

## Supplementary material

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**Table S1. Classification criteria for main electrocardiographic diagnoses**

<b>Diagnosis</b>	<b>Classification criteria</b>
Normal heart rate	60–100 beats per minute
QRS interval	Measured from the end of the PR interval (or beginning of the Q wave) to the end of the S wave. Normal range: 70–110 msec
PQ interval	Measured from end of P wave to start of QRS complex. Normal range: 120–200 msec
ST interval	Measured from the end of the QRS complex (the J point) to the beginning of the T wave.
QT interval	Measured from the start of the Q wave to the end of the T wave.
QTc interval	Calculated based on Bazett's formula. Normal range: men 350–450 msec, women 360–460 msec
Sinus rhythm	positive P wave in leads I, II, aVF and V3–V6 negative P wave in lead aVR positive, negative or biphasic P wave in leads III, aVL and V1–V2
Atrial rhythm	The P wave has a different (but constant) shape to the P wave of the sinus rhythm. PQ interval >100 msec. Heart rate ≤100/min

Atrial fibrillation	<p>The absence of P waves</p> <p>Presence of the irregular fibrillation waves</p> <p>The frequency of the f waves most often &gt;350/min</p> <p>An irregular rhythm of the QRS complexes</p>
Atrial flutter	<p>Presence of the flutter waves, in leads II, III, aVF usually biphasic</p> <p>Lack of an isoelectric line between the F waves in the limb leads</p> <p>The frequency of the F waves most often &gt;250/min</p> <p>Steady rhythm of the QRS complexes, less often irregular, usually slower than the F waves</p>
Normal axis	ranges from +90 to -30 degrees
Left axis deviation	ranges from -31 to -90 degrees
Right axis deviation	ranges from +91 to +180 degrees
Extreme axis deviation	ranges from +181 to -90 degrees
Frequent ventricular extrasystoles	More than one ventricular extrasystole in ten normal (sinus) the QRS waves
Left ventricular hypertrophy	<p>In patients without intraventricular conduction abnormalities at least one of the following:</p> <p>R in aVL &gt;1.1 mV (11 mm);</p> <p>R in I + S in III &gt;2.5 mV (25 mm);</p> <p>R in V5 or V6 &gt;2.6 mV (26 mm);</p> <p>S in V1 + R in V5 or V6 &gt;3.5 mV (35 mm);</p> <p>S in V2 + R in V5 or V6 &gt;4.5 mV (45 mm);</p> <p>S in V3 + R in aVL &gt;2.8 mV (28 mm) (men);</p> <p>S in V3 + R in aVL &gt;2.0 mV (20 mm) (women);</p> <p>In the presence of LAH at least one of the following:</p>

	<p>S in III + (maximum R + S from one of the precordial leads) &gt;2.8 mV (28 mm) women and &gt;3.0 mV (30 mm) men;</p> <p>S V1 or V2 + R V6 + S V6 &gt;2.5 mV (25 mm);</p> <p>In the presence of RBBB at least one of the following:</p> <p>R in I &gt;1.1 mV (11 mm);</p> <p>S in V1 &gt;0.2 mV (2 mm);</p> <p>R in V5 lub V6 &gt;1.5 mV (15 mm);</p> <p>In the presence of LBBB:</p> <p>S in V1 + R in V5 &gt;4.5 mV (45 mm);</p> <p>auxiliary criteria — left atrial hypertrophy and/or QRS complex &gt;155 msec (classified as ‘possible LVH’)</p>
<p>Right ventricular hypertrophy</p>	<p>In patients without intraventricular conduction abnormalities:</p> <p>R in aVR <math>\geq</math>0.5 mV (5 mm)</p> <p>R in V1 <math>\geq</math>0.7 mV (7 mm)</p> <p>rSR’ in V1 — R’ &gt; 1 mV (10 mm) (QRS &lt;120 ms)</p> <p>S in V5 &gt;1 mV (10 mm)</p> <p>S in V6 &gt; 0.3 mV (3 mm)</p> <p>R in V1 + S w V5 lub V6 &gt;1.05 mV (10.5 mm)</p> <p>In the presence of RBBB:</p> <p>R-wave amplitude in V1 &gt; 1.5 mV (15 mm)</p>
<p>LBBB</p>	<p>The duration of the QRS complex <math>\geq</math>120 msec</p> <p>Wide, interlocked R wave or R wave with a plateau at its apex in leads I, aVL, V5, and V6, or rarely RS complex in leads V5–V6</p>

	<p>QS or rS complex in leads V1–V3</p> <p>Time to R-peak in V5, V6 &gt;60 msec</p> <p>ST and T changes opposite to the main deflection of the QRS complex</p>
RBBB	<p>The duration of the QRS complex is <math>\geq 120</math> msec.</p> <p>S-wave wider than R and/or &gt;40 msec in leads I and V6.</p> <p>QRS complex with morphology rsr', rsR', rSR' (r' or R' wider than r) or wide, often interlocked R wave in leads V1 and/or V2.</p> <p>Time to R-peak in V1 &gt;50 msec.</p> <p>Secondary ST – T changes in leads V1 – V2 and possibly V3</p>
LAH	<p>Left axis deviation.</p> <p>The qR complex in lead aVL.</p> <p>Time to R-peak in lead aVL &gt;45 msec</p> <p>QRS duration &lt;120 msec</p>
LPH	<p>Right axis deviation.</p> <p>qR complexes in leads III and aVF</p> <p>rS complexes in leads I and aVL</p> <p>Time to R-peak in lead aVF &gt;45 msec</p> <p>QRS time &lt;120 msec.</p> <p>No features of a right ventricular hypertrophy</p>
Pathologic Q wave	<p>Must be present in at least two corresponding leads:</p> <ol style="list-style-type: none"> <li>In V2, V3 - a QS complex or Q wave of any depth and duration <math>\geq 20</math> ms;</li> <li>In any two adjacent leads from the group - I, aVL, V6; V4–V6; II, III, aVF — QS complex or waves Q with an amplitude <math>\geq 0.1</math> mV (1 mm) and duration <math>\geq 30</math> ms</li> </ol>

ST depression	<p>Measured in the J — point, must be present in at least two corresponding leads:</p> <ol style="list-style-type: none"> <li>1. Leads V2, V3 — decrease in the J point <math>\geq 0.05</math> mV (0.5 mm);</li> <li>2. Leads other than V2 and V3 - decrease in the J point <math>\geq 0.1</math> mV (1 mm)</li> </ol>
ST elevation	<p>Measured in the J — point, must be present in at least two corresponding leads:</p> <ol style="list-style-type: none"> <li>1. Leads V2, V3 — women <math>\geq 0.15</math> mV (1.5 mm), men <math>\geq 40</math> years old - <math>\geq 0.2</math> mV (2 mm), men aged &lt;40 years - <math>\geq 0.25</math> mV (2.5 mm)</li> <li>2. Leads other than V2, V3 — women and men <math>\geq 0.1</math> mV (1 mm)</li> </ol>
Negative T wave	<p>Inversion of T waves (negative T) with amplitude <math>\geq 0.1</math> mV (1 mm)</p>

Abbreviations: LBBB, left bundle branch block; RBBB, right bundle branch block; LAH, left anterior hemiblock; LPH, left posterior hemiblock