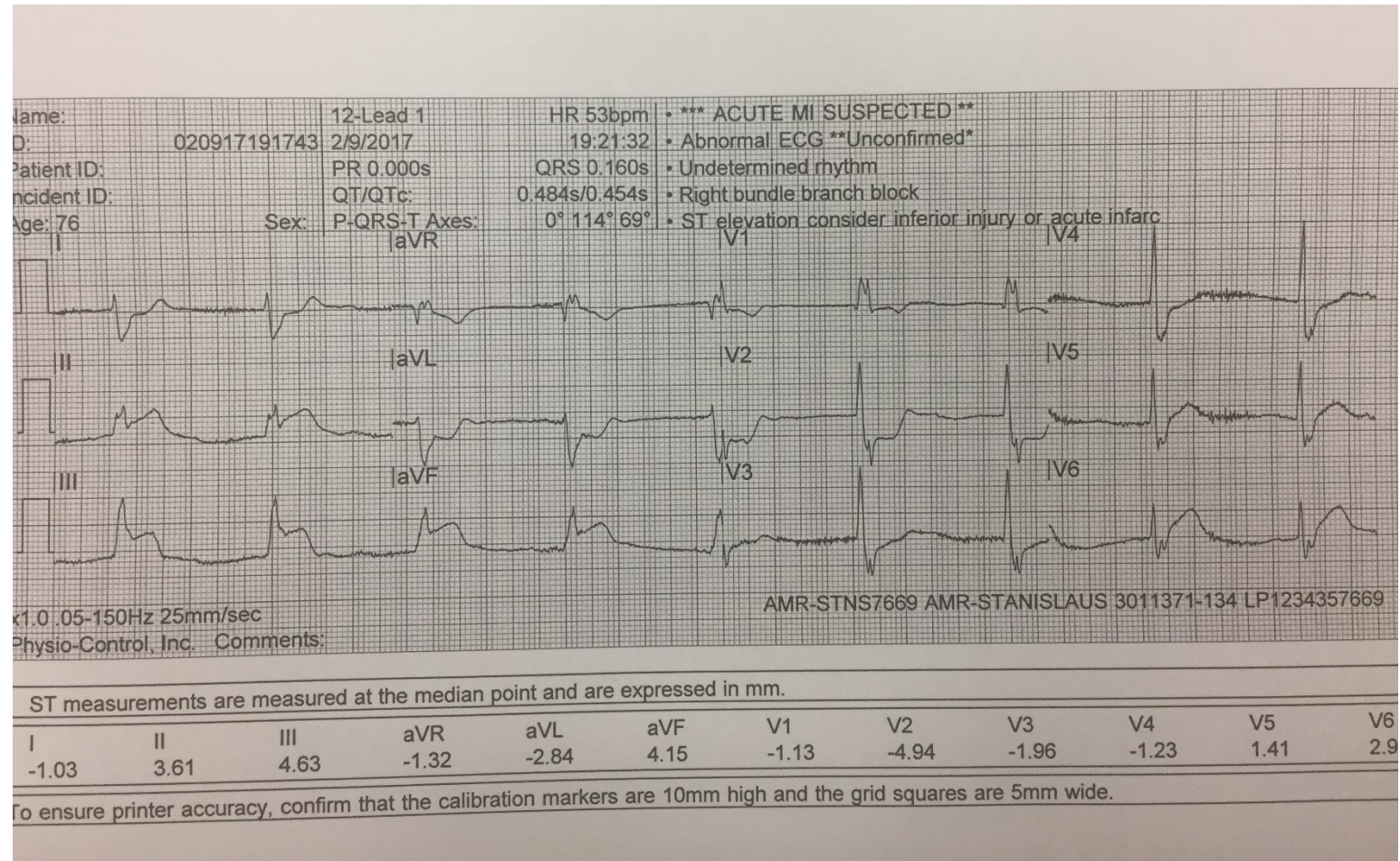
Hannah Mitchell MSN, APRN, AGACNP-BC, CCRN

Objectives

- Identify Acute and Emergent Arrhythmias
- Determine appropriate treatment options for specific arrhythmias
- Differentiate treatment options based on practice setting

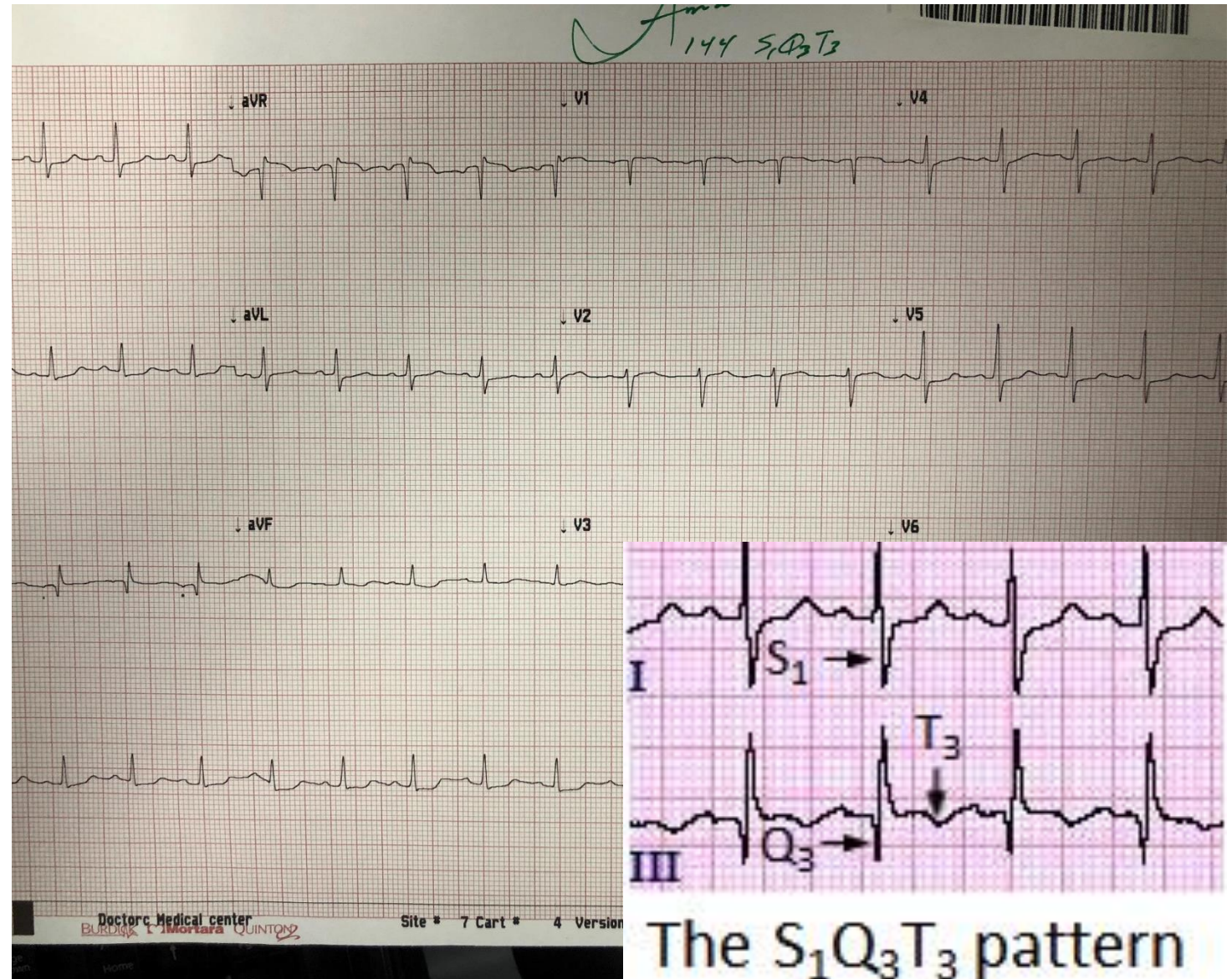
Acute ST-elevation Myocardial Infarction (STEMI)

- Emergent Situation
- Needs immediate intervention to improve coronary perfusion
- **ECG findings** – ST elevation
- Treatment
 - Percutaneous coronary intervention
 - Thrombolytics
 - Coronary bypass surgery
 - Dual anti-platelet therapy and statin



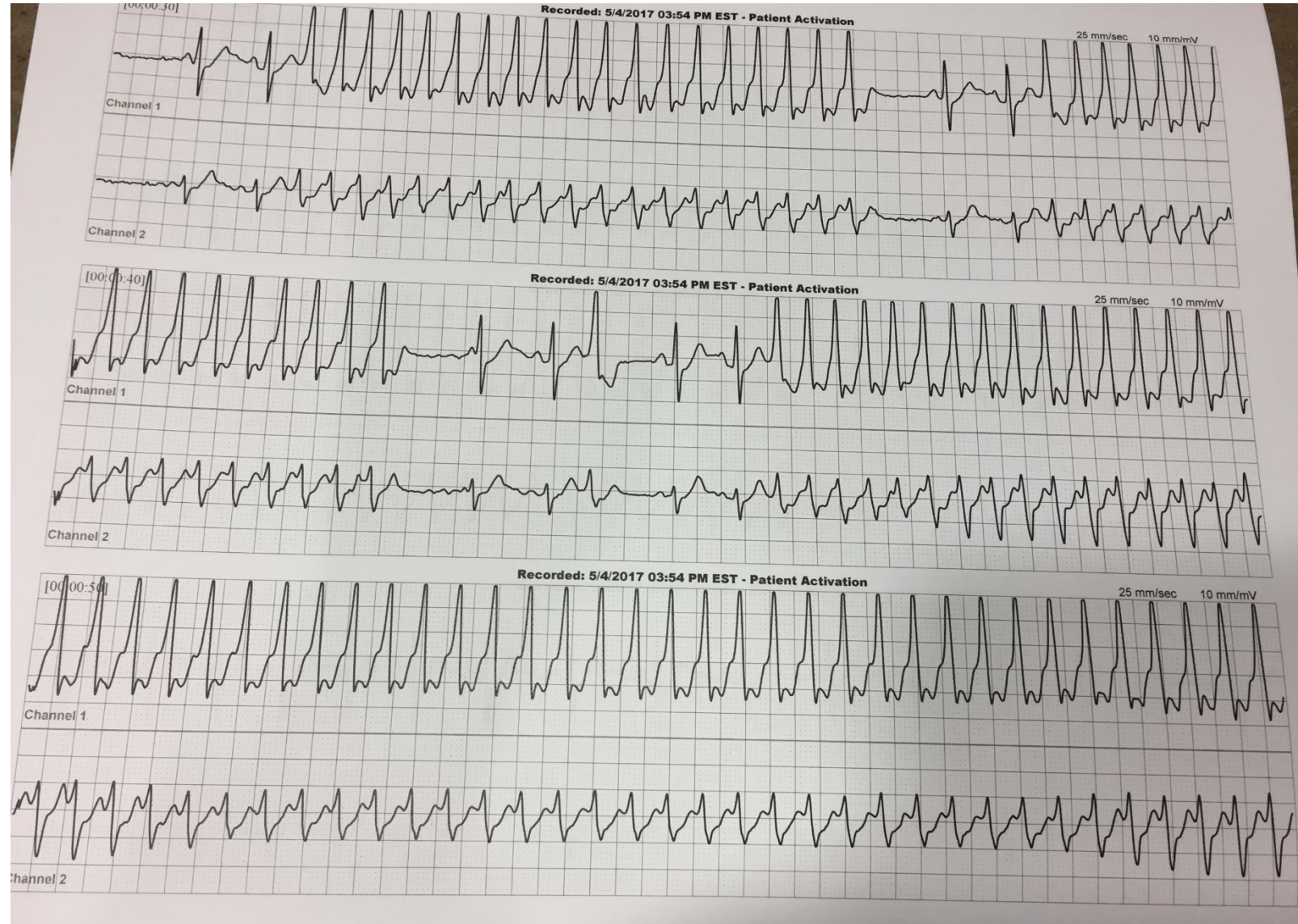
Pulmonary Embolism (PE)

- **ECG findings – S1Q3T3**
- **Diagnostics**
 - CT angiogram of chest (gold standard)
 - Echocardiogram
 - D-dimer
- **Treatment Options**
 - Thrombolytics
 - Anticoagulation
 - Embolectomy
 - Catheter-directed modalities



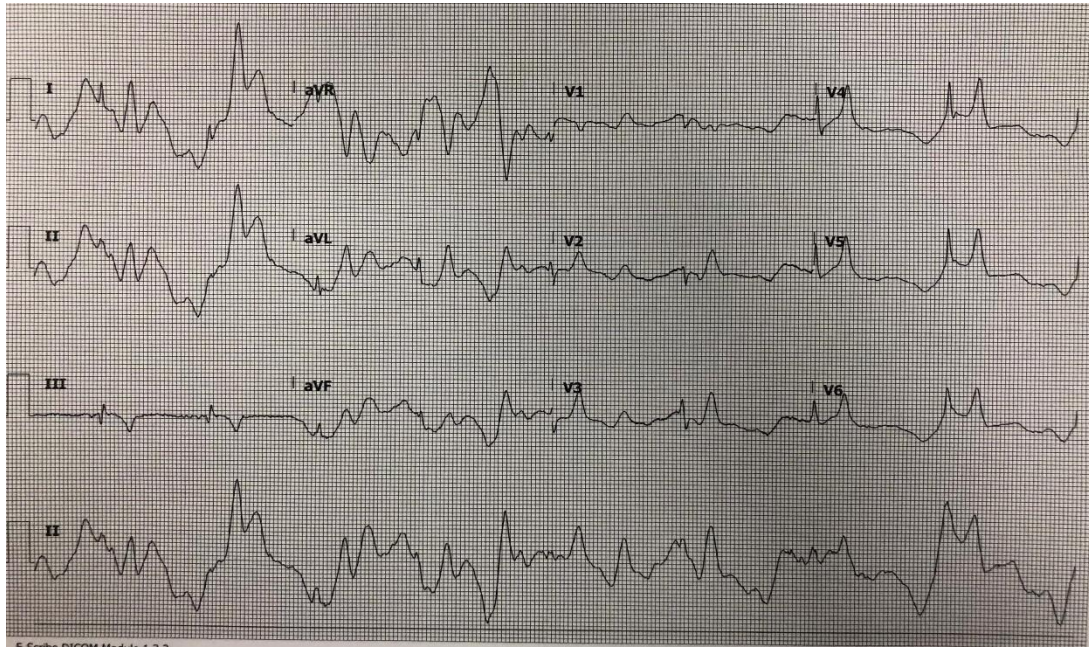
Ventricular Tachycardia (VT)

- **ECG findings** – wide, complex tachycardia
 - Nonsustained vs. Sustained
 - Monomorphic vs. Polymorphic
- **Determine the Cause**
 - Electrolyte imbalance
 - Ischemic Heart Disease
 - Systolic Heart Failure (LVEF <35%)
 - Prolonged QT interval
- **Treatment**
 - Immediate Antiarrhythmics – amiodarone, lidocaine, magnesium sulfate
 - Cardioversion
 - Long-term antiarrhythmics – amiodarone, sotalol, dofetilide
 - Ablation

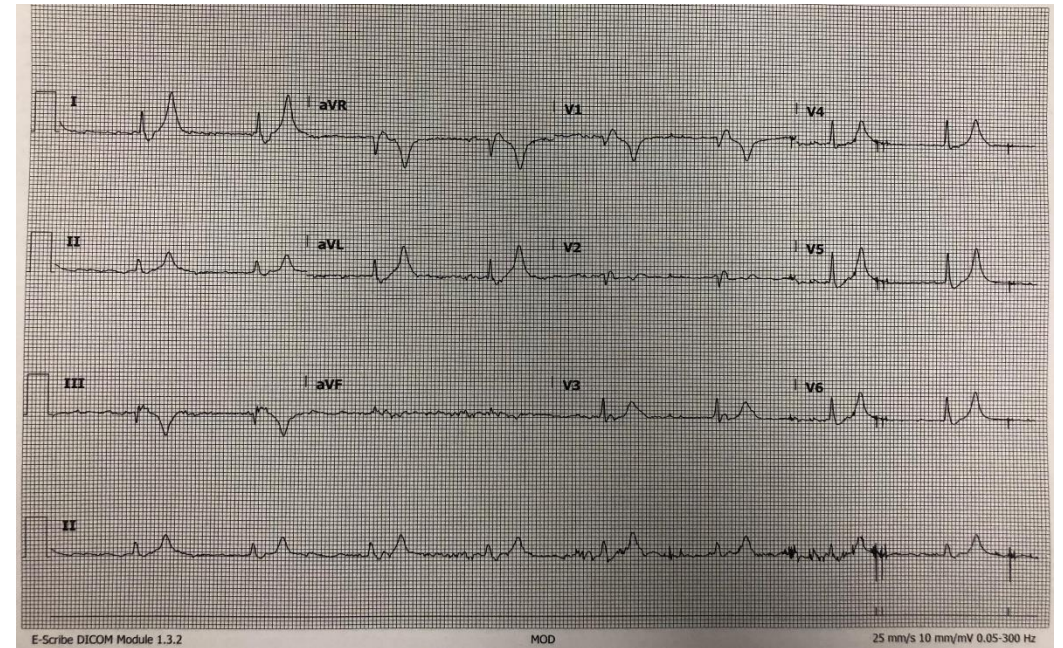


Hyperkalemia

- K 8.4

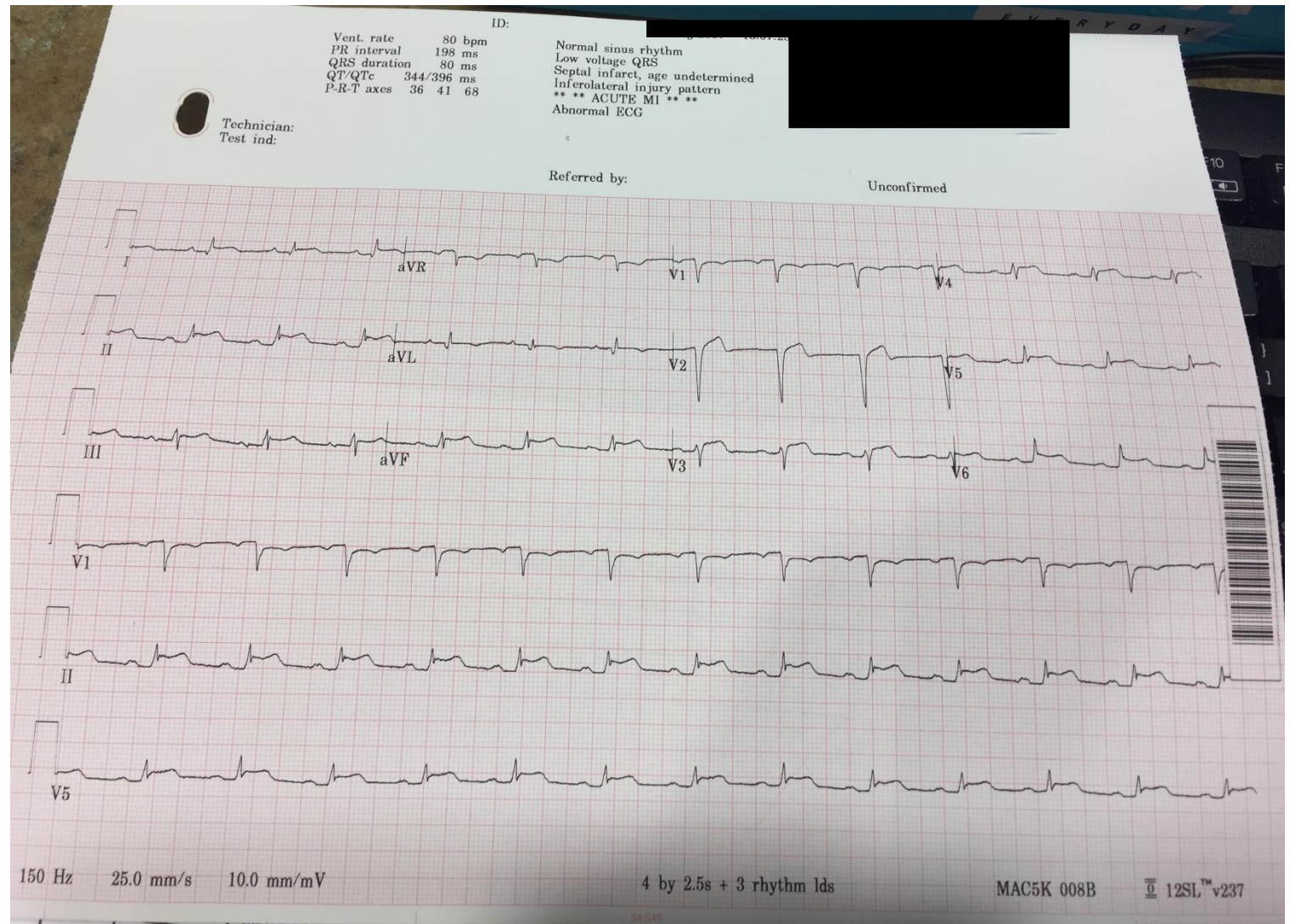


- K 5.8



Pericarditis

- **ECG findings** –
widespread ST elevation
- Treatment options
 - NSAIDs
 - Colchicine
 - Corticosteroids

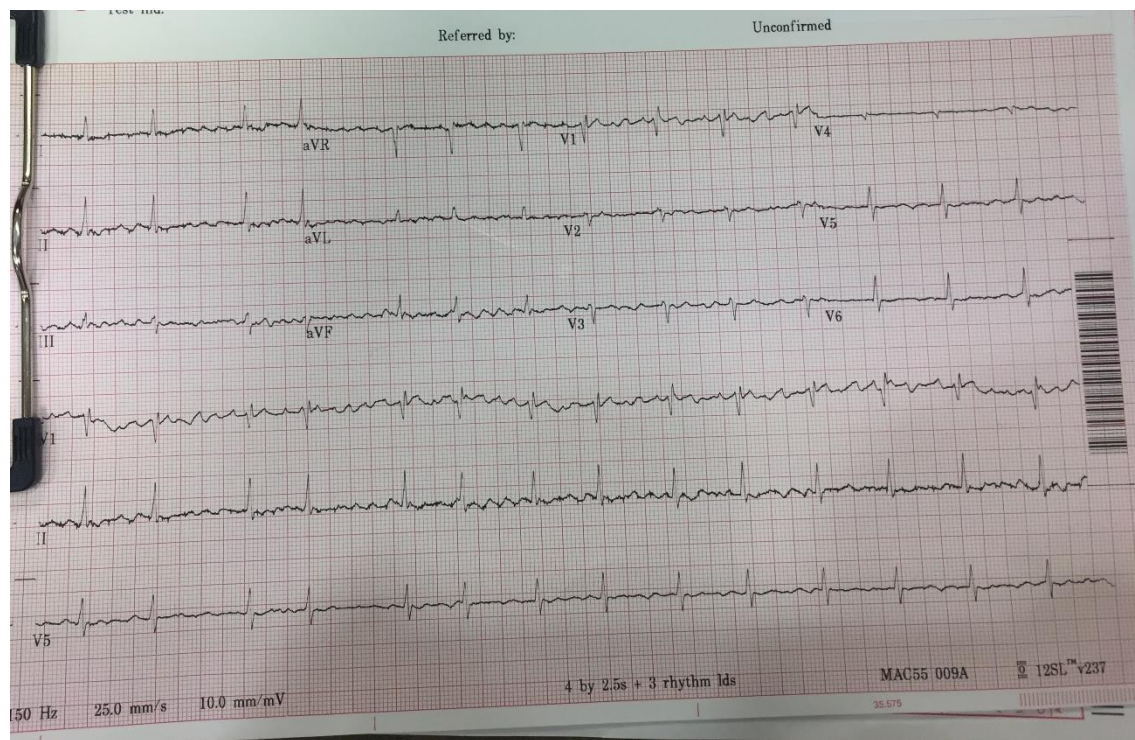


Supraventricular Tachycardia (SVT)

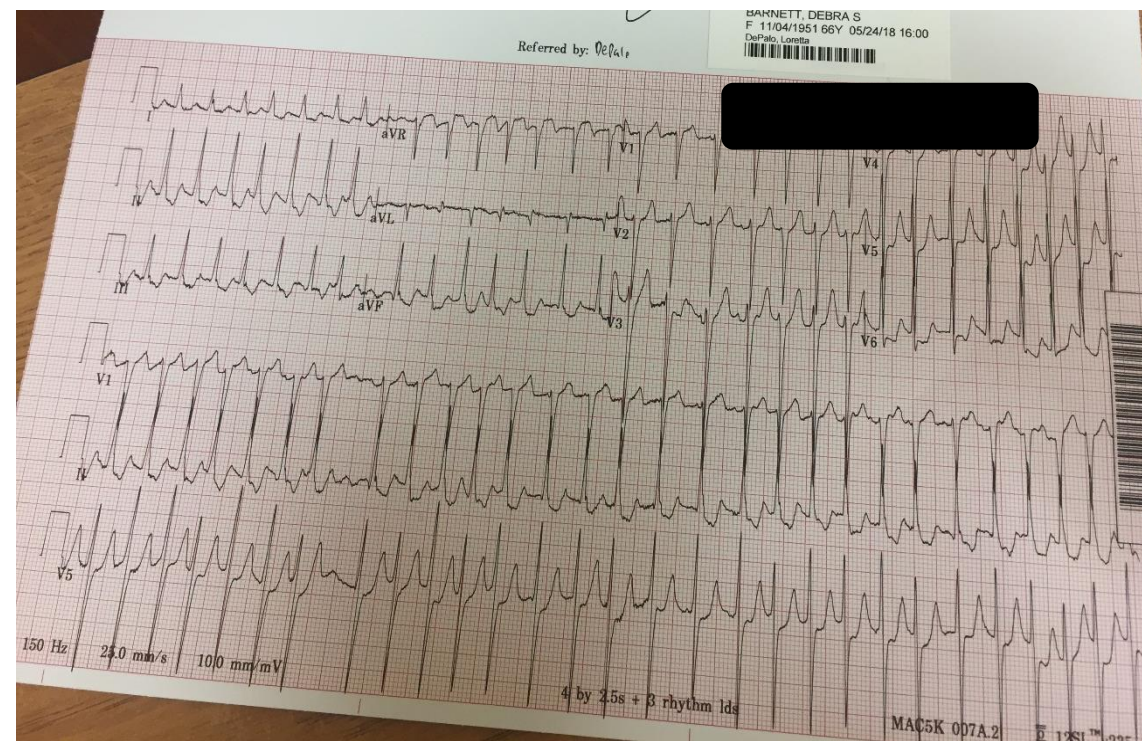
- Atrioventricular nodal reentry tachycardia (AVNRT)
- Atrioventricular reciprocating tachycardia (AVRT)
- Wolff-Parkinson-White Syndrome (WPW)
- Atrial Tachycardia (AT)
- Multifocal atrial tachycardia (MAT)
- Atrial fibrillation (AF)
- Atrial flutter (AFL)

Atrial Fibrillation (AF)

AF with rate controlled

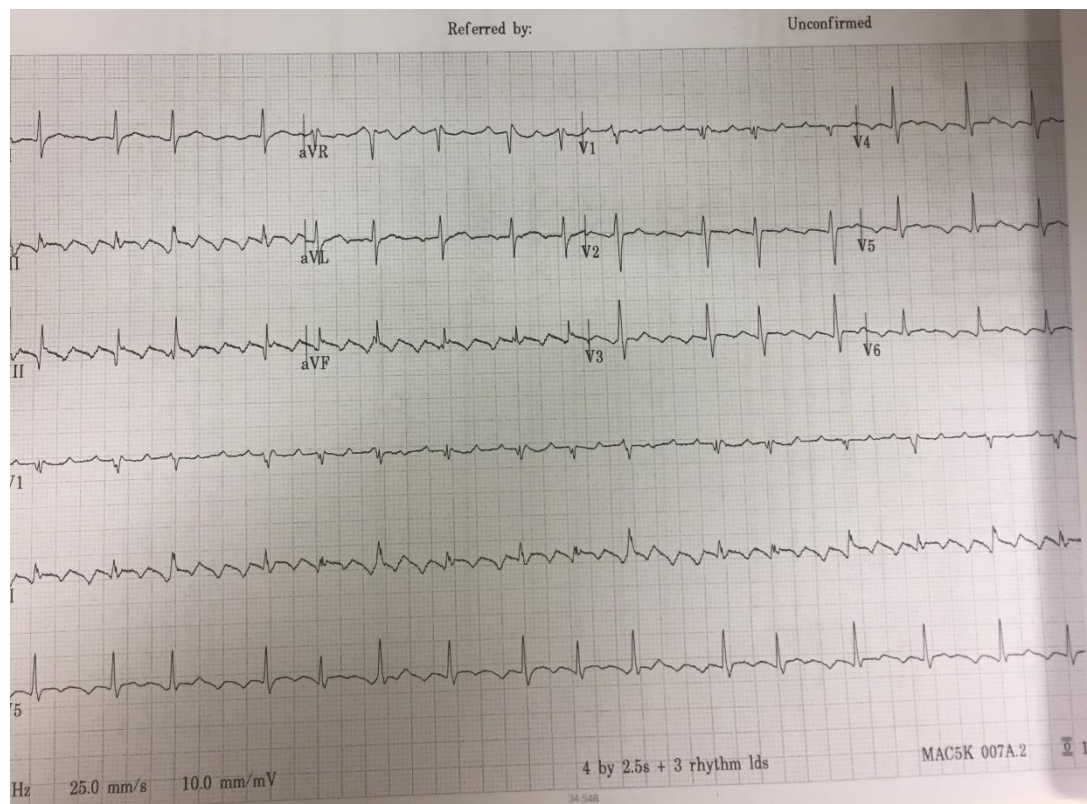


AF with rapid ventricular rate

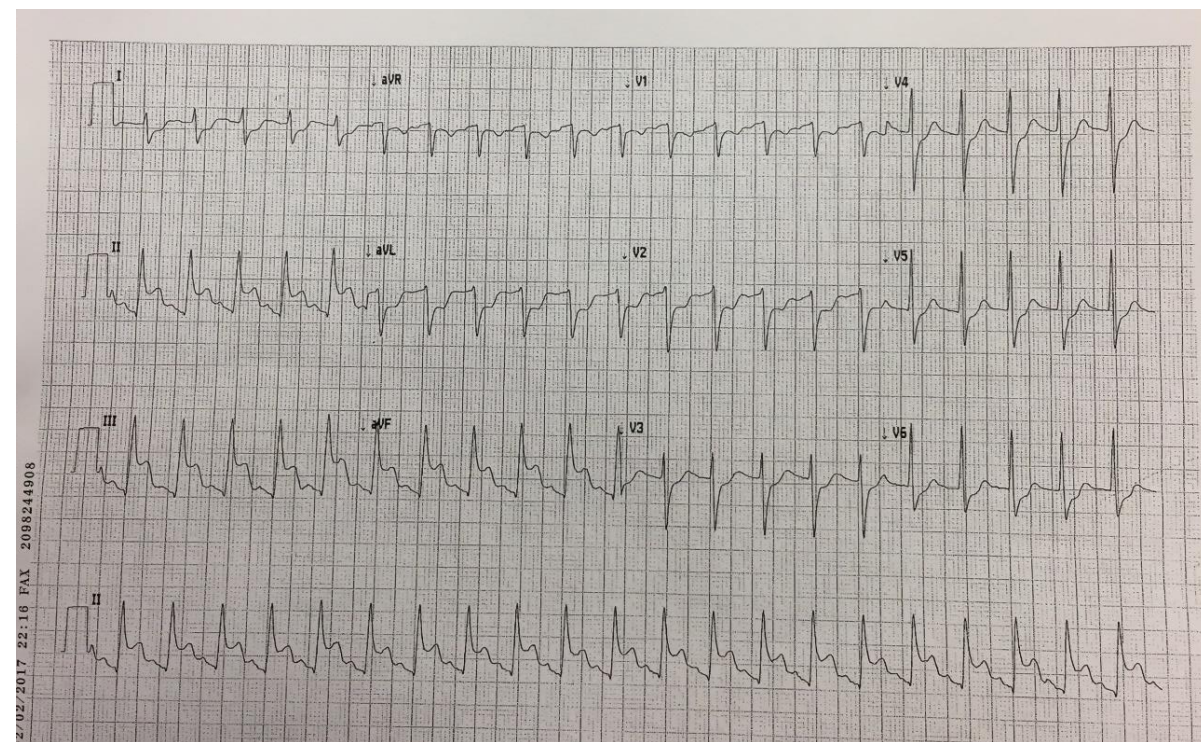


Atrial Flutter (AFL)

Atrial Flutter with controlled rate



Atrial Flutter with rapid ventricular rate

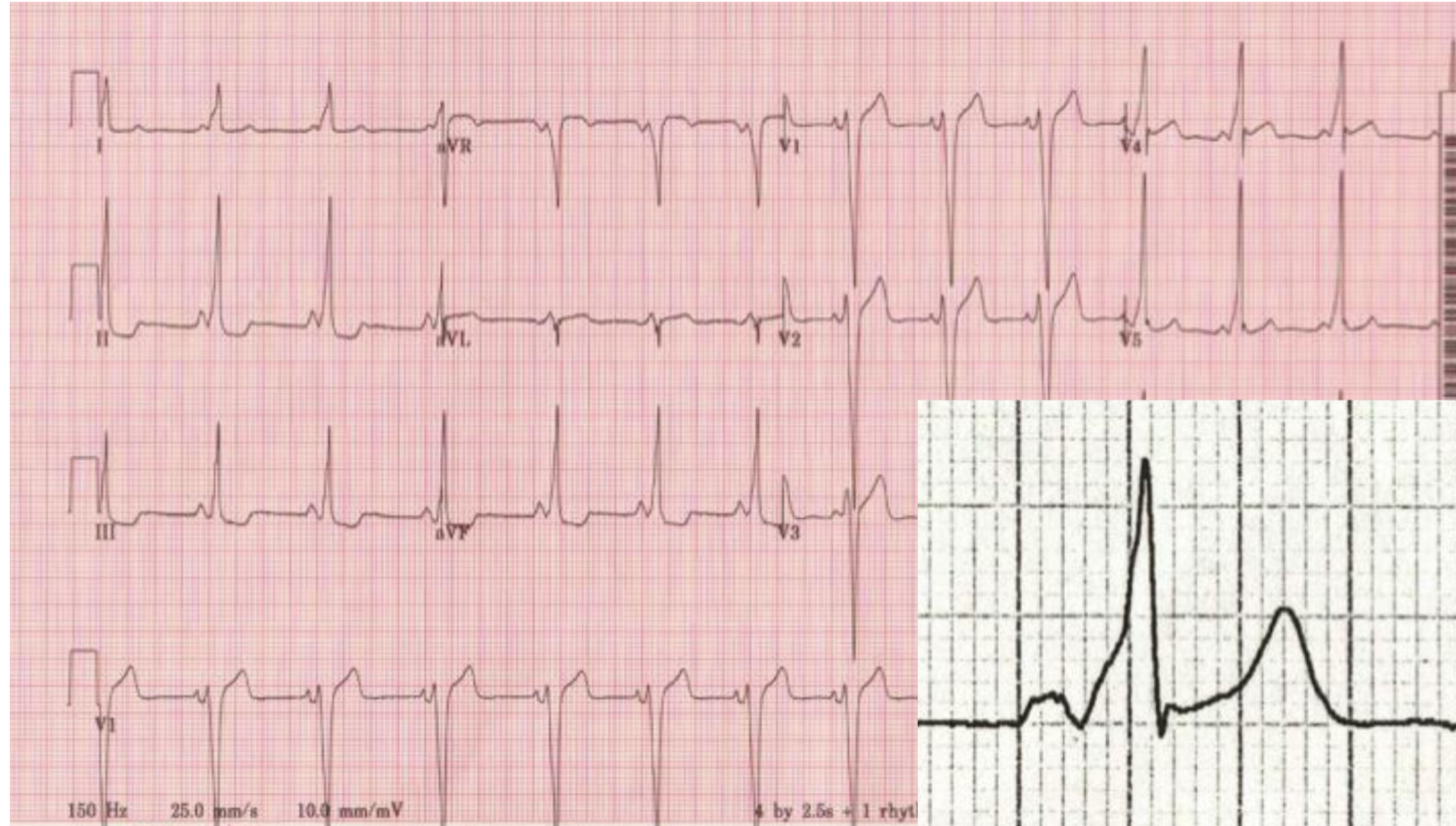


Atrial Fibrillation and Flutter

- Treatment for asymptomatic, stable patient
 - Beta-blocker or calcium channel blocker
 - Anticoagulation for CVA prophylaxis (CHADSVASc >2 or higher)
 - Refer to cardiology
- Acute treatment in the hospital setting
 - Diltiazem bolus + infusion
 - Transesophageal echocardiography (TEE)
 - Synchronized Cardioversion
 - Initiation of antiarrhythmic and anticoagulation medications
- Long-term Treatment
 - Rate control (beta-blockers, calcium channel blockers)
 - Rhythm control (antiarrhythmics – propafenone, flecainide, amiodarone, dronedarone, sotalol, dofetilide)
 - Ablation
 - Anticoagulation for CVA prophylaxis (CHADSVASc >2 or higher)
 - Implantation of left atrial appendage closure device if intolerant of anticoagulation

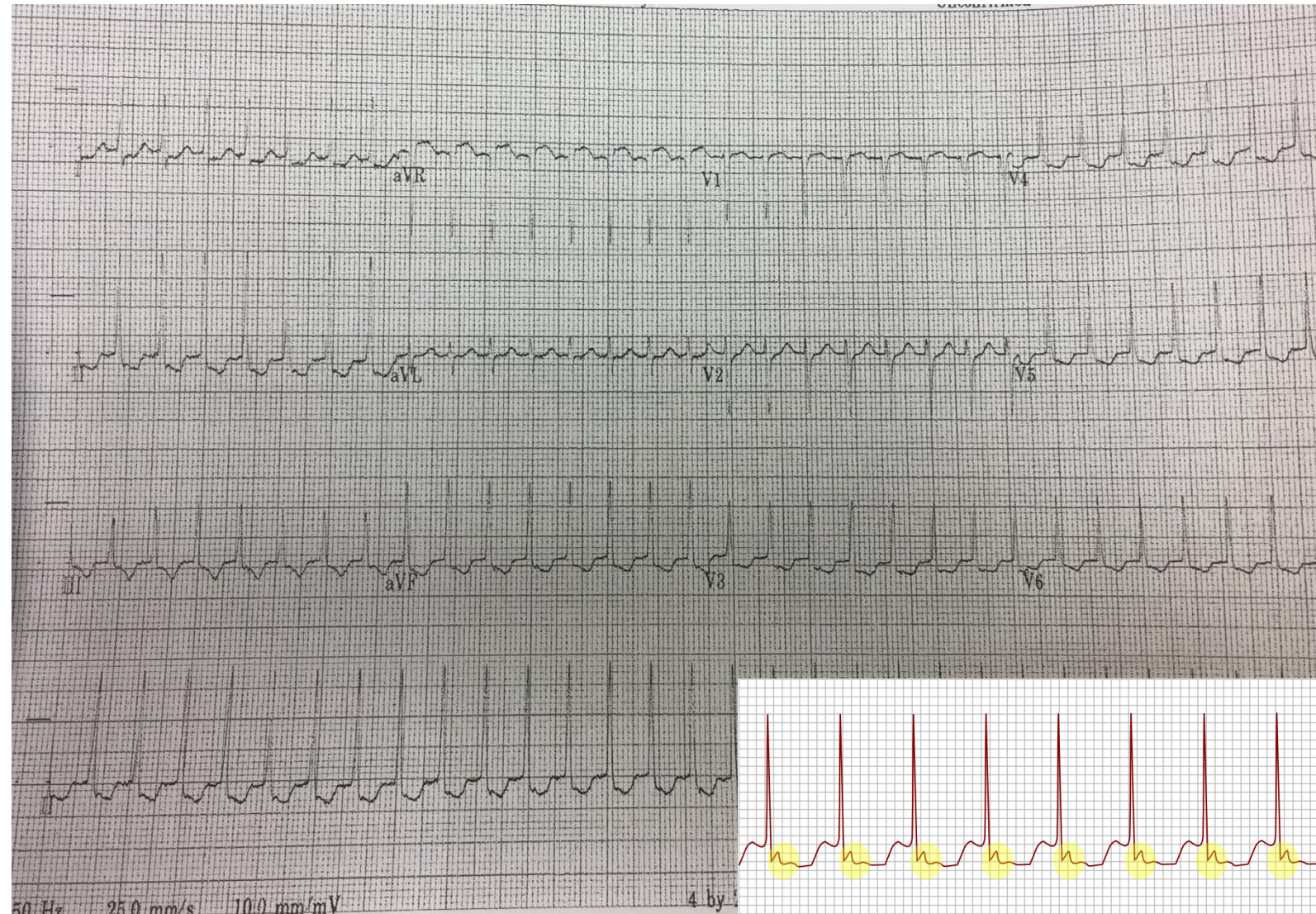
Wolff-Parkinson-White Syndrome (WPW)

- **ECG findings** – delta wave; QRS >120ms, short PR interval
- Presentation – asymptomatic, palpitations, syncope/near syncope, chest pain, SVT
- Treatment
 - Asymptomatic – outpatient cardiology referral
 - Vagal Maneuvers
 - Synchronized Cardioversion
 - Antiarrhythmic medications
 - Ablation
- Caution when using AV nodal blocking agents!



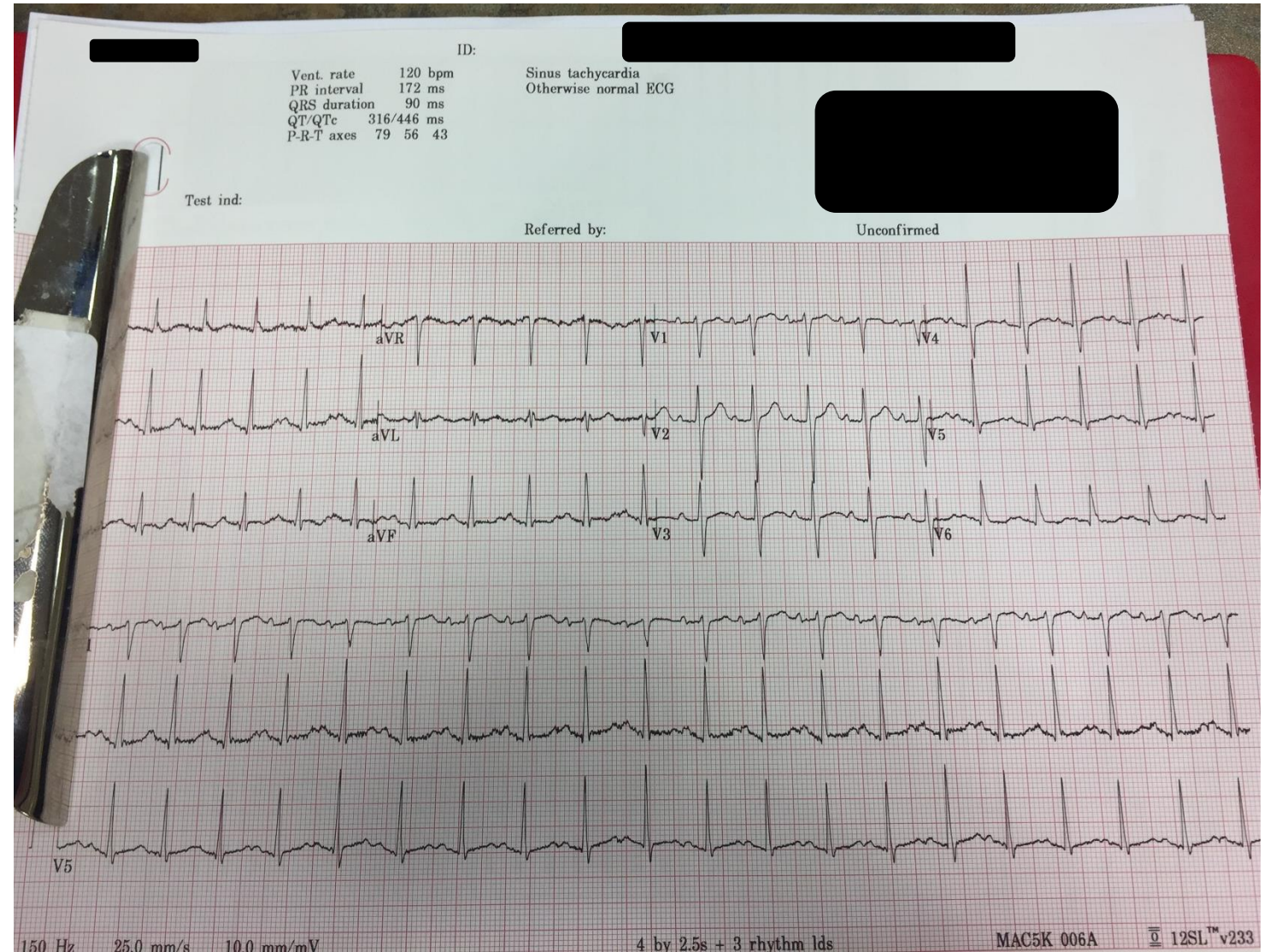
Atrioventricular nodal re-entry tachycardia (AVNRT)

- **ECG findings** – Narrow and regular tachycardia; P wave absent or commonly seen after QRS complex
- Presentation – acute onset and may be self-limiting; c/o palpitations
- Treatment
 - Vagal Maneuvers
 - Adenosine for acute termination
 - Avoid triggers
 - Beta-blockers and calcium channel blockers
 - Ablation



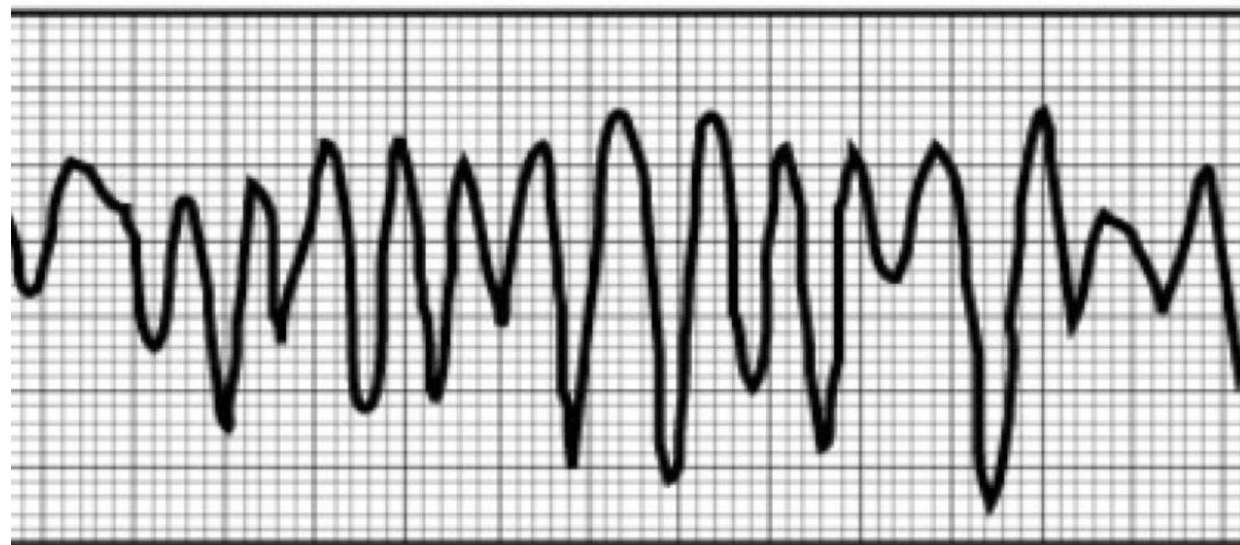
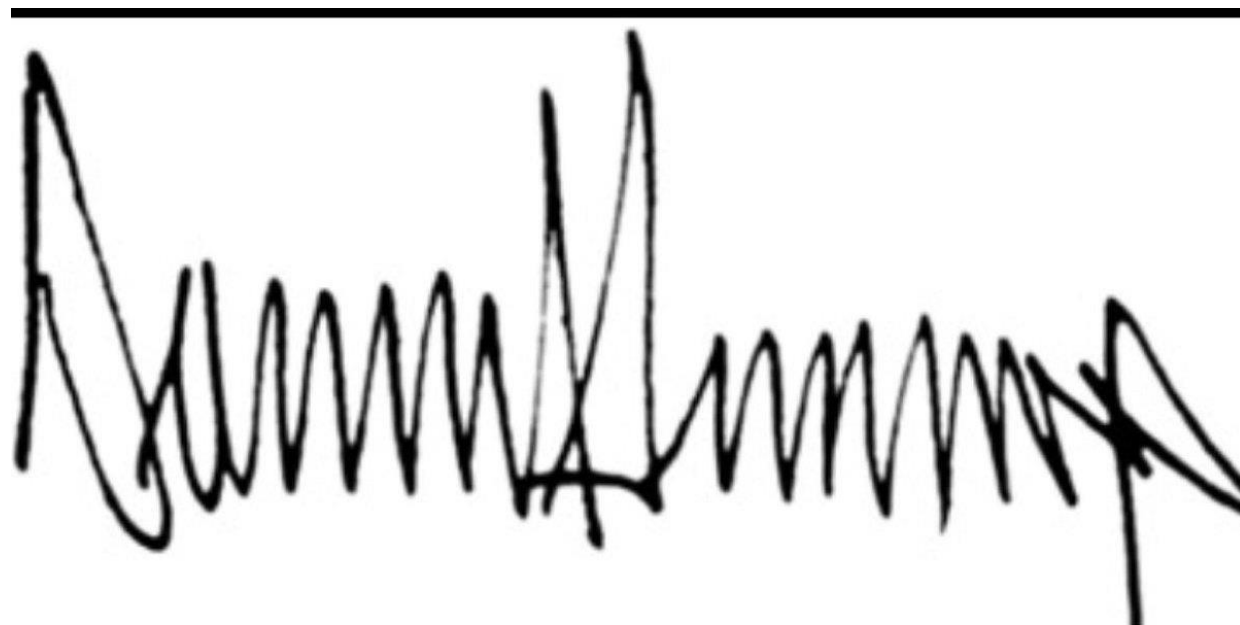
Sinus Tachycardia

- The body's response for increase oxygen demand
- Determine the Cause
 - Infection
 - Anemia
 - Dehydration
 - Shock
 - Pain
 - Pulmonary Embolus
 - Heat Exhaustion
 - Anxiety/fear
 - Inappropriate Sinus Tachycardia
 - Hyperthyroidism
 - Hypoxia
 - Stress
 - Exercise
 - Cardiac deconditioning
 - Medications/stimulants
- Concerning for a reduction in cardiac output



Donald
Trump's
signature vs.
Ventricular
Fibrillation

Coincidence?



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