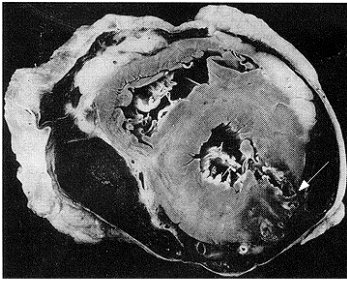
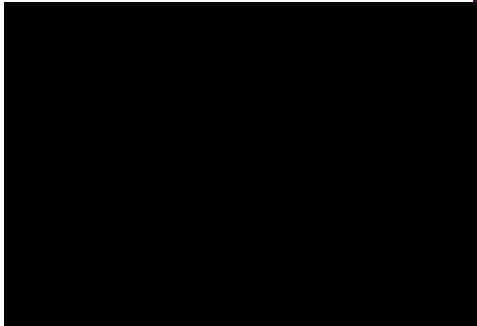


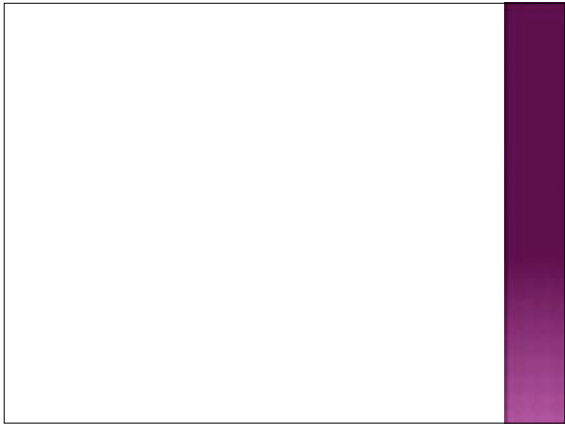
A CRASH COURSE IN 12 LEAD EKG INTERPRETATION

DR. PARAG V. PATEL D.O.
INTERVENTIONAL CARDIOLOGIST
DIRECTOR CARDIOLOGY FELLOWSHIP
DIRECTOR OF THE CCU
LUTHERAN GENERAL HOSPITAL



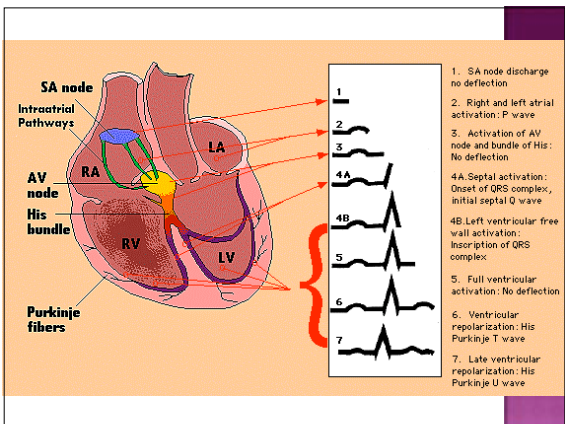
Left ventricular free wall rupture after MI
Pathologic specimen showing free wall rupture (arrow) and hemopericardium after a myocardial infarction. (From Edwards, WD, Applied anatomy of the heart. In: Cardiology: Fundamentals and Practice, Brandenburg, RO, Fuster, V, Guillian, ER, McGoon, DC (Eds), Year Book, Chicago, 1987, pp. 47-109.)

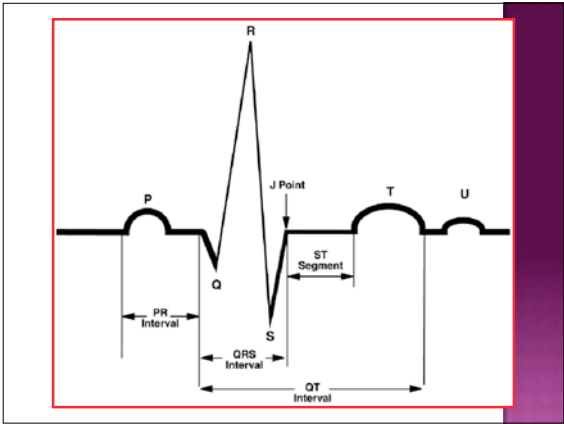


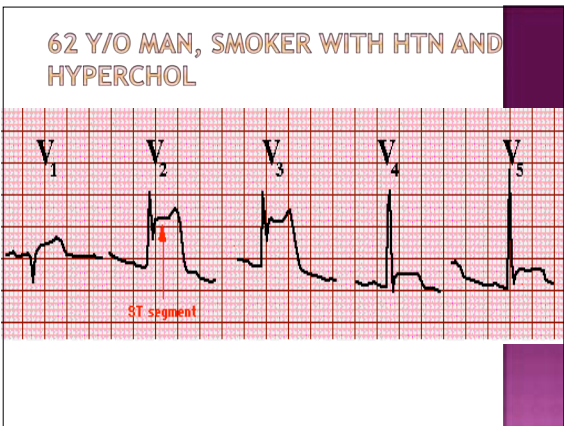


OBJECTIVES

- REVIEW THE IMPORTANCE OF 12 LEAD EKG IN ISCHEMIC HEART DISEASE.
- REVIEW BASIC CONDUCTION PRINCIPLES
- UNDERSTAND HOW TO DIAGNOSE A MYOCARDIAL INFARCTION.
- UNDERSTAND BASICS OF LOCALIZING THE SITE OF INFARCTION.
- INTRODUCE OTHER LIFE THREATENING EKG'S





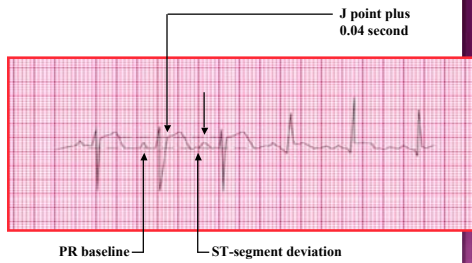


RECOGNITION OF AMI

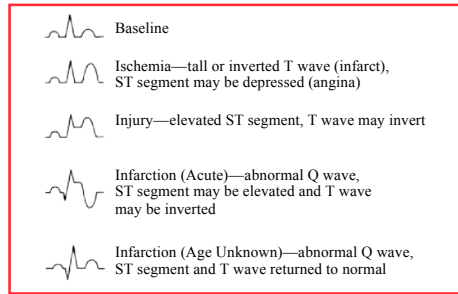
- Know what to look for—
 - ST elevation >1 mm
 - 3 contiguous leads
- Know where to look

The diagram shows a red box highlighting a portion of an ECG tracing. A horizontal line is drawn at the level of the PR segment, labeled 'PR baseline'. An arrow points to the J point, labeled 'J point plus 0.04 second'. Another arrow points to the peak of the ST segment, which is 4.5 mm above the PR baseline, labeled 'ST-segment deviation = 4.5 mm'.

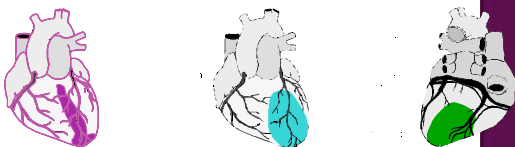
HOW TO MEASURE ST-SEGMENT DEVIATION



12-LEAD ECG VARIATIONS IN AMI AND ANGINA

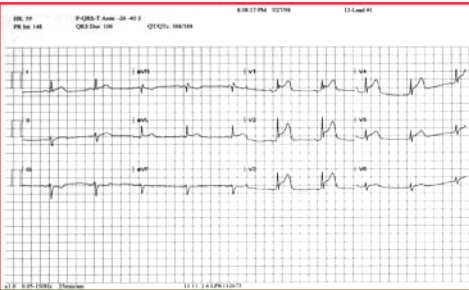


AMI LOCALIZATION

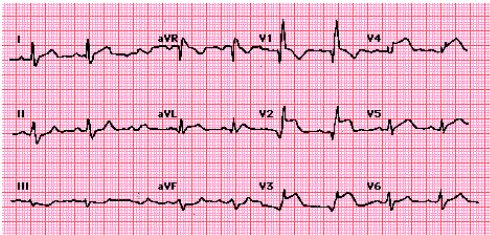


I lateral	aVR	V ₁ septal	V ₄ anterior
II inferior	aVL lateral	V ₂ septal	V ₅ lateral
III inferior	aVF inferior	V ₃ anterior	V ₆ lateral

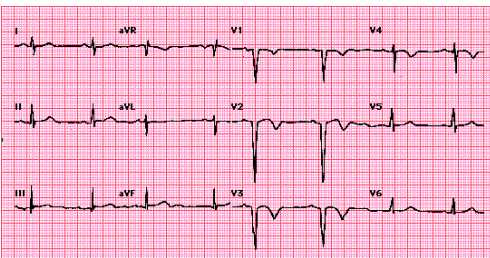
ANTERIOR SEPTAL AMI



54 Y/O WOMAN IN ER WITH EPIGASTRIC BURNING



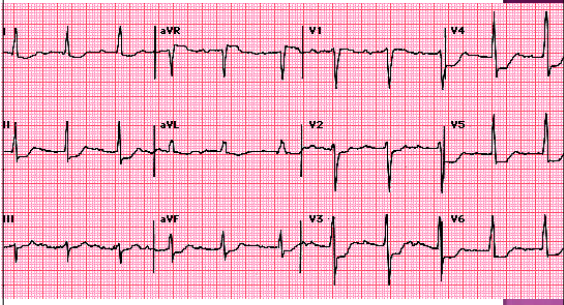
62 Y/O WITH DIAPHORESIS HEARTBURN AND SOB 2 DAYS AGO



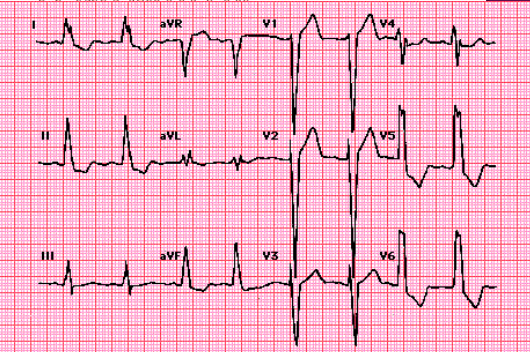
50Y/O SMOKER, DURING
TREADMILL STRESS TEST

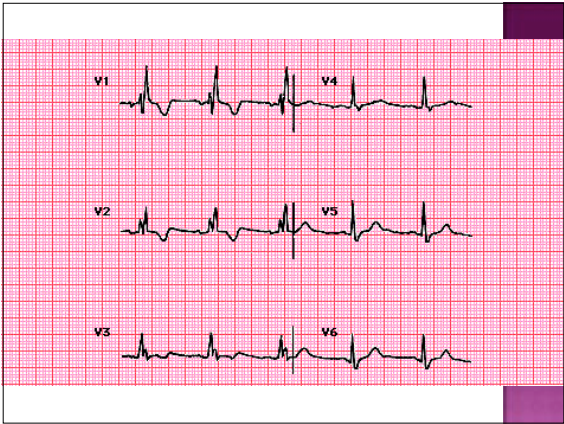


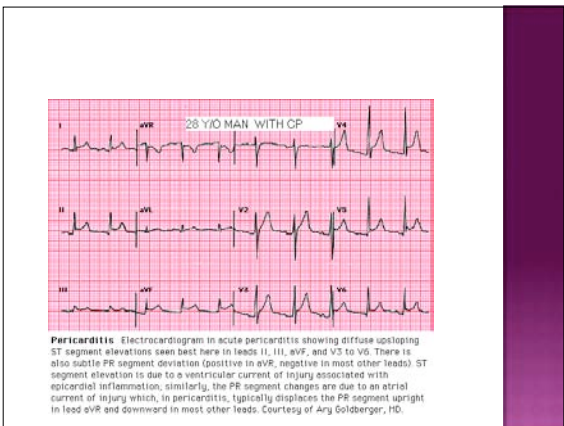
92 Y/O WOMAN WITH UNSTABLE
ANGINA

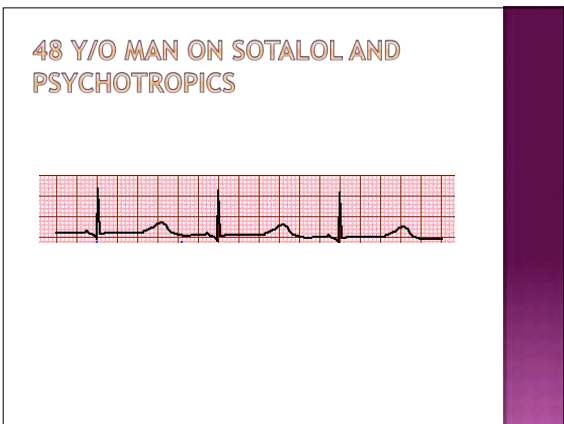


77 Y/O WITH CHD

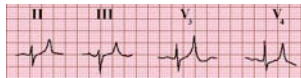




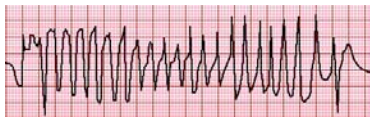




52Y/O WOMAN WITH RENAL FAILURE

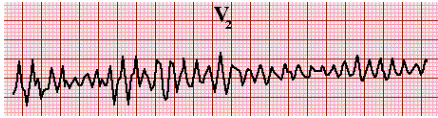


72Y/O MAN ON QUINIDINE FOR ATRIAL FIB.



61 Y/O MAN WITH A HISTORY OF MI.
? SHOCK

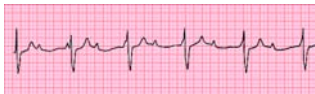




PEARLS FOR USING THE EKG AS A CLINICAL TOOL.

- If a patient has chest pain, SOB, diaphoresis-ischemia is expected, repeat the EKG often!
- The 12 lead EKG is one of the cheapest, most efficient tools in medicine.
- The future will include continuous 12 lead EKG monitoring in the ED and TELEMETRY units to detect ischemia earlier.
- Home 12 lead systems will be available for remote monitoring.

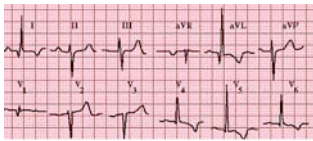
72 Y/O WITH SYNCOPY



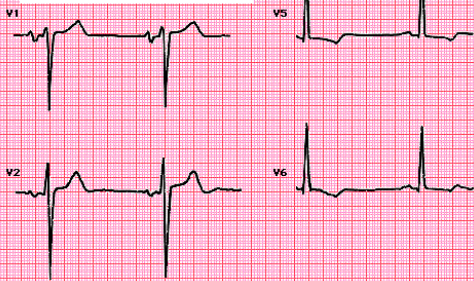
**? LIFE THREATENING
AFIB/FLUTTER**



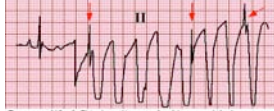
EKG IS 50% SENSITIVE FOR LVH



45 y/o male with hypertension



23Y/O CMS STUDENT PRIOR TO CLINICAL ROTATIONS, C/O CP



Tremor artifact This dramatic example of tremor artifact demonstrates complexes which simulate a run of ventricular tachycardia. However, QRS complexes (arrows) can clearly be seen marching through the rhythm strip.

45 Y/O WITH PALPITATIONS WIDE COMPLEX BEATS



22 Y/O WITH PALPITATIONS



