

12-lead Diagnostic Criteria for Conduction Defects			
Left Anterior Hemiblock	Left Posterior Hemiblock	Right Bundle Branch Block	Left Bundle Branch Block
<ul style="list-style-type: none"> <li>• qR in I and aVL</li> <li>• rS in II, III, &amp; aVF</li> <li>• LAD</li> </ul>	<ul style="list-style-type: none"> <li>• rS in I and aVL</li> <li>• qR in II, III, &amp; aVF</li> <li>• RAD</li> </ul>	<ul style="list-style-type: none"> <li>• rSR' in V<sub>1</sub></li> <li>• slurred wide S in I, aVL, V<sub>5</sub>, &amp; V<sub>6</sub></li> <li>• inverted T wave in V<sub>1</sub></li> <li>• prolonged VAT in V<sub>1</sub> (&gt;0.035 seconds)</li> <li>• QRS duration 0.12 seconds or more</li> </ul>	<ul style="list-style-type: none"> <li>• rS or QS in V<sub>1</sub></li> <li>• no q wave in I, aVL, V<sub>5</sub> or V<sub>6</sub></li> <li>• R wave in I, aVL, V<sub>5</sub>, or V<sub>6</sub> usually notched or slurred</li> <li>• Inverted T wave in V<sub>6</sub></li> <li>• Prolonged VAT in V<sub>6</sub> (&gt;0.045 seconds)</li> <li>• QRS duration 0.12 seconds or more</li> </ul>

SUPRAVENTRICULAR ABERRANCY	VENTRICULAR ECTOPY
<ul style="list-style-type: none"> <li>• Ashman's phenomena</li> <li>• Triphasic complex in V<sub>1</sub></li> <li>• Initial vector the same or similar P prime (P')</li> <li>• Noncompensatory pause</li> <li>• Ventricular rate 170 or greater</li> <li>• Slowed or terminated by vagal maneuvers</li> <li>• Complex duration &lt; 0.14 seconds</li> </ul>	<ul style="list-style-type: none"> <li>• Fusion beats</li> <li>• Biphasic or predominantly positive complex in V<sub>1</sub> with taller left rabbit ear</li> <li>• Opposite initial vector</li> <li>• Absence of P prime</li> <li>• Compensatory pause</li> <li>• Ventricular rate &lt; 170</li> <li>• Unaffected by vagal maneuvers</li> <li>• Complex duration &gt; 0.14 seconds</li> <li>• QS or rS in V<sub>6</sub></li> <li>• Fat initial r &gt; than 0.03 seconds in V<sub>1</sub></li> <li>• Concordant pattern</li> <li>• Evidence of AV dissociation</li> <li>• Right or extreme right axis deviation</li> </ul>

To Diagnose Atrial Enlargement, look at Leads II and V <sub>1</sub>	
<b>Right Atrial Enlargement</b> <ul style="list-style-type: none"> <li>• increased amplitude of the 1<sup>st</sup> portion of the P wave</li> <li>• no change in the duration of the P wave</li> <li>• possible right axis deviation of the P wave</li> </ul>	<b>Left Atrial Enlargement</b> <ul style="list-style-type: none"> <li>• occasionally, increased amplitude of the 2<sup>nd</sup> portion of the P wave</li> <li>• increased duration of the P wave</li> <li>• no significant axis deviation</li> </ul>

Summary: Ventricular Hypertrophy	
Right Ventricular Hypertrophy	Left Ventricular Hypertrophy
6. Increased voltage of the r waves in the right precordial leads V <sub>1</sub> & V <sub>2</sub> 7. Increased voltage of the s waves in V <sub>5</sub> & V <sub>6</sub> 8. Secondary ST - T wave change in the right precordial leads V <sub>1</sub> & V <sub>2</sub> 9. Right axis deviation +110° or more 10. VAT greater than 0.02 seconds in leads V <sub>1</sub> & V <sub>2</sub>	1. Voltage criteria ( 3 points ) <ul style="list-style-type: none"> <li>• R or S in limb leads = 20 mm</li> <li>• S wave in V<sub>1</sub> or V<sub>2</sub> = 30 mm</li> <li>• R wave in V<sub>5</sub> or V<sub>6</sub> = 30 mm</li> </ul> 2. ST - T wave abnormalities <ul style="list-style-type: none"> <li>• without digitalis ( 3 points )</li> <li>• with digitalis ( 1 point )</li> </ul> 3. Left atrial abnormality ( 3 points ) 4. Left axis deviation ( 2 points ) 5. QRS duration ( 0.09 seconds ) ( 1 point ) 6. Intrinsicoid deflection V <sub>5</sub> or V <sub>6</sub> greater than 0.05 ( 1 point ) <b>4 points = probable; 5 points = diagnostic</b>
The presence of strain (asymmetric ST segment depression and T wave inversion) indicates clinically significant hypertrophy, is seen most often in those leads with tall R waves, and may herald ventricular dilatation and failures.	