

# Lab 3: ECG Recordings

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## Introduction

Body surface electrical recordings allows researchers and clinicians to assess the electrical activity of the heart. The use of electrodes to measure and display cardiac electrical activity, known as an electrocardiography (ECG), has been a primary diagnostic and research tool since its invention by Nobel laureate Dr. Willhem Einthoven. During this lab we explored the use of both modern and traditional recording configurations to attain a functional understanding of ECG and vector-cardiography. By considering measurements between two electrodes, or a lead, we can assess the activity of the heart as a current dipole. We first investigated the use of the three limb leads, first developed by Einthoven. These leads form a roughly equilateral triangle around the heart with three measurement vectors, one set per pair of leads. These leads capture the frontal plane of the heart activity. In an attempt to better understand the 3D extent of the cardiac dipole we used the Frank leads, which form three orthogonal axes of measurement. This all

## Methods

## Results

## Discussion

## References