

4. chest leads : six chest lead positions are defined by international agreement (a).

Contributors

Ciba Laboratories

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Ismelin the established treatment for hypertension.

4. Chest Leads (cont.)

The transitional zone

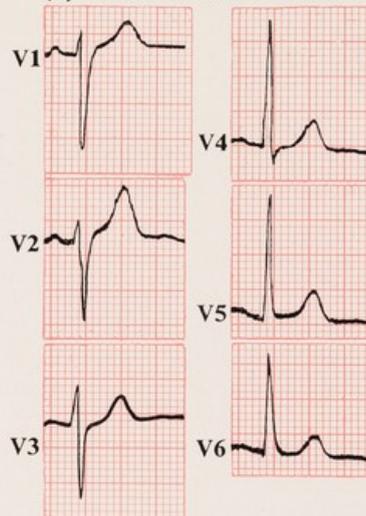
This usually occurs between V3 and V4 (c) but positional variation may displace it rightwards (d) or leftwards (e), variants often referred to respectively as **anticlockwise** and **clockwise rotation about the long axis** (the heart being viewed from below — f).

P and T in the chest leads

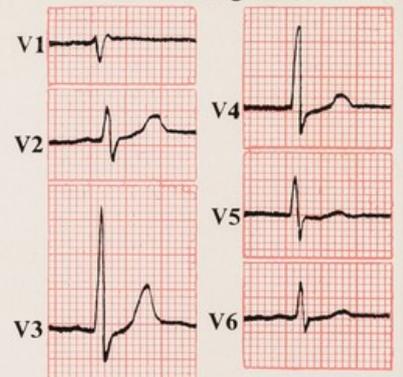
In V1 often, and in V2 occasionally, P and T are inverted or diphasic. They are always normally upright in adults in leads to the left of these positions.

An additional small positive deflection, of uncertain significance, may be seen on or immediately after the descending limb of T (g). This deflection, designated U, can become exaggerated as a result of potassium depletion or of digitalis administration.

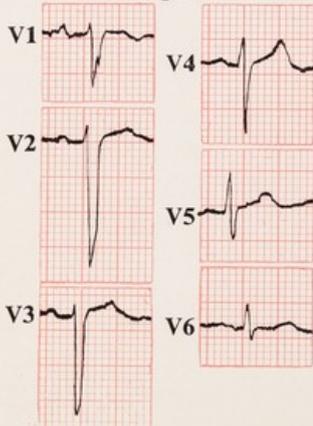
(c) Normal chest leads



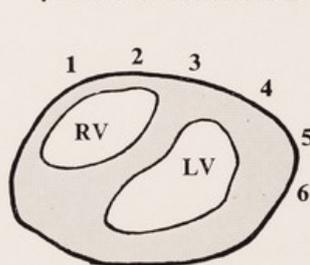
(d) Anticlockwise rotation about long axis



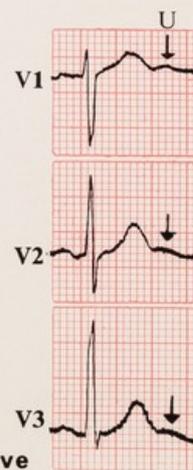
(e) Clockwise rotation about long axis



(f) Chest lead positions from below



(g) The normal U wave



The cards in this series are: Normal ECG, Limb Leads, Chest Leads, Left and Right Ventricular Hypertrophy, Myocardial Infarction, Ectopic Beats. All reproductions are from actual tracings.

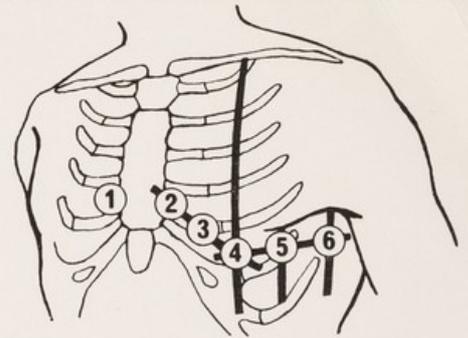
4. Chest Leads

C I B A

Six chest lead positions are defined by international agreement (a).

1. Fourth intercostal space, at right border of sternum.
2. Same interspace, at left sternal border.
3. Midway between positions 2 and 4.
4. At outer border of apex-beat area (normally mid clavicular line)
5. Same level as 4, in anterior axillary line.
6. Same level as 4 and 5, in midaxillary line.

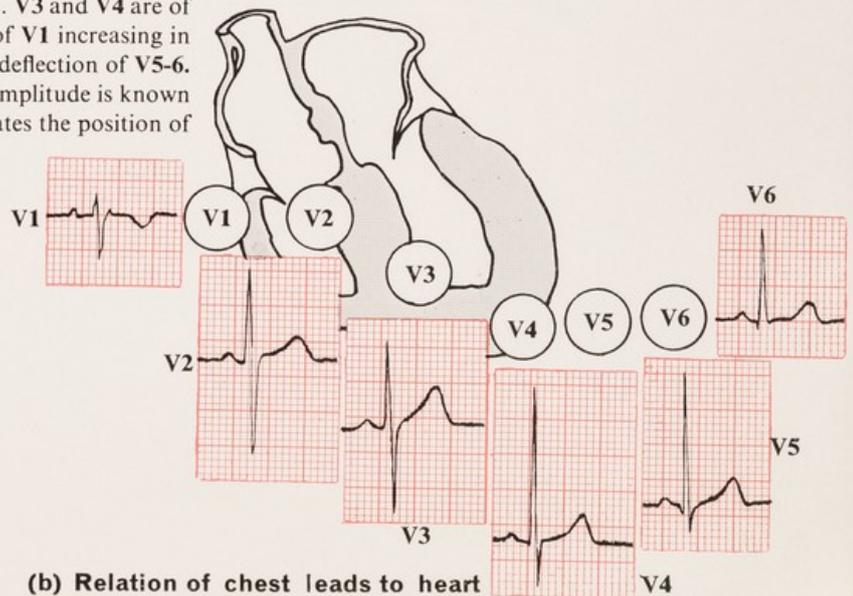
The usual relationship of these to the underlying heart is shown in diagram (b), together with typical normal patterns obtained from them.



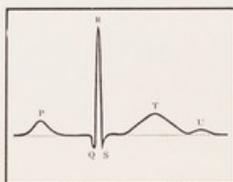
(a) Standard positions for chest leads

The ventricular complex

In general, V5 and V6 show the left-sided QR or QRS pattern like that of lead II. V1, and often V2 as well, are RV surface leads with RS or RSR' deflections. V3 and V4 are of intermediate pattern, the small initial R of V1 increasing in amplitude until it becomes the dominant deflection of V5-6. The point at which R and S are of equal amplitude is known as the **transitional zone** and roughly indicates the position of the interventricular septum.



(b) Relation of chest leads to heart



The ECG Deflections