

# Convalescent Plasma Therapy

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COVID-19 will probably be a part of our lives for the foreseeable future. A vaccine has yet to materialize. As the pandemic continues to take a crushing toll, doctors are resorting to a century-old treatment that has been helpful in managing previous pandemics: taking antibodies from those who have recovered and giving it to the sick. It's known as convalescent plasma therapy, or **survivors' blood**.

## Plasma

- Plasma – the **liquid component of blood** contains antibodies. Plasma helps **circulate proteins, nutrients and hormones** throughout the body.
- Blood is made of four main components. **Red blood cells carry oxygen** around the body, **white blood cells support immune function**, and cell fragments called **platelets form clots to stop bleeding**. The liquid portion is plasma and **comprises a little more than 50% of blood volume**.

## Features of Convalescent Plasma Therapy

- Extracting plasma from someone that has convalesced, or recovered, from an illness might provide a much-needed boost to the immune system of someone grappling with coronavirus.
- In the past, plasma therapy has been a **weapon against the 1918 flu, polio, measles, rabies, hepatitis B and Ebola with varying levels of success**.
- More recently, it showed some promise in treating other coronaviruses like SARS and MERS, particularly when given to a patient early in their illness.
- A dose of antibodies **doesn't directly stimulate a person's immune system to start creating their own antibodies, but it does offer some protection until**

**their own immune system ramps up.**

- Scientists are interested in plasma as a COVID-19 treatment because the substance contains antibodies after an infection. These **protective proteins can bind to the surface of an antigen, or a foreign invader, and help the immune system dismantle it.**
- Ultimately, plasma therapy might shorten the length of illness and reduce the severity of the disease.
- Further, **plasma therapy is not a vaccine.** Vaccines use the immune system's memory response to train it to detect and respond to specific pathogens.

### Plasma Therapy for COVID-19

- The serum of COVID-19 cured individuals will have virus neutralising antibodies which will act as a passive antibody therapy.
- Convalescent plasma CP therapy failed to benefit COVID-19 patients, the largest trial conducted across 39 hospitals in India and spearheaded by the Indian Council of Medical Research (ICMR) found.
- **ICMR guidelines currently leave it to medical practitioners to administer CP** in case of moderately ill COVID-19 patients.
- The study's authors said that the use of CP appeared to mitigate shortness of breath and fatigue among patients, and did correspond to a higher negative conversion of viral RNA, but **ultimately did not improve outcomes over the period of evaluation.**