

Portable Platelet Count Meter

Abstract

A portable platelet count meter is used to measure platelet concentration at anywhere and anytime. It makes monitoring job easier for patients with risk of decrease production of platelets, such as leukemia, viral infections like hepatitis C and HIV, thrombocytopenia and those who suspected to have caught dengue fever. Patients can monitor their platelet concentration at home. The data is to be stored in the cloud, which is then accessible by doctor in charge who is at hospital. Besides, this device is targeted to give instant result on platelet concentration, thus it is suitable to be used at home and hospital where it helps to increase the efficiency of platelet test analysis.

This project consists of three main objectives. Firstly, to analyze platelet concentration using a portable and easy-carry device. Thus patient does not need to travel to hospital or spending hours waiting in hospital to do platelet test. Secondly, to make data accessible by doctor at hospital while patient is at home. The data is to be stored at cloud and accessible by patient and doctor at anywhere and anytime. Lastly, this device aims to increase the efficiency of platelet count test. It is targeted to analyze platelet concentration within short period of time. Therefore, patient and doctor can get instant result, and hence can determine the patient condition without further delay.

This project apply electrode to detect platelets within a small portion of blood, by platelet distinct characteristic, which differentiate it from red blood cell, white blood cell and plasma. This sample will then undergo platelet count which then gives platelet concentration. Detection of platelets is expected to be done by hardware approach while analysis of platelet count will be conducted by software and hardware tools.

Project team: Eileen Su Lee Ming, Chan Zhou Hai, Erra Elvyna Anak Langeh @ Randin, Lim Yu Ming