

## **PLASMA DONAR APPLICATIONS**

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PNT2022TMID15605

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**ABSTRACT:**

Human blood constitutes 45% of blood cells (Red blood cells, white blood cells, and platelets) and 55 % of plasma. Plasma is the liquid yellowish part of the blood that contains the antibodies. The process of separating plasma from the blood is called Plasmapheresis. The process takes around two hours. Unlike the typical blood donation, plasma donation is a closed-loop system. The plasma is drawn from the donor into a machine using a centrifuge and then the plasma is separated from the blood. After collecting enough plasma, the blood returns to the body of the donor. The plasma would undergo many tests for identifying transmittable diseases before it gets transfused to an ill patient.

CP therapy can be traced back more than a century. It had been in use in past disease outbreaks like SARS, H1N1, H1N5, Ebola, etc. The studies show a statistically significant reduction in mortality rate, and the recovery was faster compared to nontherapy patients. Infusing a person with another one's plasma has some risk factors like uncertain rejections and allergic reactions that can lead to Multi-organ failure. That explains why Plasma Therapy is used only for critically ill patients with a lesser chance of survival. Hence, Plasma Therapy is the best option when no treatments are available.

**LITERATURE REVIEW:**

Plasma donation selection criteria can be slightly modified according to local requirements and standards but should be in line with the World Health Organization (WHO) guidelines. Those who have fulfilled the initial criteria have to go through screening tests like (1) Antibody testing – to determine whether antibodies exist or not Antibody titer test – to determine the presence and the Antibody.

**AUTHOR: Vamsi Krishna Tatikonda and Hosam El-Ocla.**

**DESCRIPTION:** With rapid increase in the usage of social networks sites across the world, there is also a steady increase in blood donation requests as being noticed in the number of posts on these sites such as Facebook and twitter seeking blood donors. Finding blood donor is a challenging issue in almost every country. There are some blood donor finder applications in the market such as Blood app by Red Cross and Blood Donor Finder application by Neologix. However, more reliable applications that meet the needs of users are prompted.

**AUTHOR: Nayan Das and Asif Iqbal**

**DESCRIPTION:** The necessity of blood has become a significant concern in the present context all over the world. Due to a shortage of blood, people couldn't save themselves or their friends and family members. A bag of blood can save a precious life. Statistics show that a tremendous amount of blood is needed yearly because of major operations, road accidents, blood disorders, including Anemia, Hemophilia, and acute viral infections like Dengue, etc. Approximately 85 million people require single or multiple blood transfusions for treatment. Voluntary blood donors per 1,000 population of some countries are quite promising, such as Switzerland (113/1,000), Japan (70/1,000), while others have an unsatisfying result like India has 4/1,000, and Bangladesh has 5/1000. Recently a life-threatening virus, COVID-19, spreading throughout the globe, which is more vulnerable for older people and those with pre-existing medical conditions. For them, plasma is needed to recover their illness. Our Purpose is to build a platform with clustering algorithms which will jointly help to provide the quickest solution to find blood or plasma donor. Closest blood or plasma donors of the same group in a particular area can be explored within less time and more efficiently.

**AUTHOR: Aishwarya R Gowri**

**DESCRIPTION:**

A plasma is a liquid portion of the blood, over 55% of human blood is plasma. Plasma is used to treat various infectious diseases and it is one of the oldest methods known as plasma therapy. Plasma therapy is a process where blood is donated by recovered patients in order to establish antibodies that fights the infection. In this project plasma donor application is being developed by using AWS services. The services used are AWS Lambda, API gateway, DynamoDB, AWS Elastic Compute Cloud with the help of these AWS services, it eliminates the need of configuring the servers and reduces the infrastructural costs associated with it and helps to achieve serverless computing. For instance, during COVID 19 crisis the requirement for plasma increased drastically as there were no vaccination found in order to treat the infected patients, with plasma therapy the recovery rates were high but the donor count was very low and in such situations it was very important to get the information about the plasma donor.

**AUTHOR: M N Noorshidha**

**DESCRIPTION:** Human blood constitutes 45% of blood cells (Red blood cells, white blood cells, and platelets) and 55 % of plasma. Plasma is the liquid yellowish part of the blood that contains the antibodies. The process of separating plasma from the blood is called Plasmapheresis. The process takes around two hours. Unlike the typical blood donation, plasma donation is a closed-loop system. The plasma is drawn from the donor into a machine using a centrifuge and then the plasma is separated from the blood. After collecting enough plasma, the blood returns to the body of the donor. The plasma would undergo many tests for identifying transmittable diseases before it gets transfused to an ill patient.

**AUTHOR: Rohit Kumar,Rajan Kumar and Manik Tyagi**

**DESCRIPTION:** This paper depicts a high level program to close the hole between blood givers and individuals needing blood. The Online Blood donation Administration Framework application is an approach to synchronize blood donation centers with emergency clinics with the assistance of the Web. It is a web application where enlisted clinics can check the accessibility of the necessary Blood and can send a blood solicitation to the closest blood donation center or comparable contributor as per the blood and can be controlled online through where fundamental. Blood donation center can likewise send a solicitation to another blood donation center that isn't accessible. Anybody willing to give blood can be found at the closest blood donation center utilizing the Android Bank The executives Framework. Blood donation center can be followed utilizing maps. The Android application is simply accessible to benefactors to look for blood gifts and ask blood donation centers and clinics to search out blood donation centers and close by givers.

**AUTHOR: S.kranthi**

**DESCRIPTION:**

With an increase in the need of blood donors, hospitals are facing a lot of difficulties in finding them. At present people are ready to donate blood happily and hospitals are in want of blood. So, to connect the donors and receivers in that emergency time, this research work proposes a web based online blood donation system, which provides a platform of interaction in case of emergency. The Web-based Online Blood Donation System is a webpage that lets in people who desire to give blood for the needy. This website contains information about the enrolled hospitals, organizations and the donors. In case of emergency the user provides an alert message in this website about the blood requirement and time constraint.

**AUTHOR: Jawad Rasheed**

**DESCRIPTION:** mHealth is new horizons for health that offers healthcare services by utilizing the mobile devices and communication technologies. In health care services, blood donation is a complex process and consumes time to find some donor who has the compatibility of blood group with the patient. We developed android based blood donation application as mHealth solutions to establish a connection between the requester and donor at anytime and anywhere. The objective of this application is to provide the information about the requested blood and number of available donors around those localities. It assists the requester to broadcast the message across the maintained volunteer blood donor network by our application and update the requester at the same time who is willing to donate the requested blood. To evaluate our application, we created requester-donor profiles and analysed that it will help to improve the timely access of the information and rapid response in emergency situation.

**AUTHOR: Sari Farah**

**DESCRIPTION:** Representativeness of the DIS-I sample for the entire Dutch donor population was assessed by comparing characteristics of both. Results Donor InSight was initially set up because of a need for more detailed information and evidence as a basis for decision-making in blood banks. DIS-I sample is comparable to the total Dutch donor population in terms of age, body mass index, haemoglobin level, blood pressure, blood type and donation behaviour. Conclusion Donor InSight is a cohort study representative of the Dutch donor population. It provides evidence to support evidence-based making.

