

LVH and Other Miscellaneous Conditions

RBBB

LAFB

LAPB

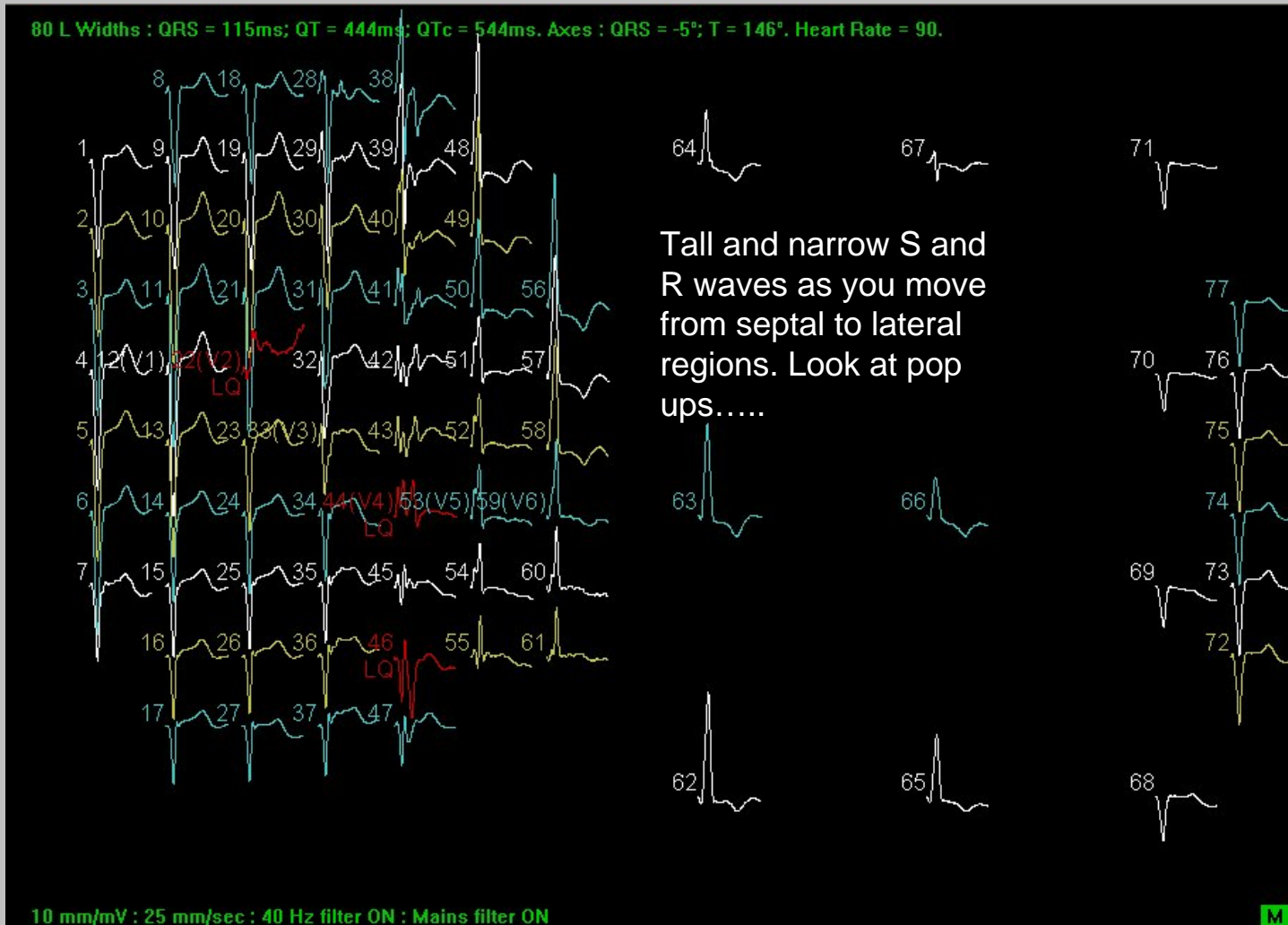
Diagnosis

- These conditions are all diagnosed from ECG morphology, extending standard 12-lead criteria into 80-lead regions
- Color maps give little information, use:
 - Beat view
 - ECG pop ups
 - Be guided by diagnostic algorithm

LVH

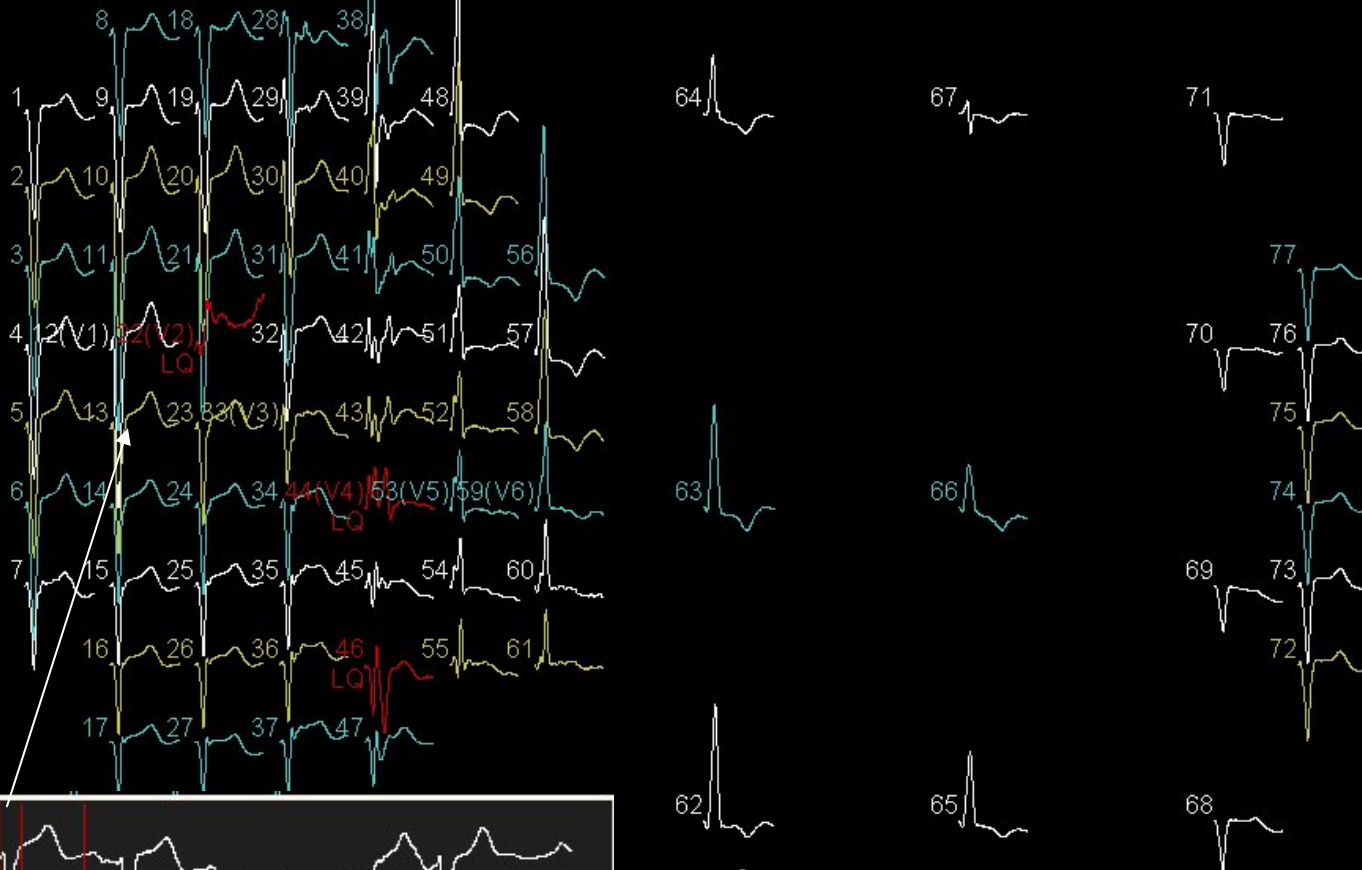
- Based upon Sokolow and Lyon criteria:
 - sum (S in V1 and R in V6) > 35 mm
 - extended to areas around V1 & V6
- Discriminate between LVH systolic and diastolic by “strain pattern” of inverted T waves
 - Systolic = (S in V1 and R in V6) > 29 mm & inverted T in left ventricle region
 - Diastolic = (S in V1 and R in V6) > 35 mm, no T wave inversion

LVH Systolic



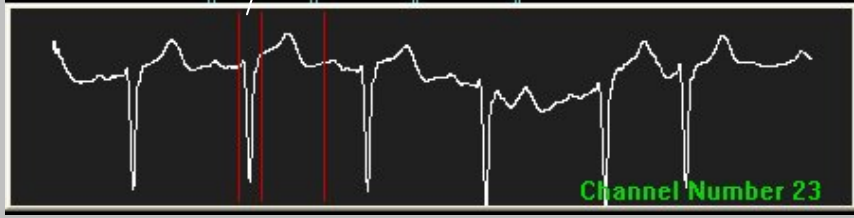
LVH Systolic

80 L Widths : QRS = 115ms; QT = 444ms; QTc = 544ms. Axes : QRS = -5°; T = 146°. Heart Rate = 90.



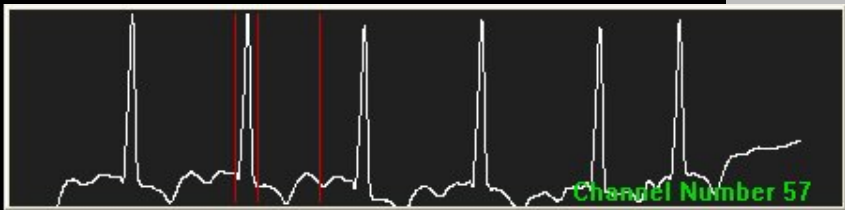
Deep S wave in septal region

M

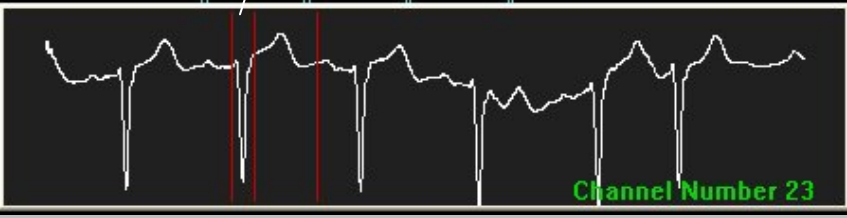


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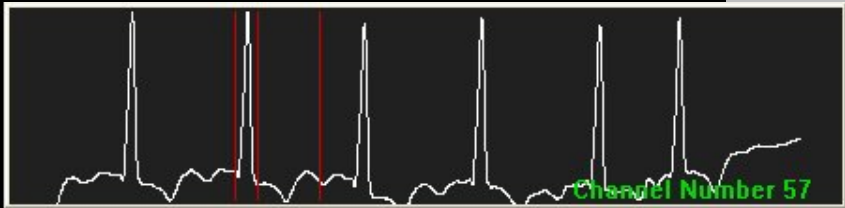
Tall R wave in lateral region & inverted T waves



Deep S wave in septal region

LVH Systolic

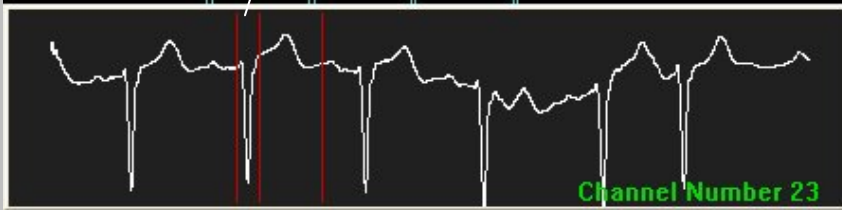
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Tall R wave in lateral region & inverted T waves

Conclusion:
LVH Systolic

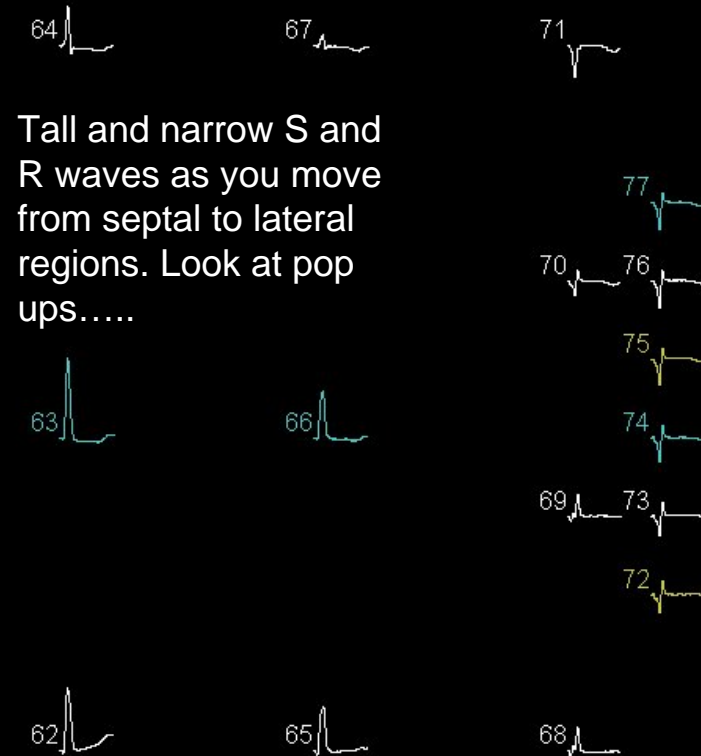
Deep S wave in septal region



Now LVH Diastolic

LVH Diastolic

80 L Widths : QRS = 102ms; QT = 348ms; QTc = 454ms. Axes : QRS = 41°; T = Indeterminate. Heart Rate = 102.

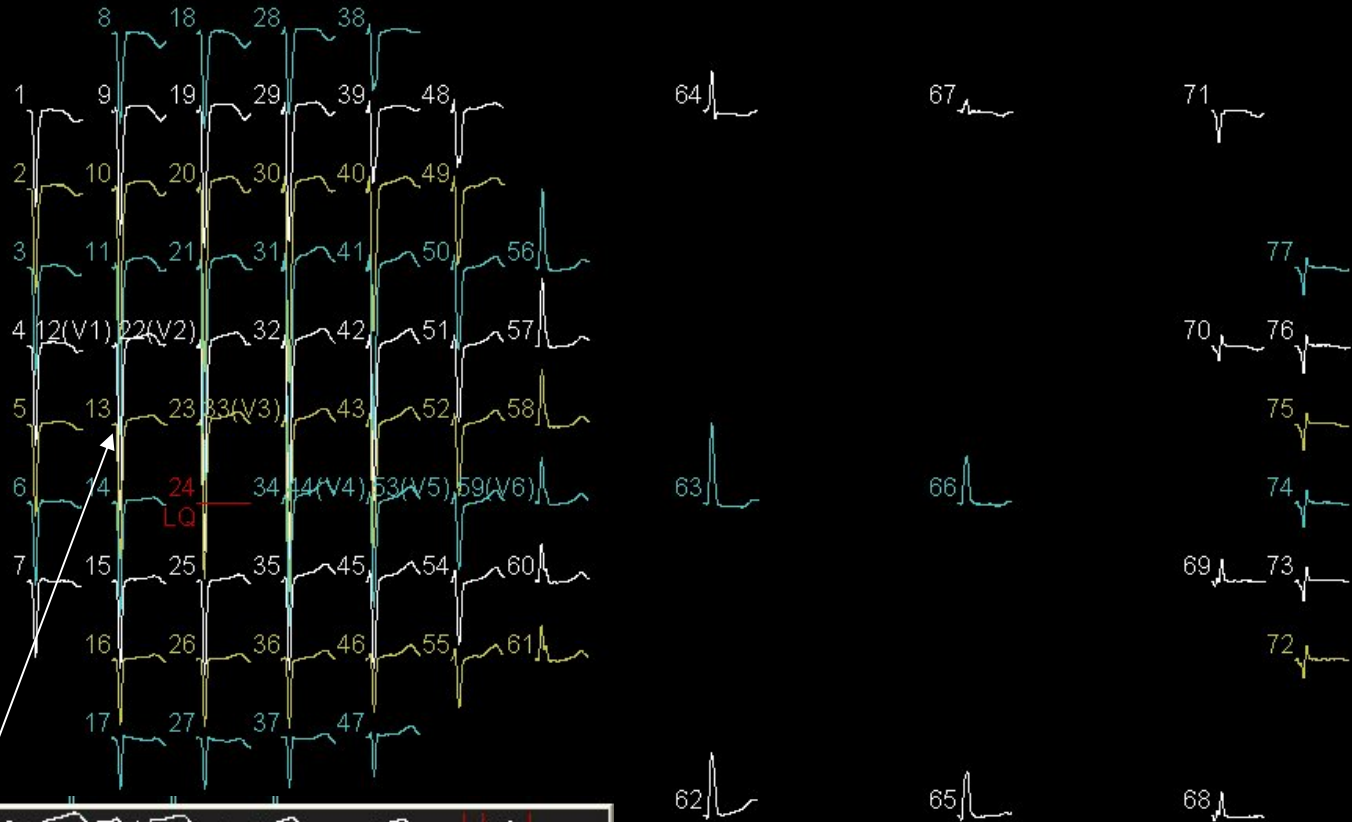


10 mm/mV : 25 mm/sec : 40 Hz filter ON : Mains filter ON

A

LVH Diastolic

80 L Widths : QRS = 102ms; QT = 348ms; QTc = 454ms. Axes : QRS = 41°; T = Indeterminate. Heart Rate = 102.

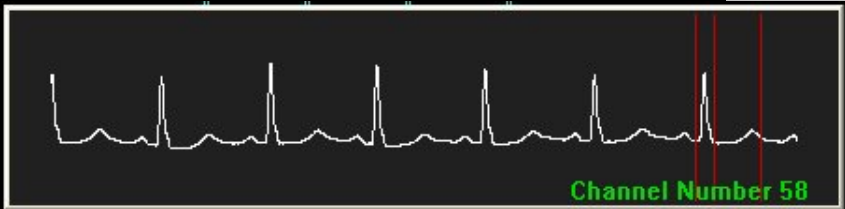
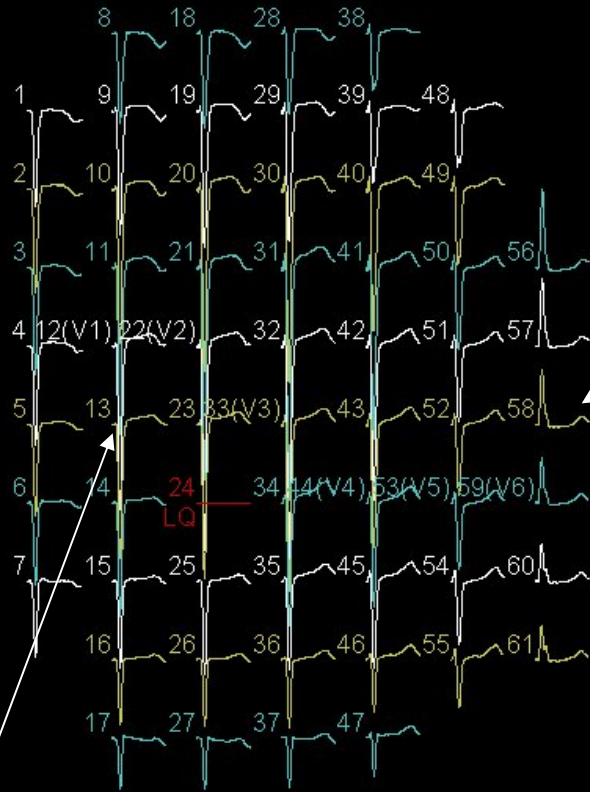


Deep S wave in
septal region

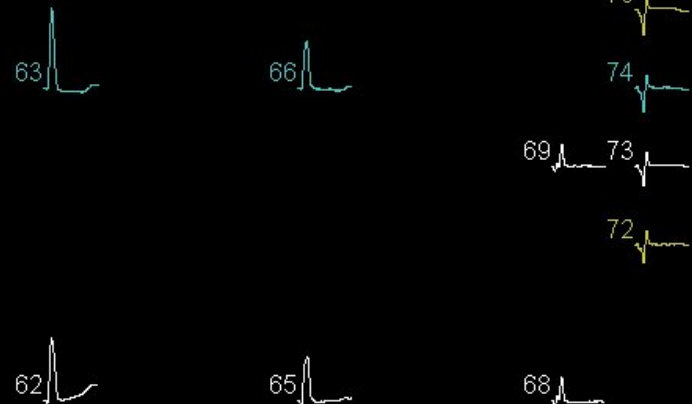
A

LVH Diastolic

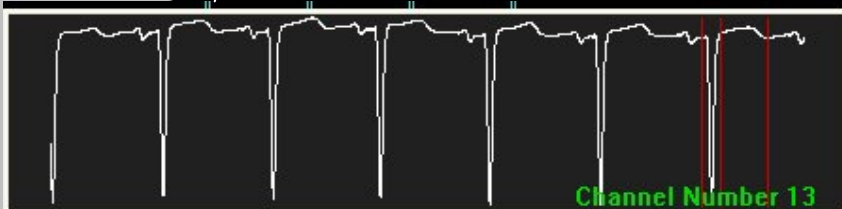
80 L Widths : QRS = 102ms; QT = 348ms; QTc = 454ms. Axes : QRS = 41°; T = Indeterminate. Heart Rate = 102.



Tall R wave in lateral region & no inverted T waves



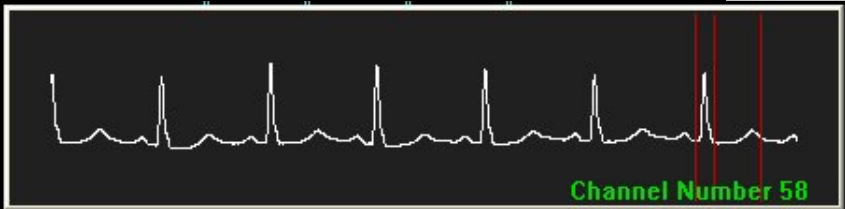
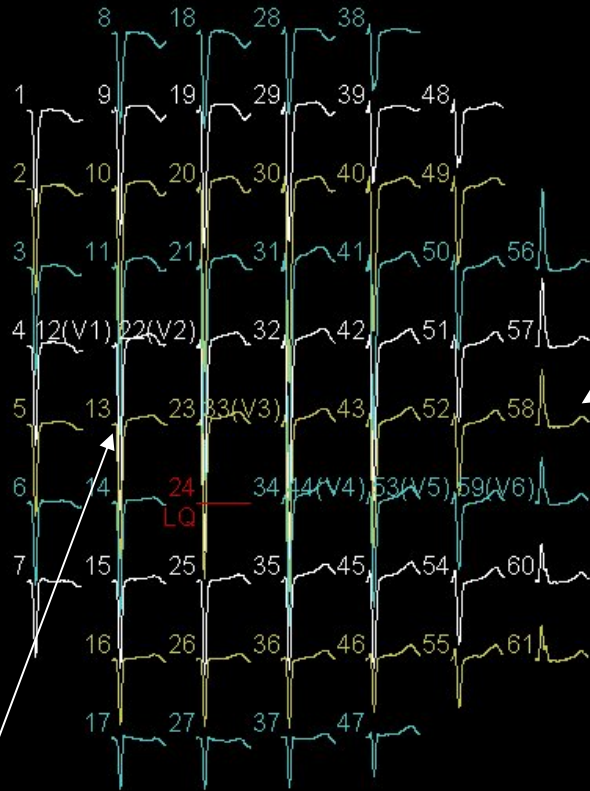
Deep S wave in septal region



A

LVH Diastolic

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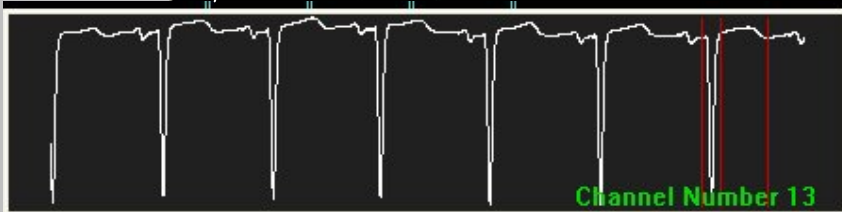


Tall R wave in lateral region & no inverted T waves



Conclusion:
LVH Diastolic

Deep S wave in septal region



LVH

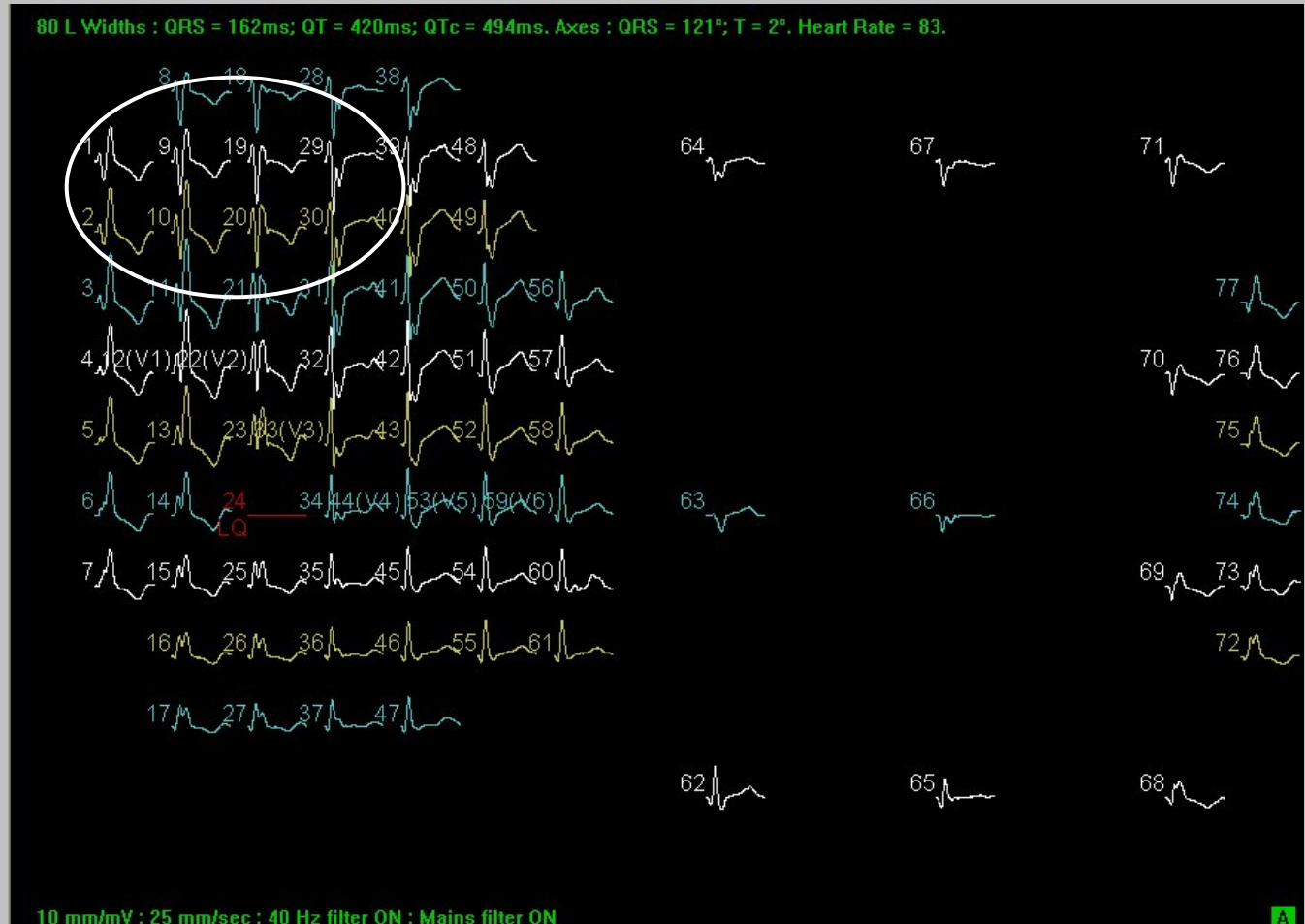
- Often occurs in conjunction with other conditions: Early Repol, MI.
- Be guided by the Diagnostic Algorithm explanation, checking that the morphology is not induced by noise
- Discriminator between LVH systolic and diastolic is the presence of T wave inversion in lateral region

RBBB

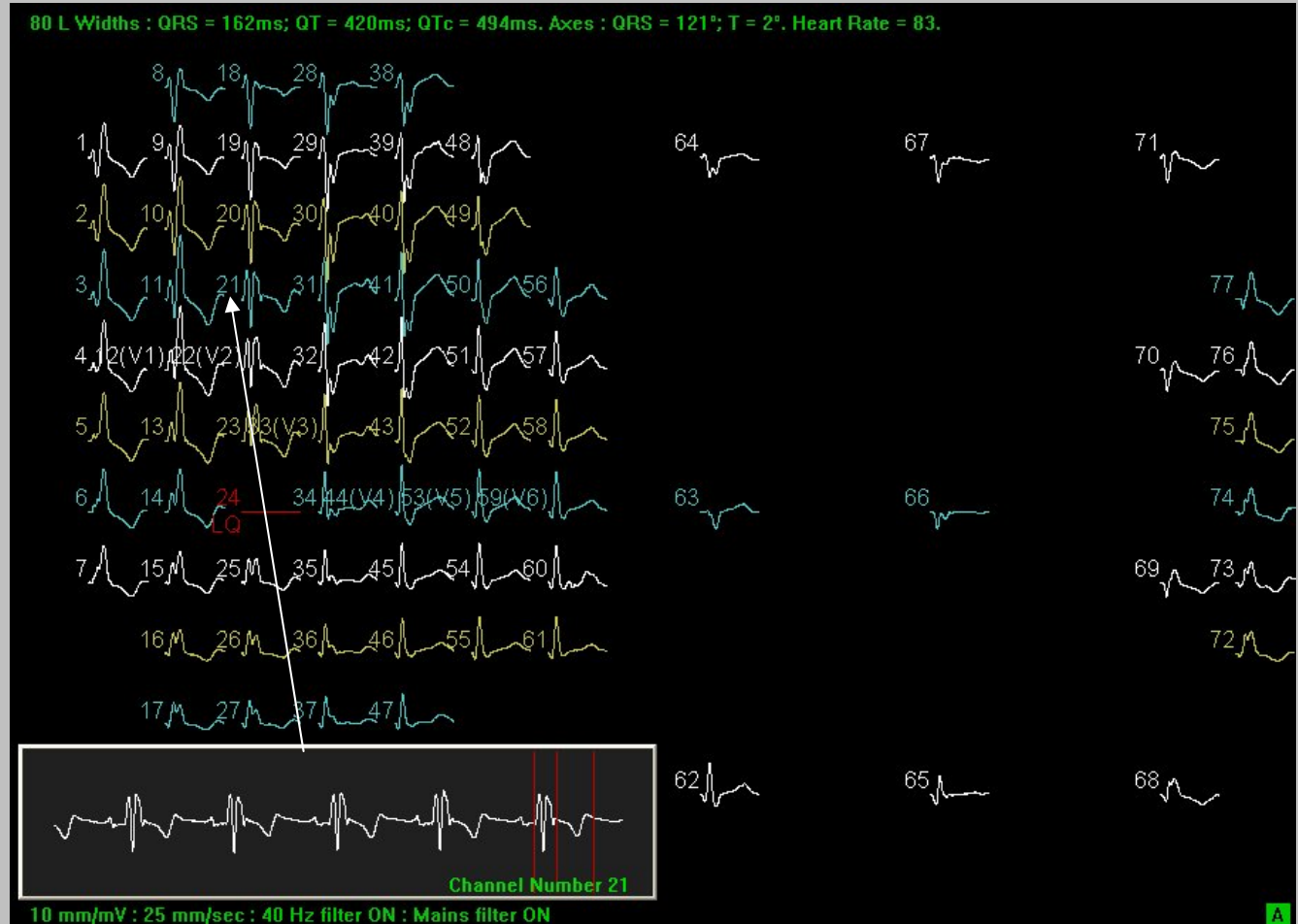
Look for the “bunny ears”

RBBB

The R-S-R pattern of RBBB is often more distinct on the top right chest than in the traditional 12 lead area



RBBB



“bunny ears”
even clearer
on monitor
trace pop up

Fascicular Blocks

- Diagnostic Algorithm uses 12-lead type criteria.
- Follow the criteria indicated by the algorithm explanation and check that it is not a noise induced morphology

Main Criteria

- LAFB:
 - QRS axis is between -30 and -90 deg
 - R wave >1.5 mm in Lead III or III
 - unless r wave >3 mm after negative deflection
ie inferior MI
- LPFB:
 - QRS axis is between 100 and 180 deg
 - R wave >1.5 mm in Lead I
 - Q wave < -1.5 mm in Leads III & aVF