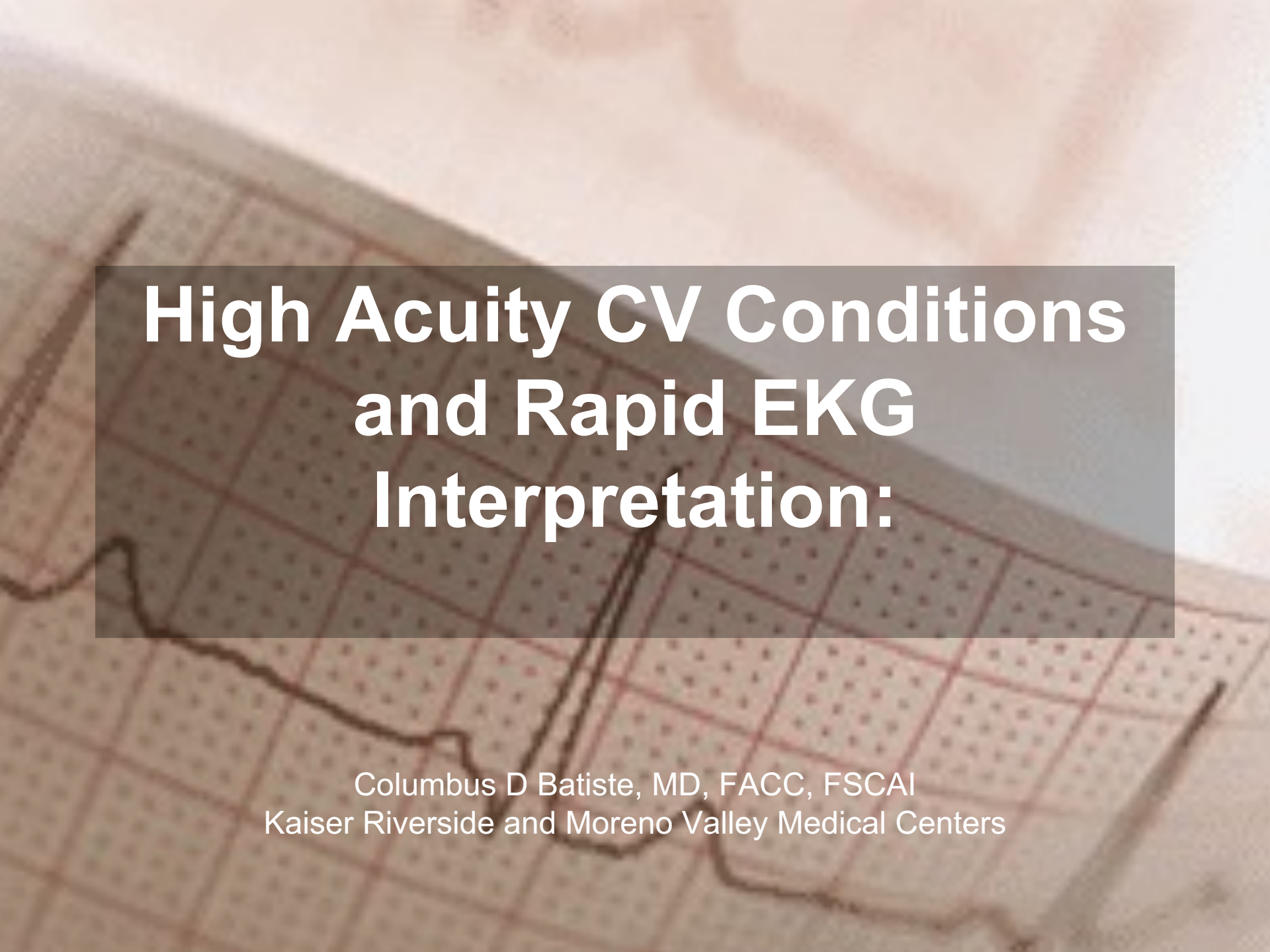


High Acuity CV Conditions and Rapid EKG Interpretation:

Columbus D Batiste, MD, FACC, FSCAI
Kaiser Riverside and Moreno Valley Medical Centers


WELCOME
TO Fabulous
LAS VEGAS
NEVADA
What Happens In VEGAS, Stays In VEGAS

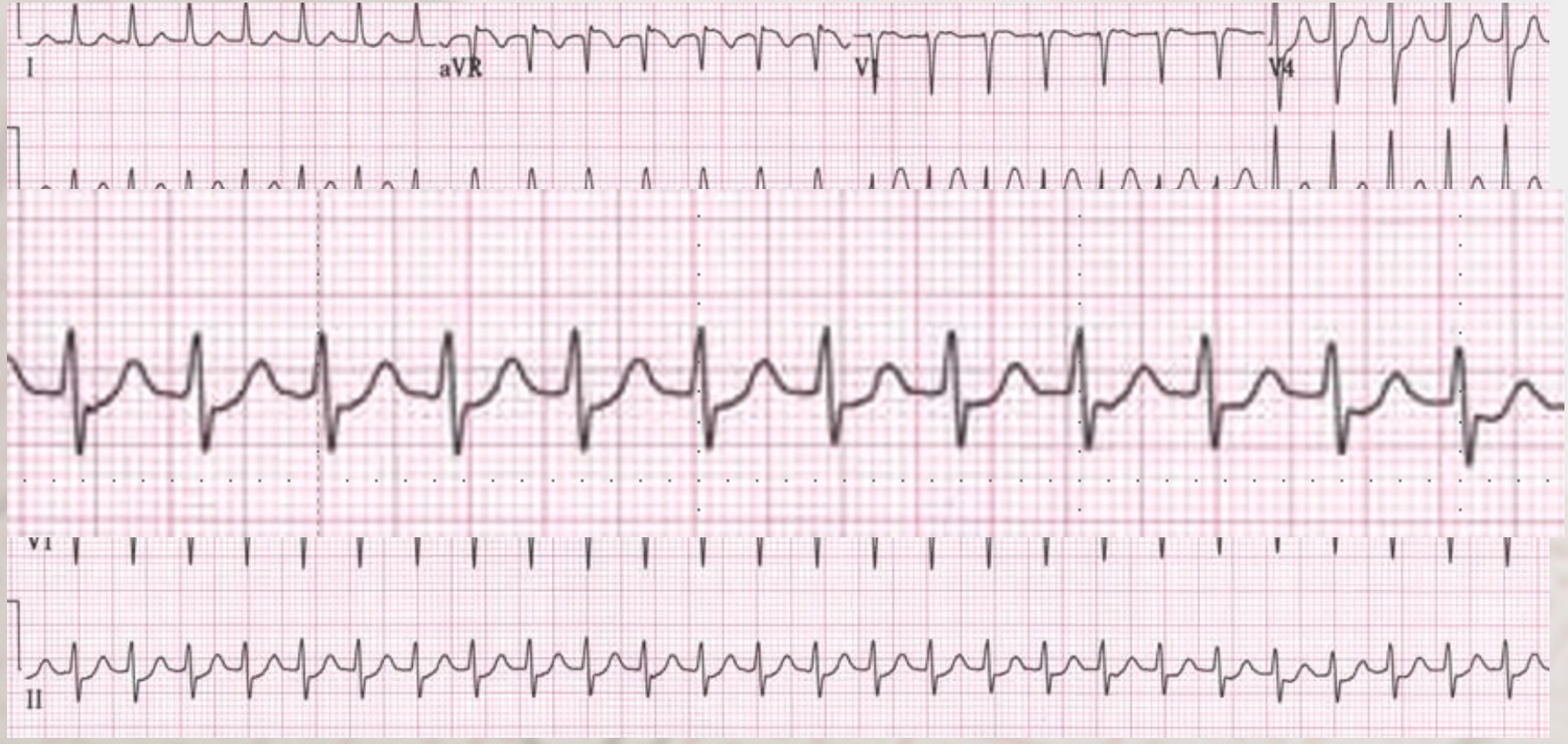
What Happens In Vegas……

C. D. Batiste, MD, FACC, FSCAI

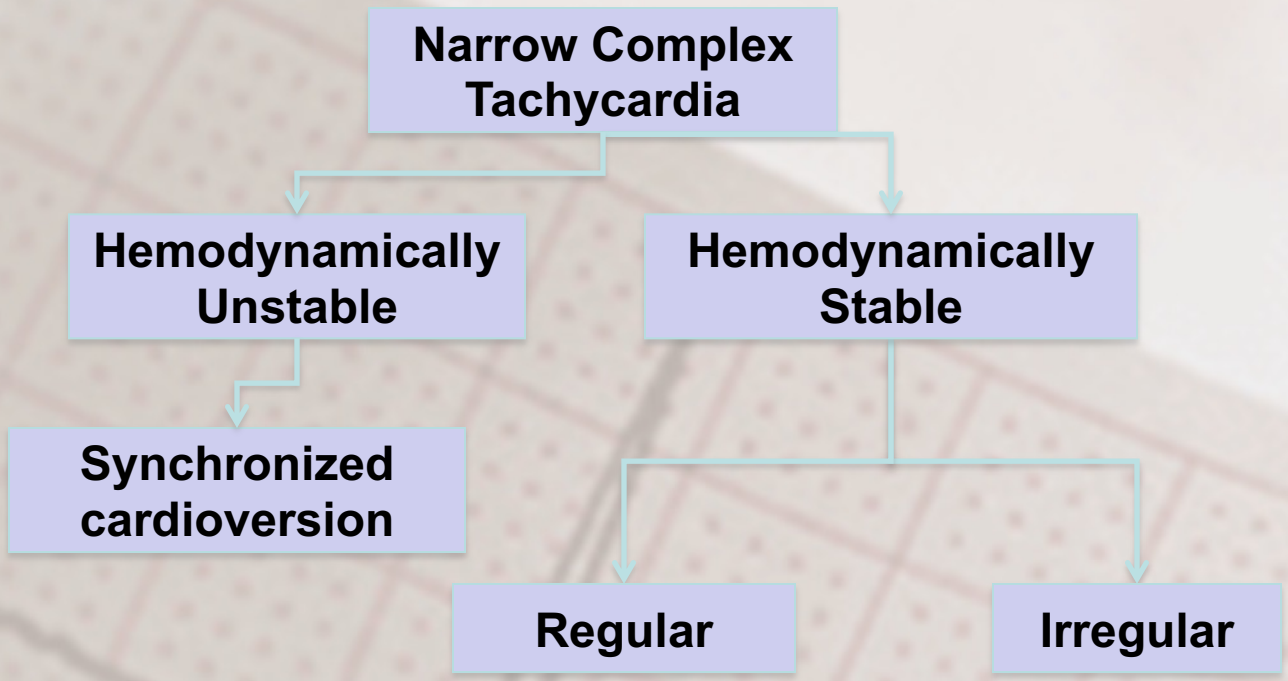

the
Voice

Questions to ask when analyzing an ECG

1. Is the patient stable or unstable?
   A. Hypotension
   B. Chest pain
   C. Shortness of breath
   D. Decreased LOC
2. Is the QRS narrow or wide?
3. What is the QRS rate
4. Is the rate regular or irregular?
5. Are P waves visible?
6. What is the P:QRS relation?


I
aVR
V1
V4
V1
II

Approach to narrow complex tachycardias



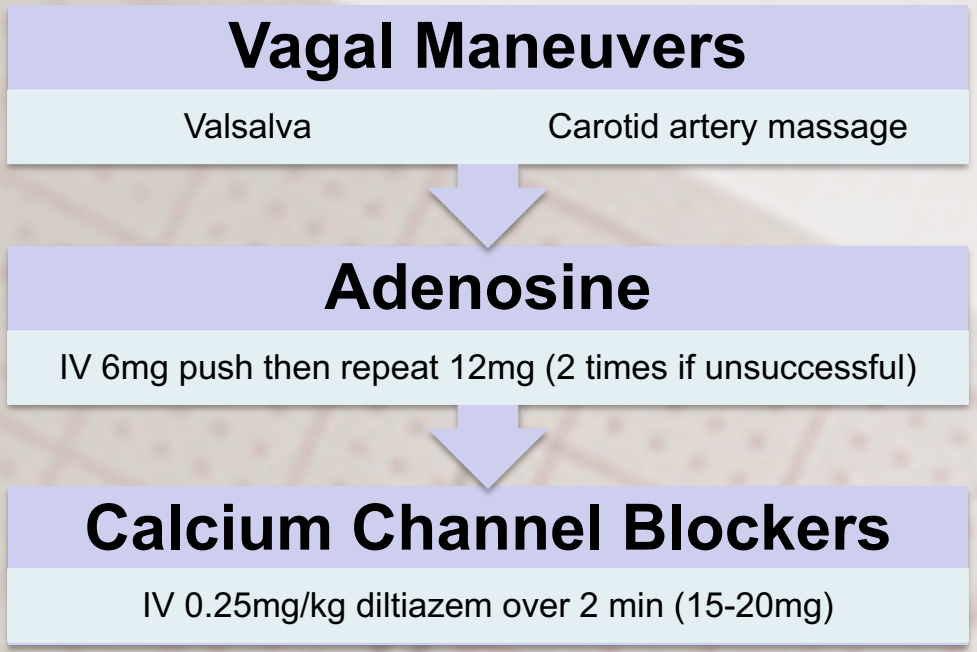
Narrow complex tachycardias

REGULAR	IRREGULAR
• Sinus Tachycardia • Paroxysmal supraventricular tachycardia (PSVT) • Atrial flutter with consistent conduction	• Atrial Fibrillation • Atrial flutter with variable conduction • Multifocal atrial tachycardia

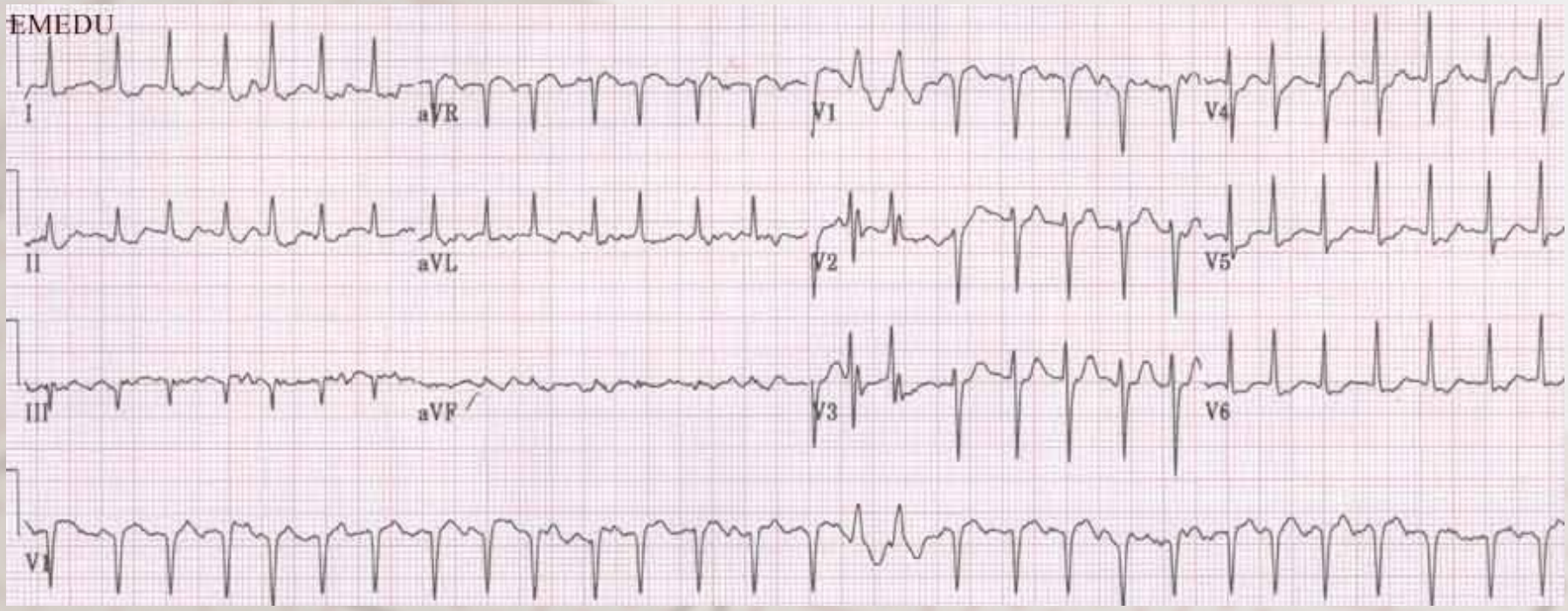
Narrow complex tachycardias

REGULAR
• Sinus Tachycardia • Paroxysmal supraventricular tachycardia (PSVT) • Atrial flutter with consistent block

Regular narrow complex tachycardia



Modified from Neumar et al. Circulation 2010; 122;S729-S767

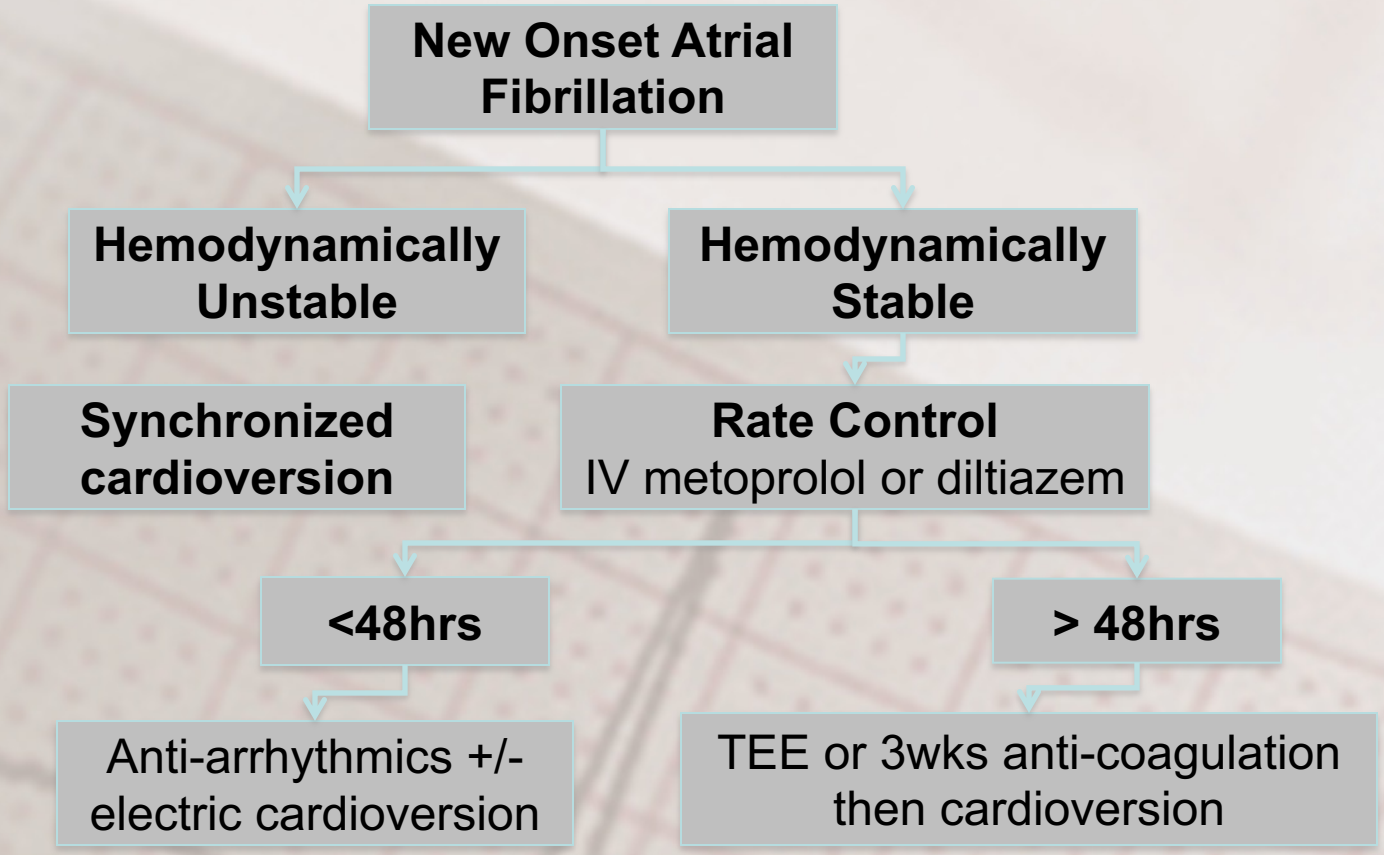

EMEDU
I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
V

Questions to ask when analyzing an ECG

1. Is the patient stable or unstable?
   A. Hypotension
   B. Chest pain
   C. Shortness of breath
   D. Decreased LOC
2. Is the QRS narrow or wide?
3. What is the QRS rate
4. Is the rate regular or irregular?
5. Are P waves visible?
6. What is the P:QRS relation?

Narrow complex tachycardias

IRREGULAR
• Atrial fibrillation • Atrial flutter with variable block • Multi focal atrial tachycardia



Chest 2009; 135:849-859

Rate control

No accessory pathway

- Diltiazem IV 0.25mg/kg over 2min (Class I)
- Verapamil IV 0.075-0.15mg/kg over 2min (Class I)

Accessory Pathway

- Amiodarone IV 150mg over 10min (Class IIa)

Heart Failure without accessory pathway

- Digoxin IV 0.25mg q2h (Class I)
- Amiodarone IV 150mg over 10min (Class IIa)

ACC/AHA/ESC 2006 Atrial Fibrillation guidelines

Rhythm control: Stable patients

- Consider cardioversion especially if younger, without hypertension or heart disease ACC/AHA/ESC Atrial Fibrillation guidelines 2006

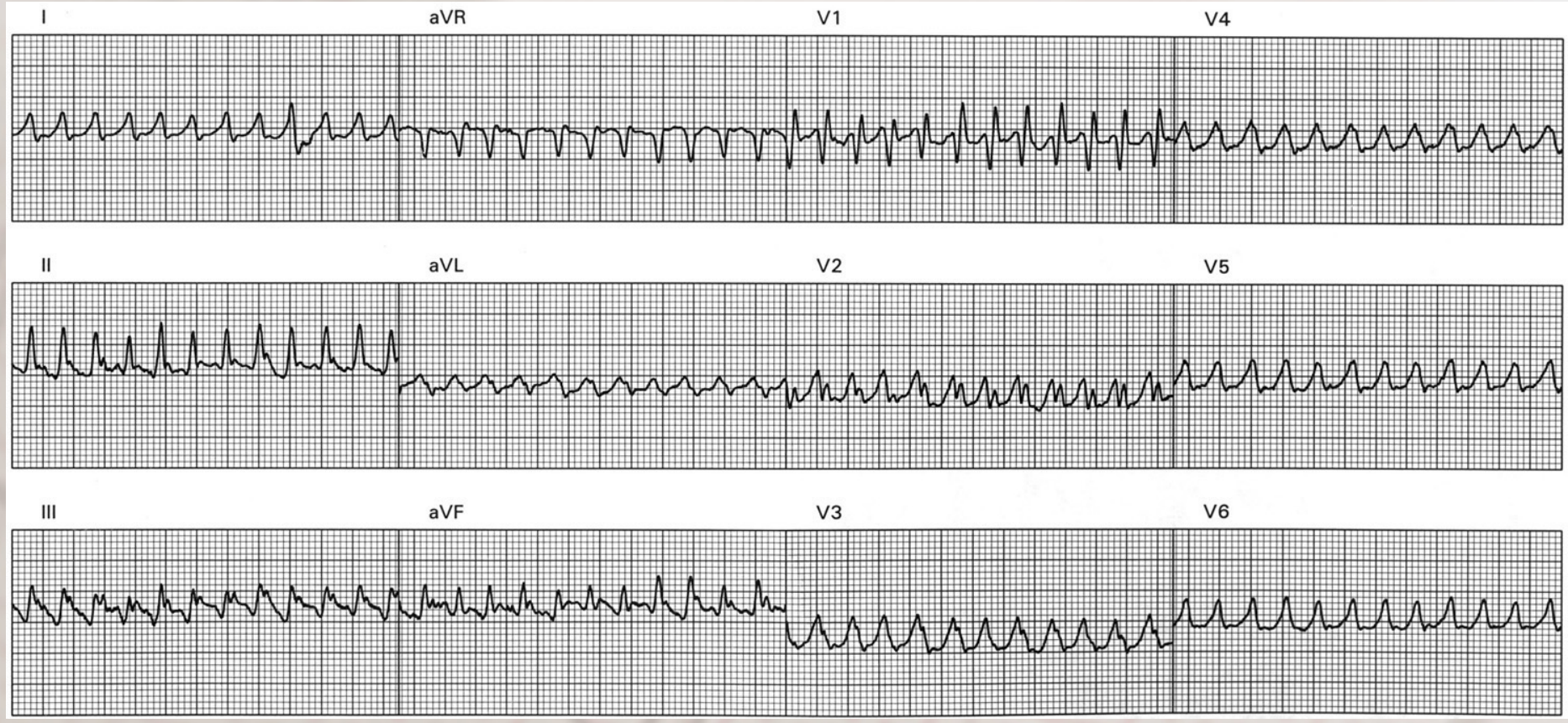
- Ottawa protocol: IV 1g procainamide (in 250ml D5W) over 1hr; 58% conversion rate CJEM 2010 12(3):181-91
- Amiodarone 3-5mg/kg IV over 15-20min
- Ibutilide 0.015-0.02mg/kg IV over 10-15min

- Electrical cardioversion: 80-90% conversion rates

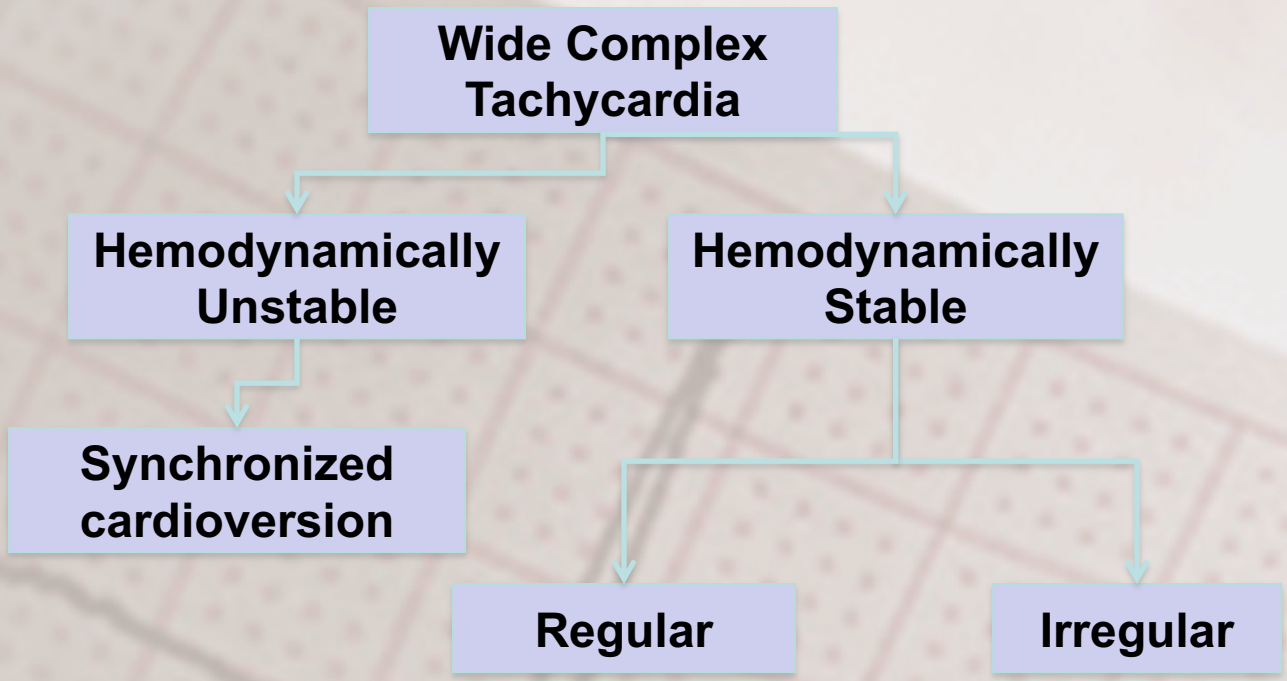
- Admit AF patients if:
  - Unstable, MI, worse heart failure


HEAR

Wide complex tachycardias



Approach to wide complex tachycardias



Wide Complex Tachycardias
Differential Diagnosis

Regular	Irregular
• Monomorphic VT • SVT with aberrancy (BBB) • Antidromic Wolf Parkinson White syndrome • Electrolyte abnormalities or overdoses	• Polymorphic VT (including Torsades) • A. Fib with aberrancy (BBB) • A. Fib + accessory pathway

Wide Complex Tachycardias

Ventricular Tachycardia vs. SVT

Ventricular Tachycardia	SVT with aberrancy
• Age > 50yrs • Hx MI, CHF, CABG • Previous VT • ECG: fusion beats or AV dissociation	• Age <35yrs • No cardiac history • Previous SVT

Wide Complex Tachycardias

Regular wide complex tachycardia is ventricular tachycardia until proven otherwise

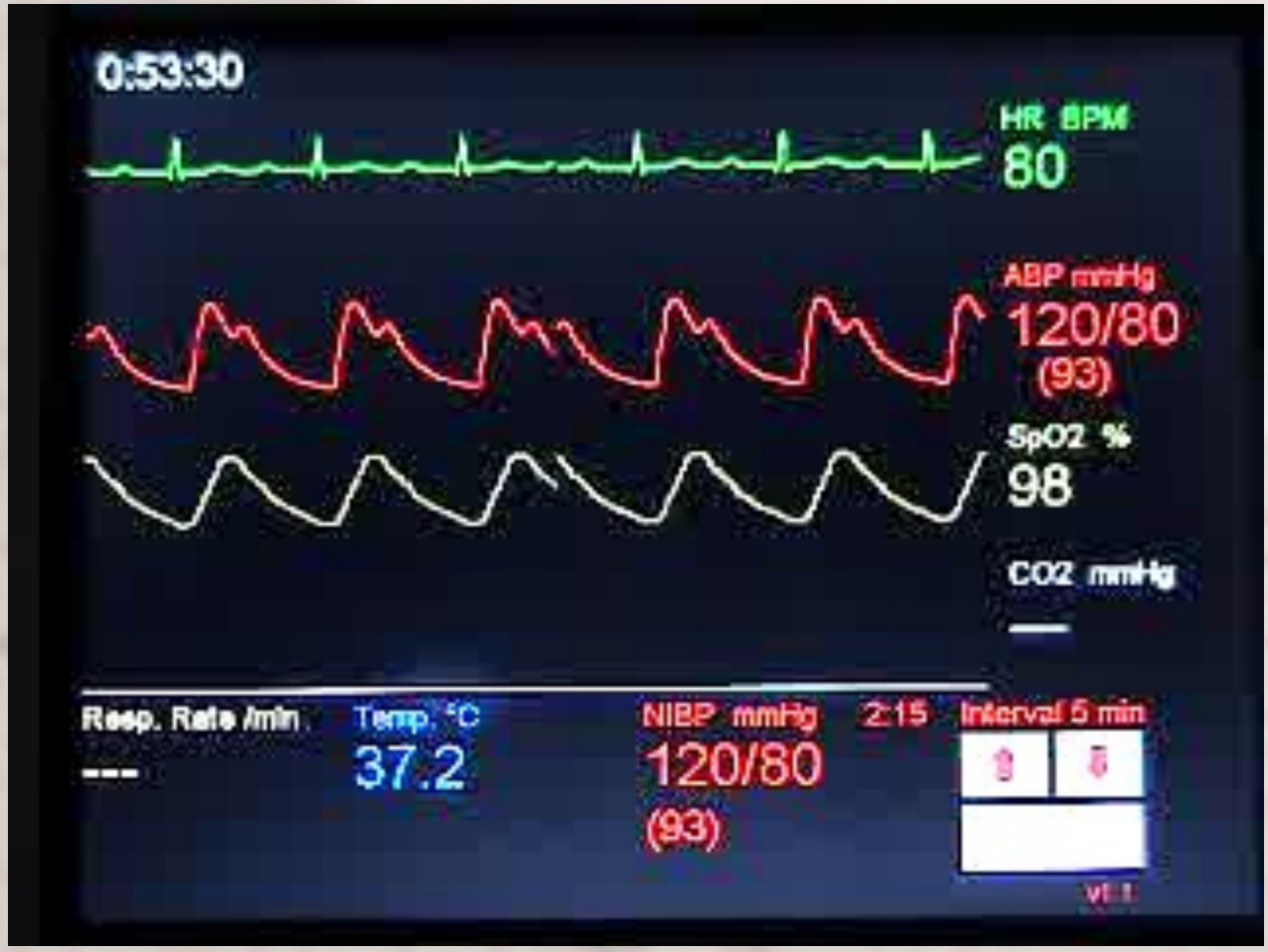

YAMAH

The Bradycardia Algorithm

- The bradycardia algorithm outlines the steps for assessment and management of a patient presenting with symptomatic bradycardia

- The primary point in the bradycardia algorithm is determination of adequate perfusion.

First degree AV Block



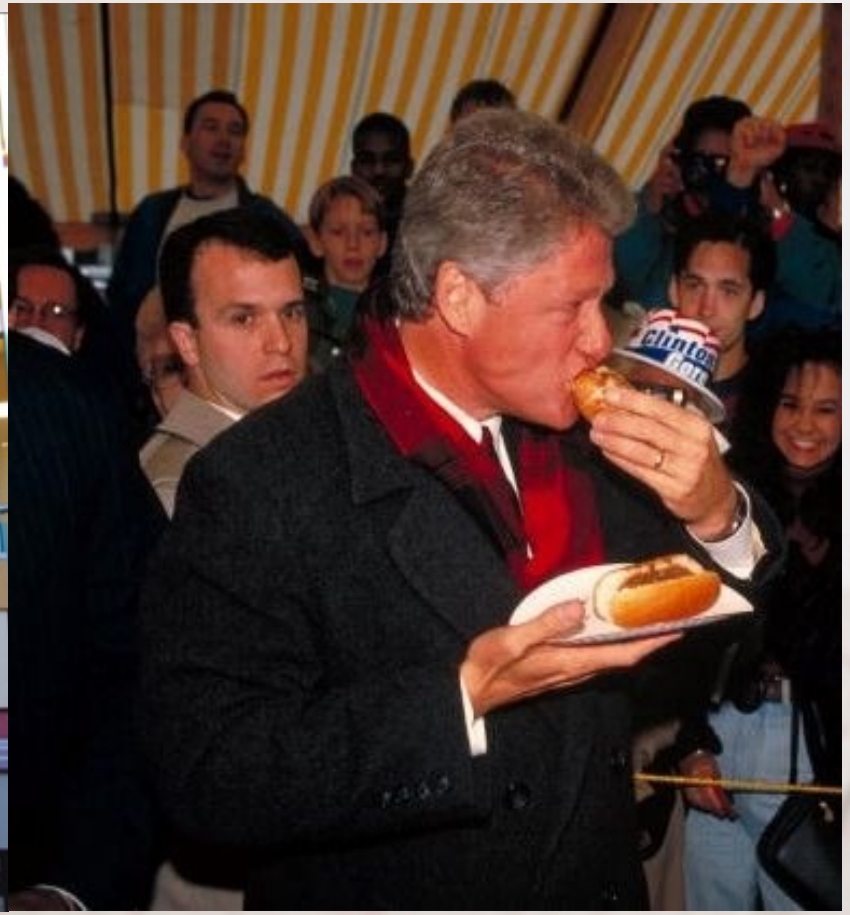
Second-degree AV block Mobitz I

Second-degree AV block Mobitz II

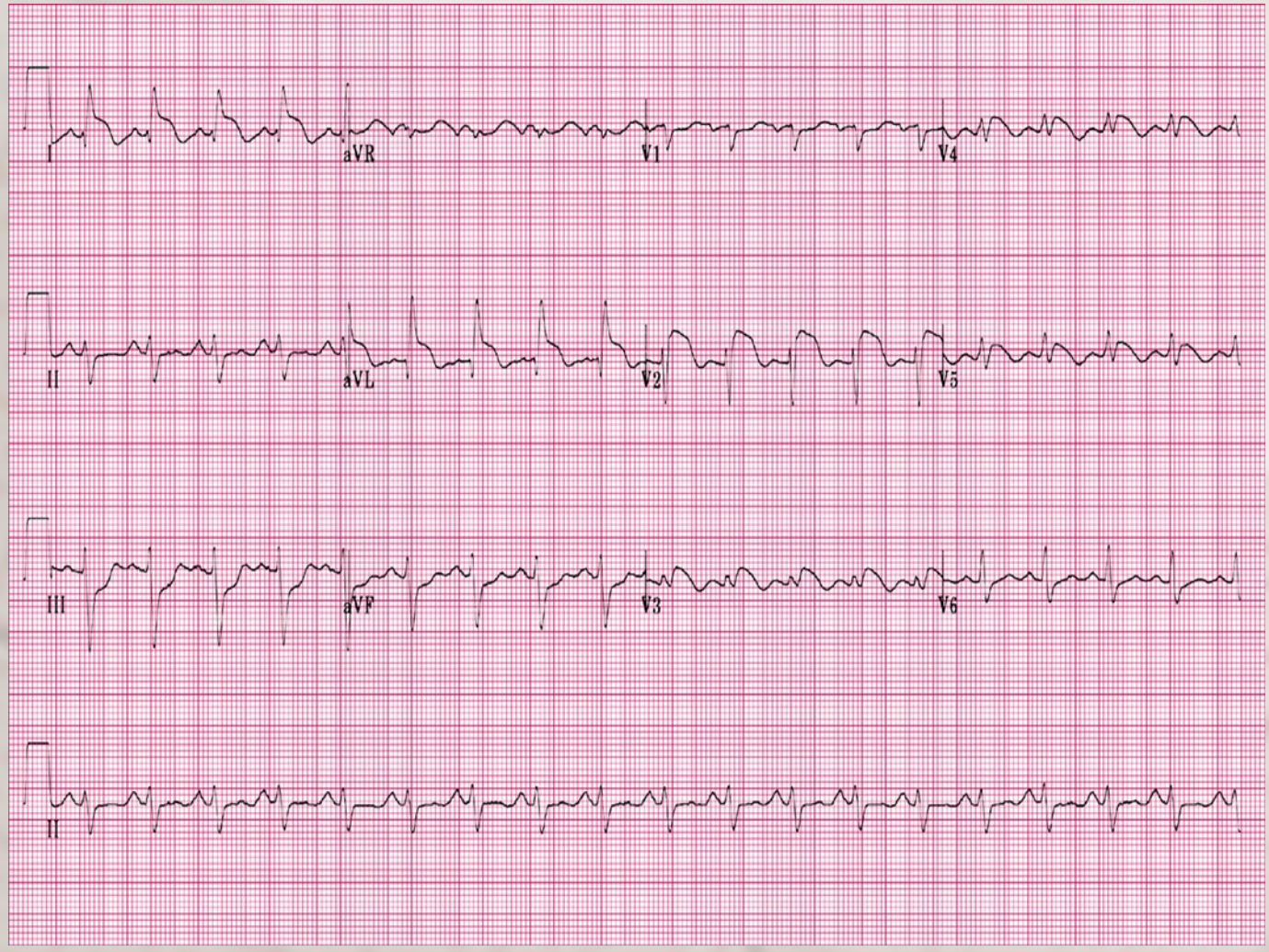
Unstable Bradycardia

Third-degree AV block


Heart Attack Grill
OVER 350 LBS EATS FREE

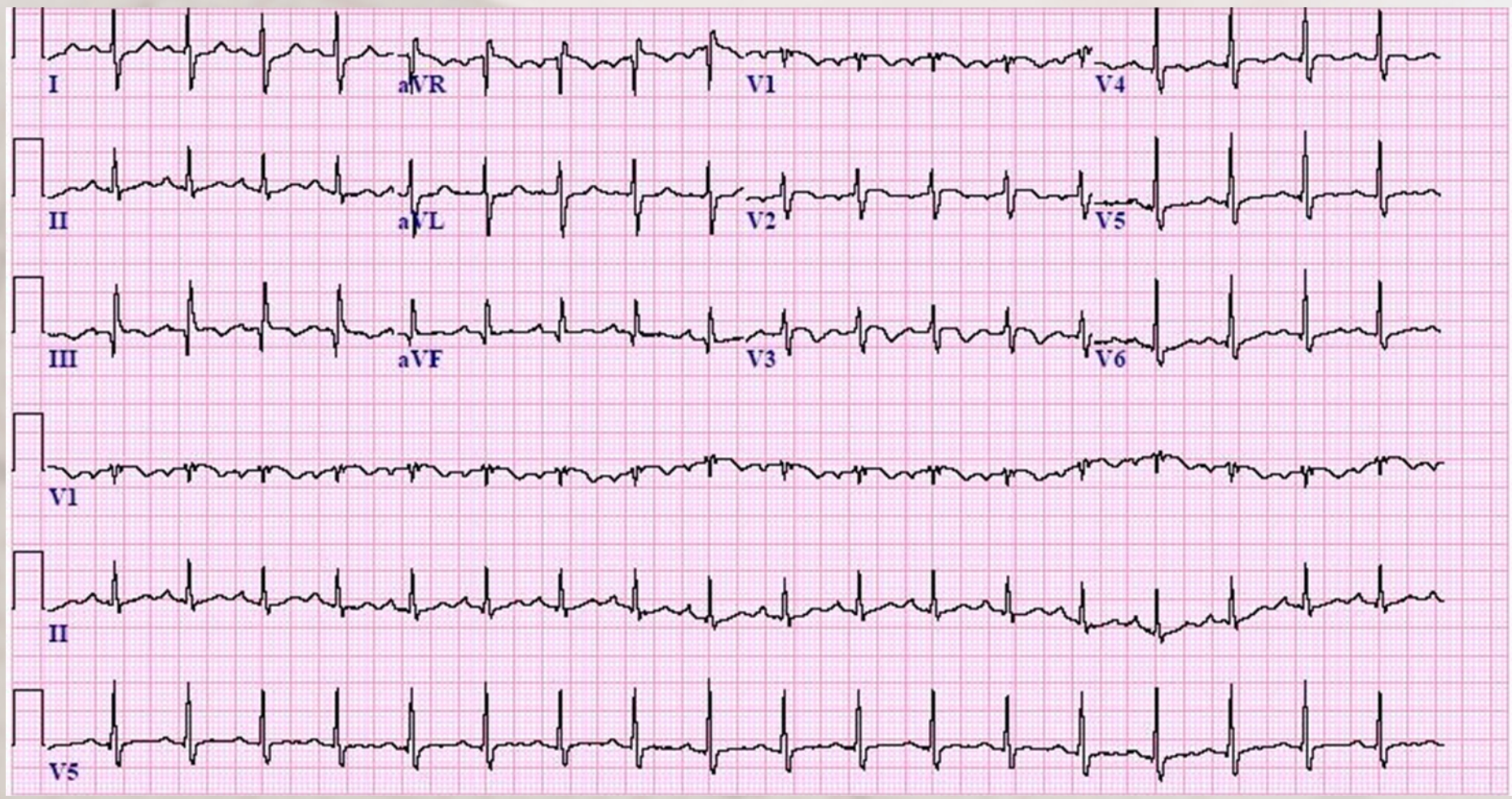


Acute Anterior MI




Rio2016

Acute Pulmonary Embolus

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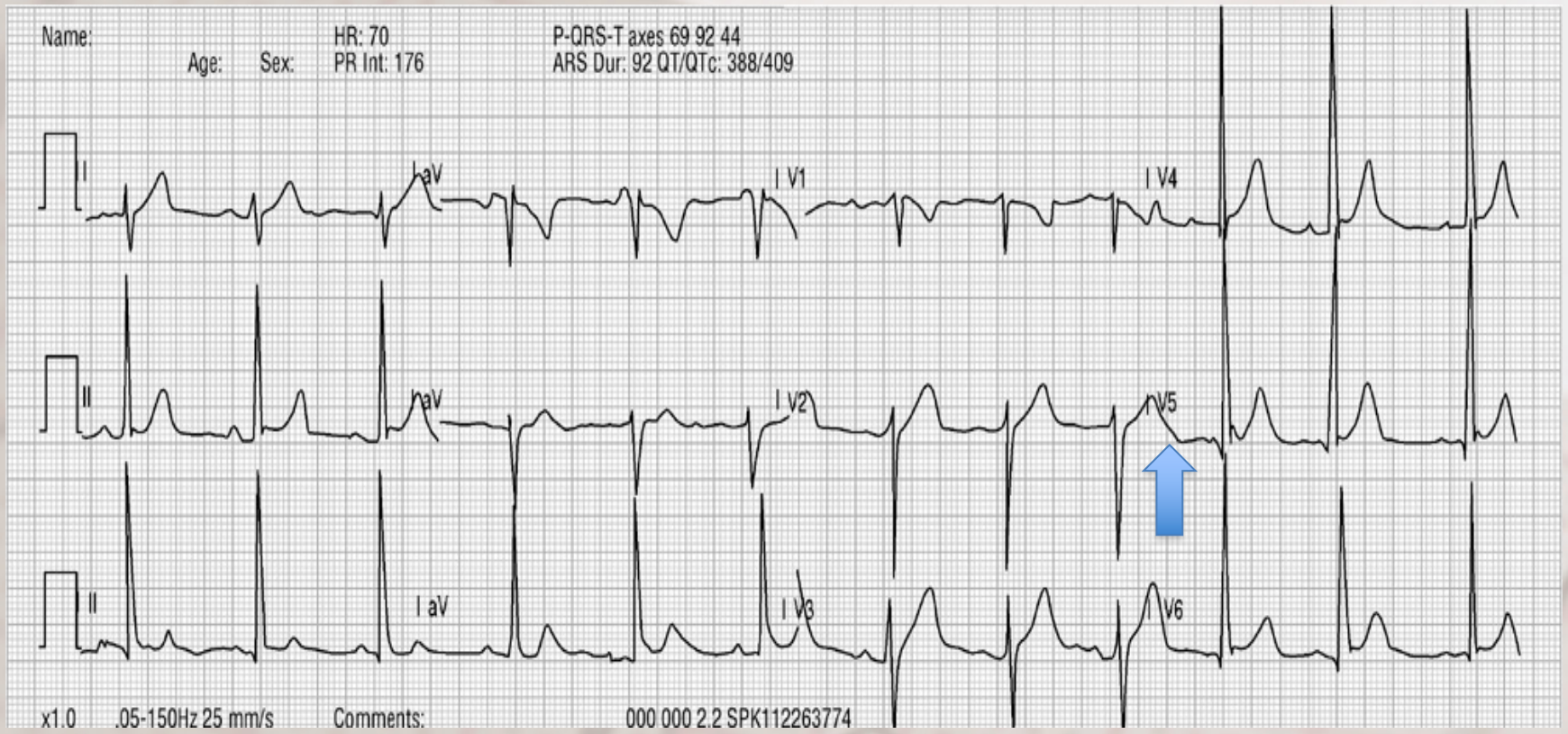
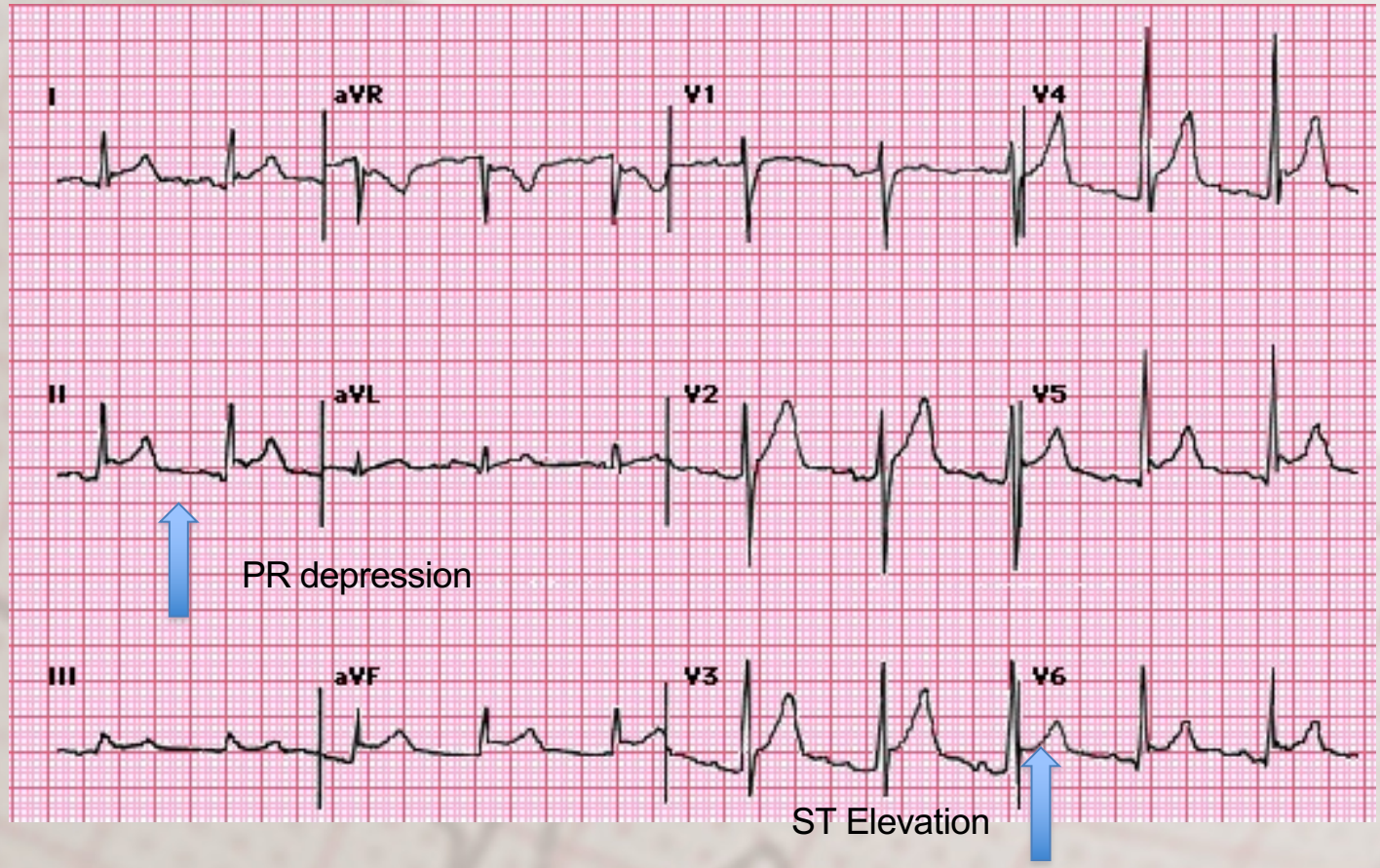
THE FRESH PRINCE

Early Repolarization



Wayne Guerra MD, MBA

Acute Pericarditis

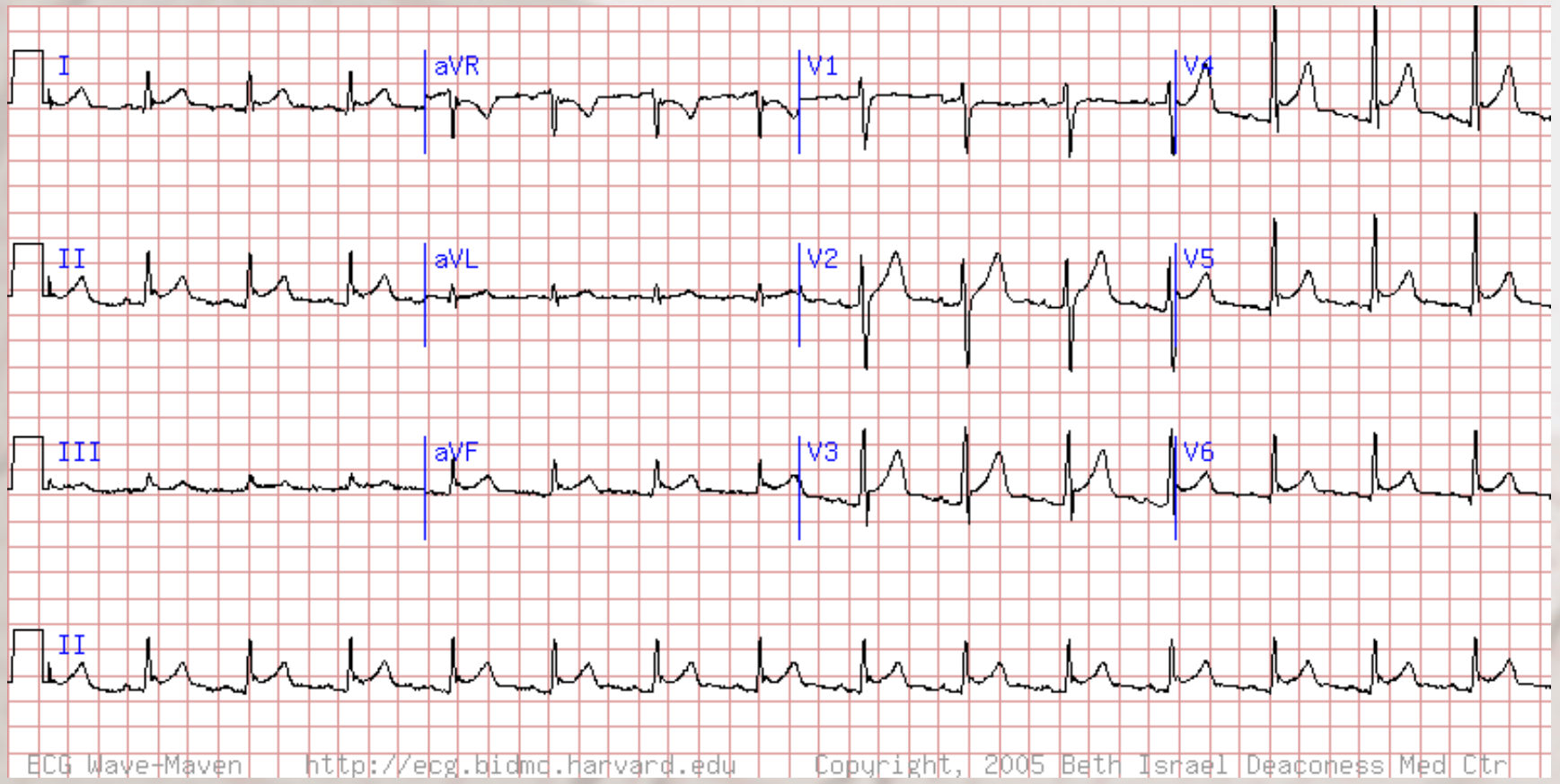


Wayne Guerra MD, MBA

ECG Findings

- Stage I:ST segment elevation (concave upward not convex) in all leads except avR and V1 without reciprocal ST segment depression (which occurs in MI) (Several hours later).
- Stage II: ST segments return to baseline, the initially upright T waves flatten (several days later)
- Stage III:T waves invert (weeks later)
- Stage IV:T waves revert to normal (weeks or months later)
- Other changes: Large effusion can cause both reduced voltage and electrical alternans.

EKG of Acute pericarditis (Stage I)



Other Findings