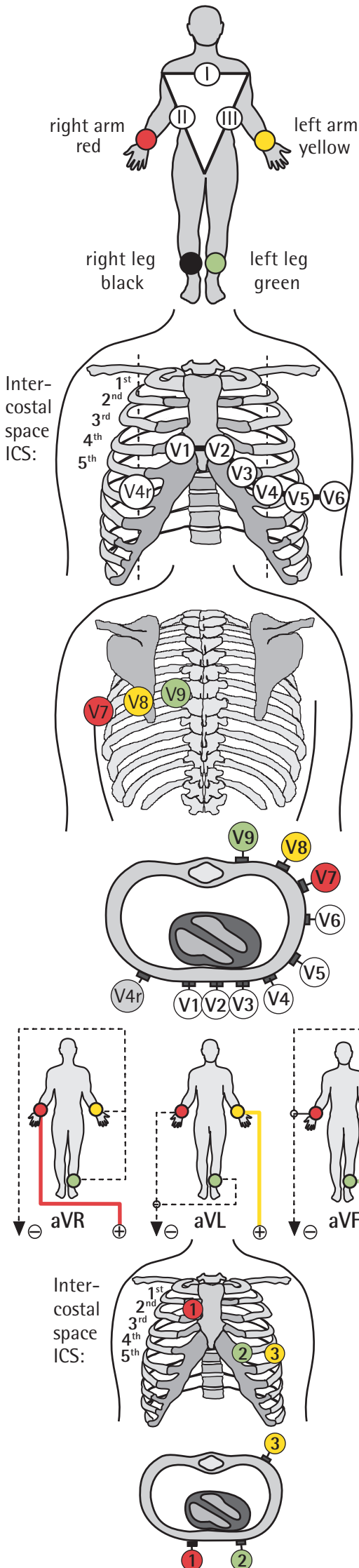
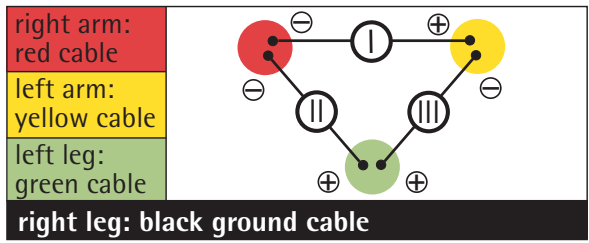


ECG Evaluation pocketcard



1. Einthoven's extremity (limb) leads (I, II, III)

Bipolar leads. The amplitude is positive if the depolarization moves towards the positive electrode marked with \oplus .



2. Wilson's chest (precordial) leads (V1-V6)

Unipolar leads. They measure the voltage of any one electrode relative to a constructed zero potential.

V1	4 th ICS at the right sternal border
V2	4 th ICS at the left sternal border
V3	midway between V2 and V4
V4	5 th ICS at the midclavicular line
V5	5 th ICS at the left anterior axillary line
V6	5 th ICS at the left midaxillary line

3. Additional Wilson's leads (V7-V9)

Unipolar leads. They measure electrocardiographic changes on the inferior cardiac wall.

Limb cables (red, yellow, green) as well as V1-V3 or V4-V6 could be attached.

V7	5 th ICS at the left posterior axillary line
V8	5 th ICS at the midscapular line
V9	5 th ICS at the left paravertebral line
right leg: black ground cable	

Cross section of the heart (V1-V9)

If a right ventricular infarction is suspected, V4r on the right side of the chest is useful.

Caution: Placing the electrodes improperly, for example in the second intercostal space, may lead to an R reduction in the anterior leads and may, therefore, be misinterpreted as an old anterior myocardial infarction.

4. Goldberger's augmented leads aVR, aVL, aVF

The augmented leads are obtained by recording voltages from the limbs. Their amplitudes are higher ("a" stands for "augmented").

aVR	red cable	right arm
aVL	yellow cable	left arm
aVF	green cable	left leg

5. Nehb's special leads

Bipolar leads. They measure electrocardiographic changes at the posterior cardiac wall.

Limb cables (red, yellow, green) could be attached.

1	2 nd ICS at the right sternal border
2	5 th ICS at the apex of the heart
3	5 th ICS at the left posterior axillary line
right leg: black ground cable	

Cross section of the heart (1-3)

Possible ECG malfunction: disconnected electrodes, damaged cables, muscular shivering, incorrect polarization of limb/chest leads, mains noise