



12 Lead ECG

Module 6 (STEMI part 2)

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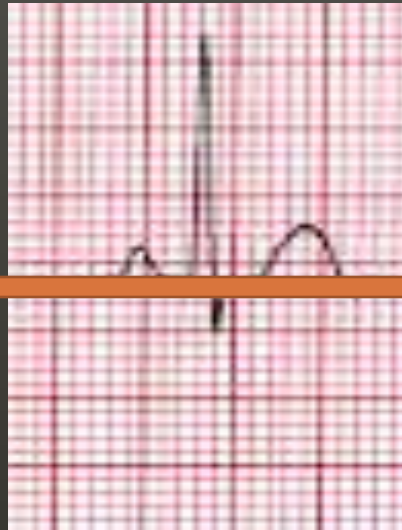
What to look for and what does it mean?

- What is it?
- Where is it?
 - Which part of the heart?
 - Which coronary artery?
- Cardiac Triage Case?





What is a baseline?



Baseline

Baseline

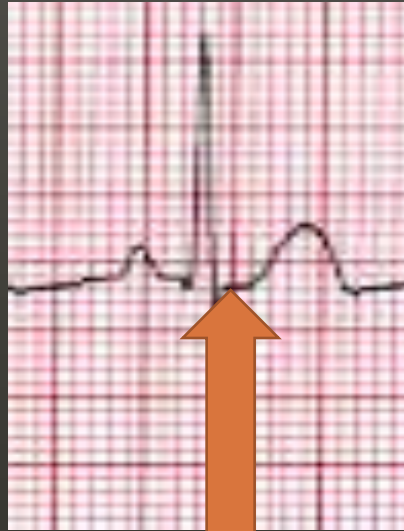




What is a “J Point?”

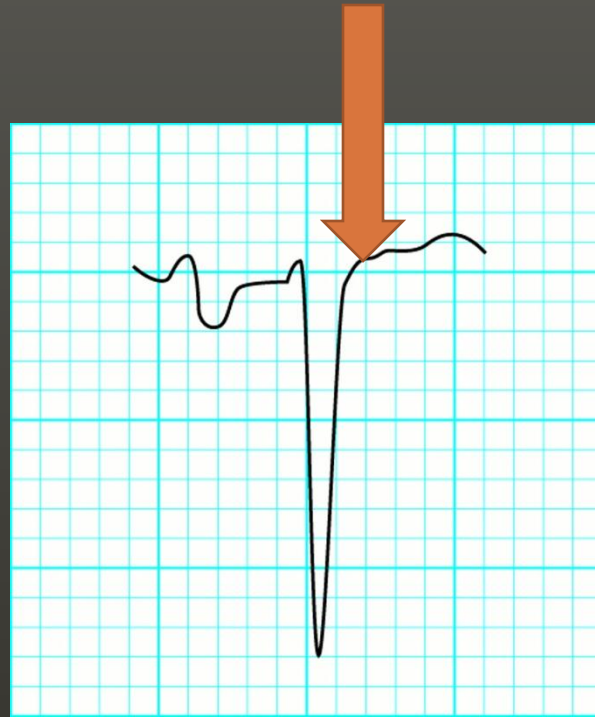
*The point where the ventricular complex ends and the ST segment begins.

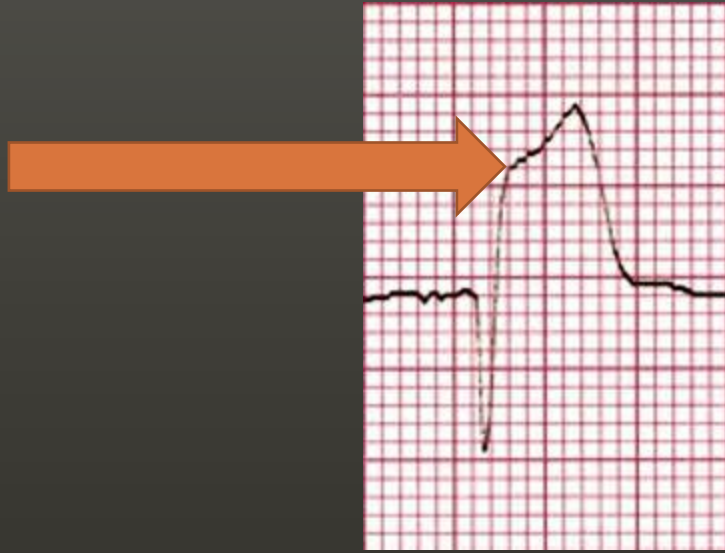




The J Point











How do ST segment changes
translate into pertinent
findings?





What are the transitions of
cardiac hypoxia?

Ischemia – Early changes

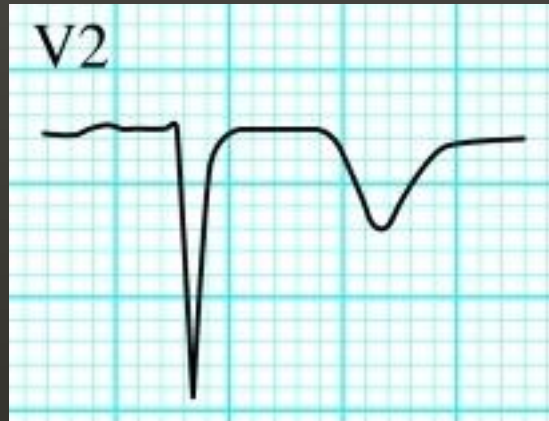
Injury – Beginning of cellular destruction

Necrosis – Irreversible death





Ischemia:
- T wave inversion





Ischemia:
- ST segment depression





What else could this be?



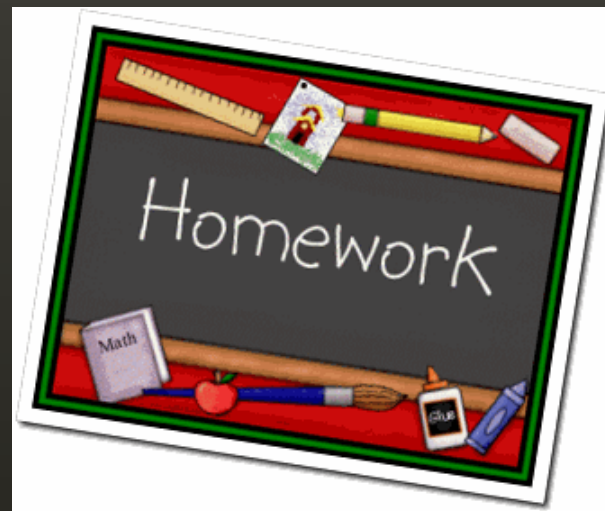
A “reciprocal” change.





What does reciprocal mean?

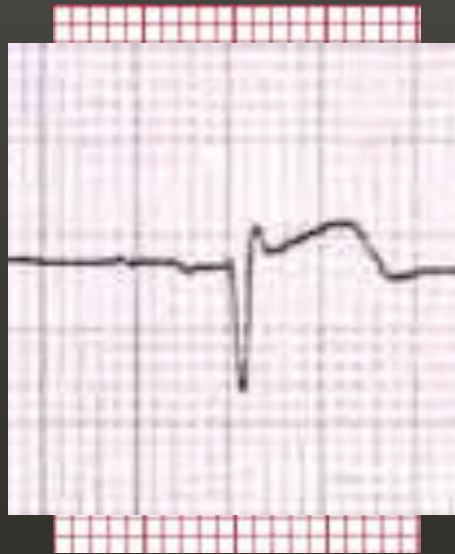
- *Expressing mutual action or relationship.
- *Mirror image.





Injury:

- 1mm or more of ST segment elevation (STEMI)





Necrosis:
- Significant Q wave



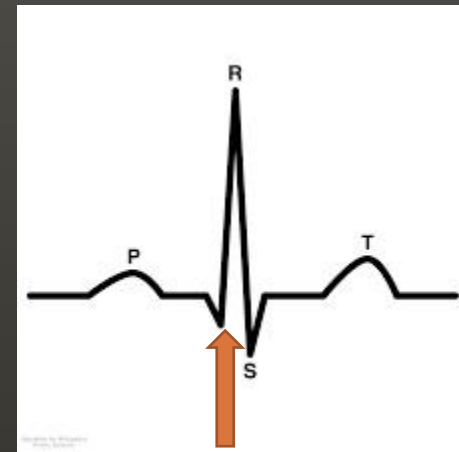
If there is a negative deflection
occurring after the P wave?



Significant or insignificant?
1/3 the height of the entire
complex and/or >1mm wide?



Q Wave



q Wave



Are there recognizable changes in
two or more contiguous leads?



09/21/2014 15:05:15
42 yrs Male ---/--

MECKLENBURG EMS
Department:
Room:
Operator:

Rate 99
PR 134
QRSd 72
QT 329
QTc 423

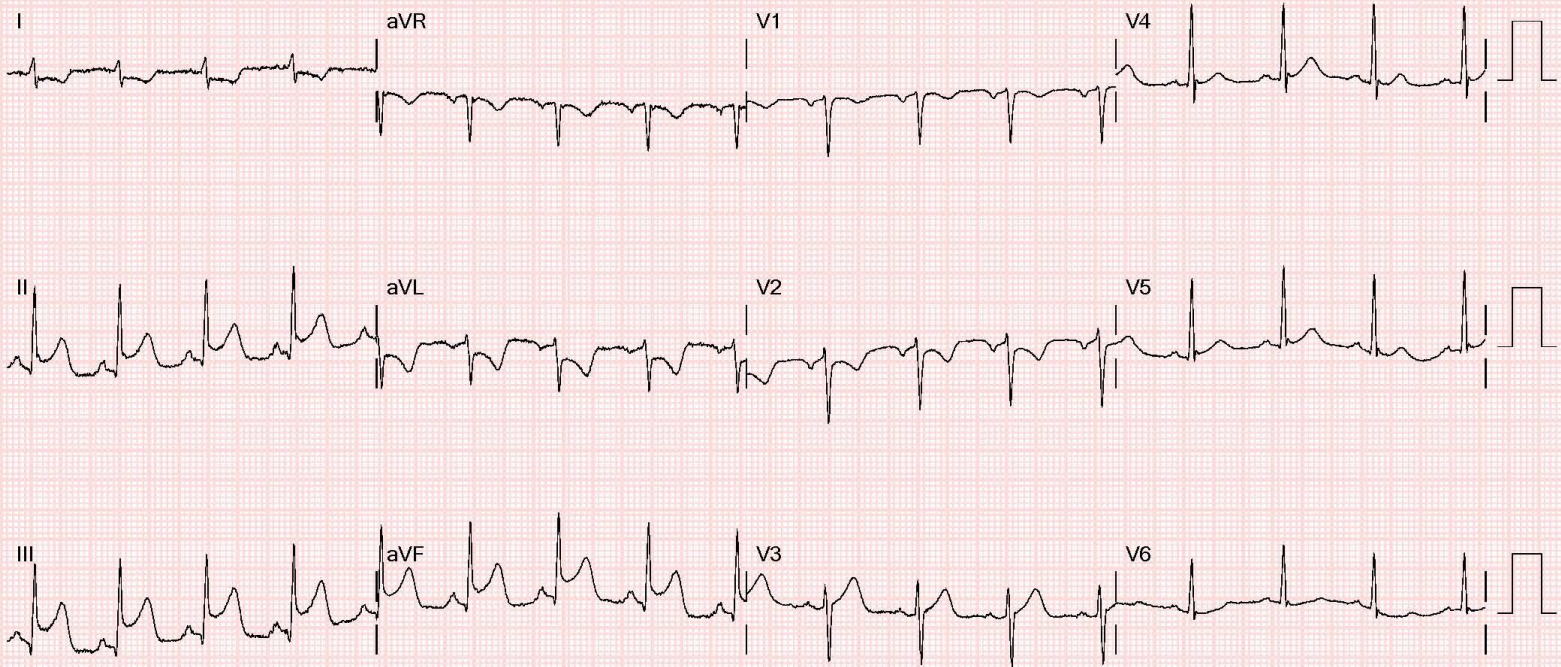
Axes

P 90
QRS 92
T 102

Requested by:

- ABNORMAL ECG -

Unconfirmed diagnosis



25 mm/sec Limb: 10 mm/mV Chest: 10 mm/mV
09/21/2014 15:05:15

60~0.05 - 150 Hz

PH100B P?
MECKLENBURG EMS

09/20/2014 00:54:37
52 yrs Male

---/---

MECKLENBURG EMS
Department:
Room:
Operator:

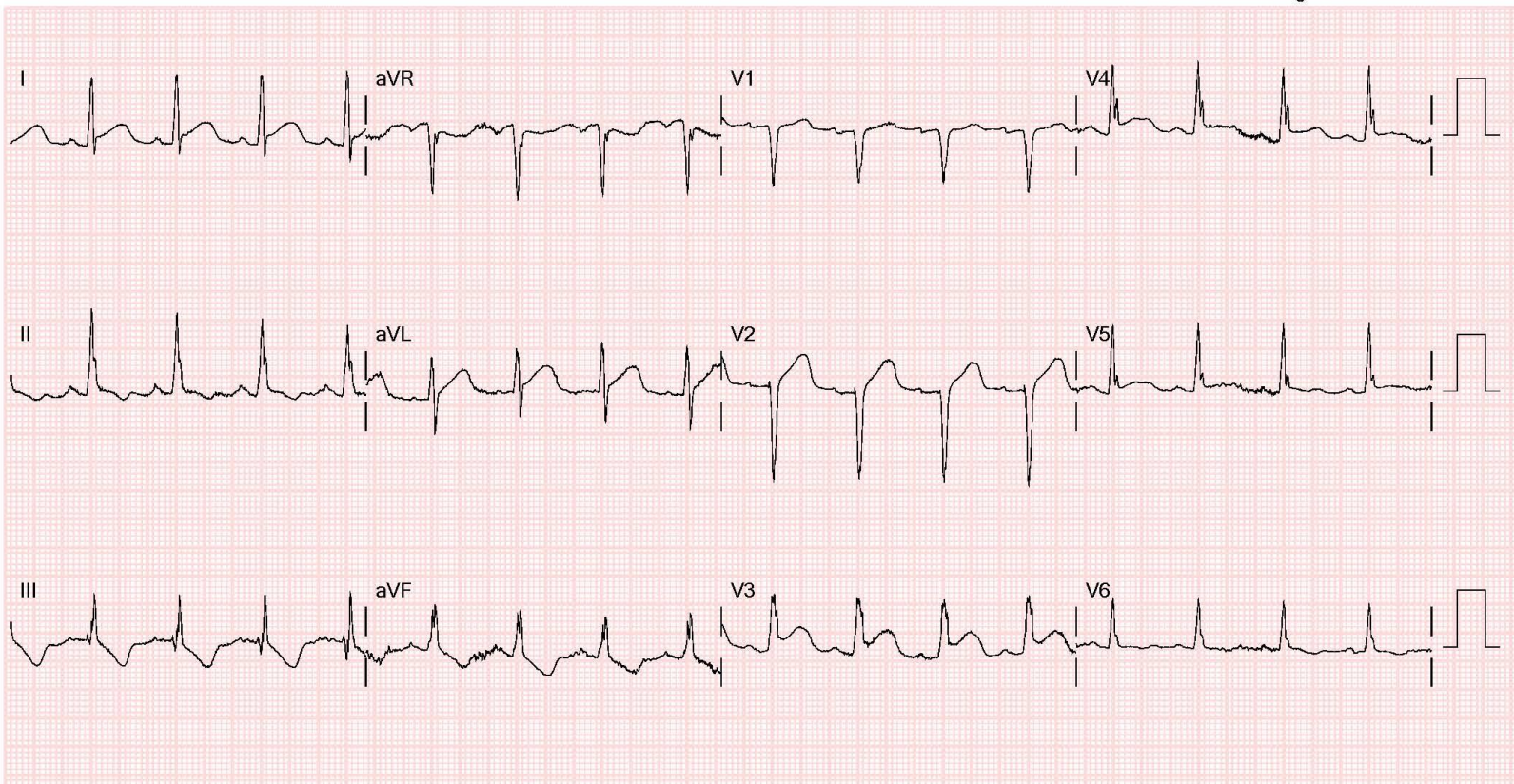
Rate 100 rate > 99
PR 165 ST > .10mV, V5 V6 I aVL
QRSd 90 Q >40mS, V1-V2
QT 340
QTc 439 • >>> Acute MI <<<

Requested by:

Axes
P 62
QRS 45
T -29

- ABNORMAL ECG -

Unconfirmed diagnosis



25 mm/sec Limb: 10 mm/mV Chest: 10 mm/mV
09/20/2014 00:54:37

60~0.05 - 150 Hz

PH100B P?
MECKLENBURG EMS

54 yrs 22:52:17 Female ---/---

MECKLENBURG EMS
Department:
Room:
Operator:

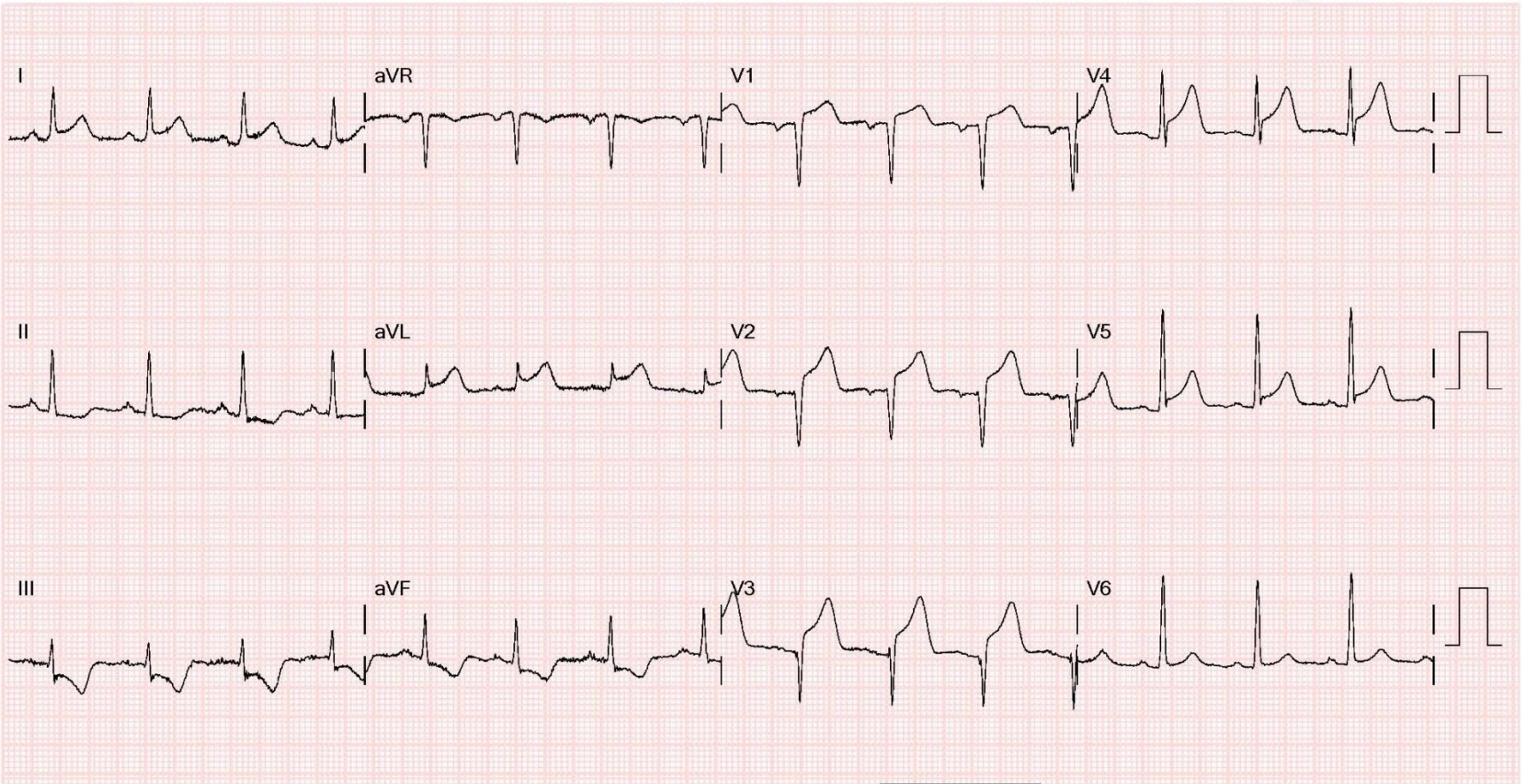
Rate 92 [REDACTED] normal P axis, V-rate 50-99
PR 163 [REDACTED] P >50mS, <-0.10mV V1
QRSd 77 [REDACTED] ST >0.20mV, V2-V6,I,aVL
QT 361 • >>> Acute MI <<<
QTc 447

Requested by:

Axes
P 58
QRS 35
T -44

- ABNORMAL ECG -

Unconfirmed diagnosis



25 mm/sec

Limb: 10 mm/mV

Chest: 10 mm/mV

60~0.05 - 150 Hz

PH100B

P?

22:52:17

MECKLENBURG EMS

48 yrs 15:02:15
Male ---/---

MECKLENBURG EMS
Department:
Room:
Operator:

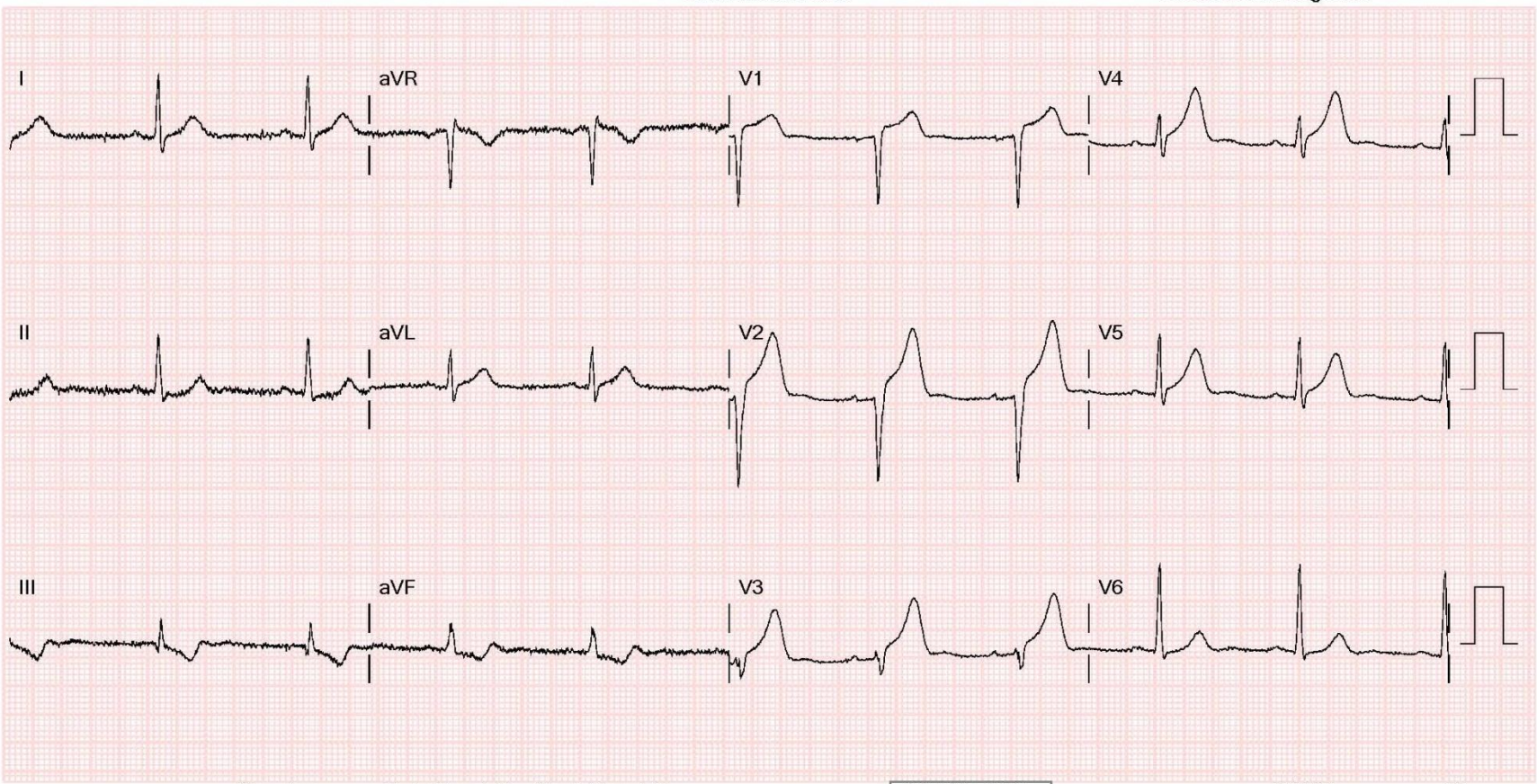
Rate 61 • [REDACTED] normal P axis, V-rate 50- 99
PR 156 • [REDACTED] ST >0.25mV, V1-V2
QRSd 98 • [REDACTED] lat Q or ST-T abnormalities
QT 421 • >>> Acute MI <<<<
QTc 424

Requested by:

Axes
P 22
QRS 42
T -14

- ABNORMAL ECG -

Unconfirmed diagnosis



25 mm/sec Limb: 10 mm/mV Chest: 10 mm/mV
15:02:15

60~ 0.05 - 150 Hz

PH100B P?
MECKLENBURG EMS



What are the three components to Cardiac Triage?:

Symptomatic of an Acute Coronary Syndrome,

1mm or more elevation in two or more contiguous leads,

and 12 lead reading says "Acute MI."





Questions?

