



Tech Note

The Three-Way Indifferent Electrode Cable

When electrocardiograms are recorded using the chest leads, the active electrode is referenced against an indifferent point formed by combining the outputs of the limb electrodes. On a clinical ECG monitor, this summation is performed by the ECG lead selector switch. In the teaching laboratory, the indifferent point can easily be created by joining the outputs of the limb electrodes together with a three-way indifferent electrode cable that sends the combined signal to the input of the ECG amplifier used as the reference for the recording electrode.



Figure 1: The C-ECG-IE three-way indifferent electrode cable.

A three-way indifferent electrode cable, Part Number: C-ECG-IE, is now available from iWorx/CB Sciences. The cable has three electrode lead wires, each with a snap connector for attachment to electrodes. The other ends of the lead wires join together at a single connector that fits the sockets on the isolation block of a standard ECG patient cable. Use all three wires to connect the electrodes on the right arm, left arm, and left leg together to form the indifferent point needed for recording electrocardiograms from the chest leads (A in Figure 2 below). If two of the three wires are attached to the necessary limb electrodes, the indifferent point used for recording an electrocardiogram from an augmented limb lead can be created (B in Figure 2 below).

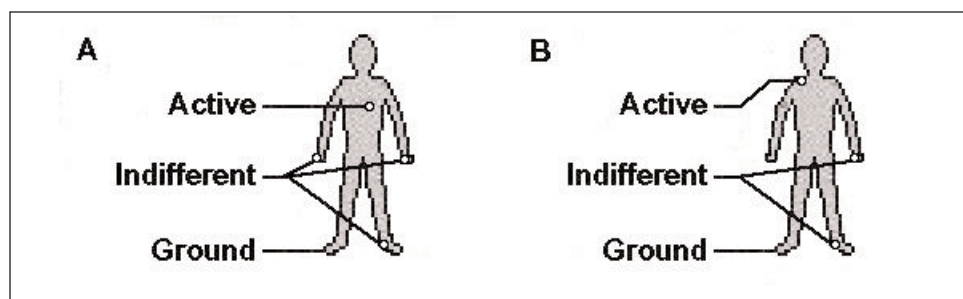


Figure 2: Positions of the electrodes used to create the indifferent point for the chest leads (A) and the aVR augmented limb lead (B).