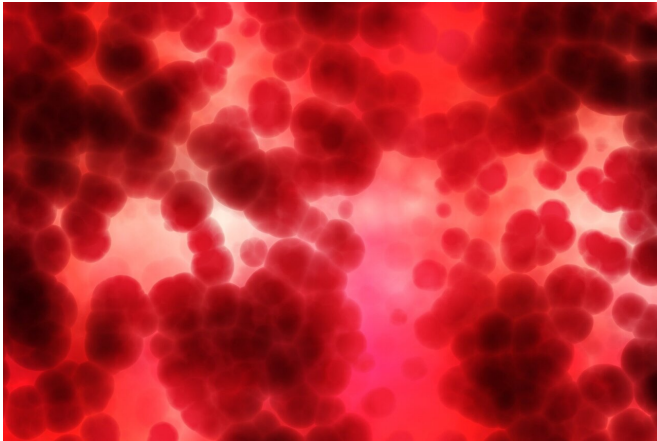


Small study shows convalescent plasma is safe to use in pediatric patients with COVID-19

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Early findings from researchers at Children's Hospital of Philadelphia (CHOP) show that convalescent plasma appears to be a safe and possibly effective treatment for children with life-threatening cases of COVID-19. The results were published online Friday by the journal *Pediatric Blood and Cancer*.

To date, no therapies have been proven safe and effective for [children](#) who develop life-threatening complications from contracting the SARS-COV-2 virus. One possible treatment that has been explored in adults is the use of convalescent plasma, which is derived from patients who have recovered from COVID-19 and can be administered in currently ill patients to generate an antibody response that renders the virus inert. Early positive results were observed in adults who received convalescent plasma, but the treatment had not been studied in children.

"Some children who contract this virus can develop

very serious complications, so even with limited data in adults, we believed it was worth exploring the use of convalescent plasma as a possible treatment option," said David Teachey, MD, senior author of the study and an attending physician, Co-Leader of the Immune Dysregulation Frontier Program, and Director of Clinical Research at the Center for Childhood Cancer Research at CHOP.

This study is the first report of convalescent plasma in children with life-threatening COVID-19 and involved researchers in a wide variety of disciplines, including immune dysregulation, transfusion medicine, infectious disease, occupational health, critical care, hematology, oncology, immunology, and rheumatology. The study involved four patients with acute respiratory distress syndrome. The researchers measured donor antibody levels and recipient antibody response prior to and following the convalescent plasma infusion to determine whether there were any adverse reactions.

In the four patients that were studied, the use of convalescent plasma was not associated with antibody-dependent enhancement, in which [antibodies](#) developed during a previous infection cause a worsened response with subsequent infections, a concern that has been described in preclinical models of other coronaviruses. Additionally, convalescent plasma did not suppress endogenous antibody response.

"We believe that convalescent [plasma](#) may provide the greatest benefit for patients who are early into their illness and have not yet generated endogenous antibodies," Teachey said. "While the small sample size of our study does not allow us to draw any definitive conclusions, we believe this method is safe and future research should include randomized controlled trials to more definitively

examine how effective [convalescent plasma](#) may be in treating children infected with COVID-19."

More information: Caroline Diorio et al, Convalescent plasma for pediatric patients with SARS-CoV-2-associated acute respiratory distress syndrome, *Pediatric Blood & Cancer* (2020). DOI: [10.1002/pbc.28693](https://doi.org/10.1002/pbc.28693)

Provided by Children's Hospital of Philadelphia

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