

Response to COVID-19 vaccination after hematopoietic cell transplant or chimeric antigen receptor T cell therapy: A CIBMTR and BMT CTN study

WHY?

It's vitally important for hematopoietic cell transplant (HCT) and CAR-T cell therapy (CT) patients, who can be immunocompromised for more than two years after transplant, to be revaccinated to prevent infectious diseases and help maintain their health.

The HCT/CT field has established guidelines for when patients should get most vaccines again, **but data is limited for the recently developed COVID-19 vaccines.** The Center for International Blood and Marrow Transplant Research® (CIBMTR) and Blood and Marrow Transplant Clinical Trials Network (BMT CTN) conducted a study to determine when COVID-19 vaccines should be given to HCT/CT patients.



WHAT?

Prospective (follow group in real-time into the future), multi-center, observational study.

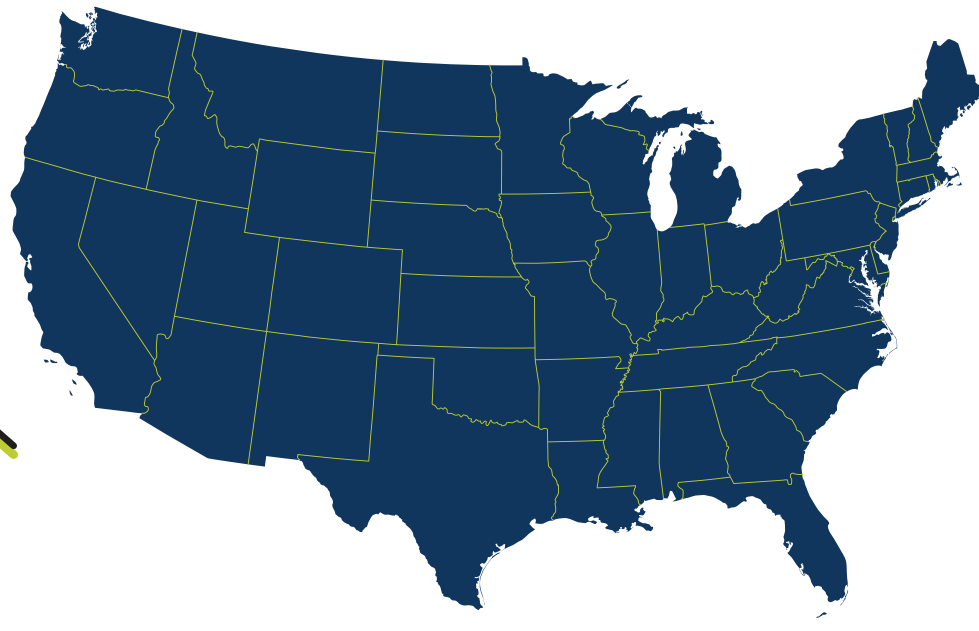
WHO?

94 patients within 1 year of cellular therapy (HCT or CAR T) who got one of the three COVID vaccines available in the U.S.



WHEN?

Initiated in May 2021 and accrual is ongoing



United States

WHERE?

RESULTS:

Early data shows that 77% of cell transplant patients developed antibodies after their second COVID vaccine with 57% achieving an antibody level considered sufficient for protection by the study team. In contrast, response rates in the general population are >99%. Responses were similar in cell transplant patients who were vaccinated before or after 6 months following transplant.

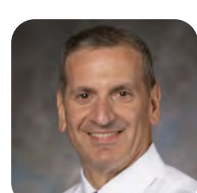
This data indicates that the COVID vaccine is less effective in people who have had cellular transplants or therapy – at least within the first year after treatment. We need more research to determine the ideal time to vaccinate this population and the number of boosters required to convey maximum immunity.

IMPACT/FINDINGS:

Hematopoietic cell transplant and cellular therapy patients are at higher risk of severe COVID-19 disease. Therefore, it is important they be vaccinated following their transplant or cellular therapy. More research is needed to determine the ideal times to give those vaccines and subsequent boosters to help this population reach maximum immunity.

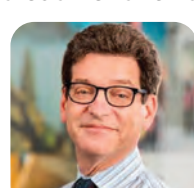
FROM THE EXPERTS

It's critical that we understand the response to these vaccines for immunocompromised patients with serious hematological disorders receiving cellular therapies. We also know standard vaccine responses after cellular therapies are diminished, these patients are at increased risk of severe COVID-19 disease and death, so gaining this knowledge is of great importance."



Jeffery J. Auletta, M.D.
Senior Vice President, Patient Outcomes & Experience, NMDP and Chief Scientific Director, CIBMTR NMDP

The ability of the CIBMTR and the BMT CTN to leverage their multicenter research infrastructure to address this important question in a timely manner made us enthusiastic to partner with them. This effort is an essential piece of LLS's work to assess the response of all blood cancer patients to COVID-19 vaccines as many patients are immune compromised due to their disease or treatment for their disease."



Lee Greenberger, PhD
LLS Chief Scientific Officer

People who have received HCT and cellular therapies are eager to know if COVID-19 vaccines will work for them. Our study, which was recommended by the BMT CTN's State of the Science Committee on Infection and Immune Reconstitution, leverages CIBMTR's multicenter research network to answer this important question as quickly as possible and will provide clinicians with critical data to inform treatment plans and counsel patients on their immunity against COVID-19 after vaccination, as well as address the optimal timing of vaccination to maximize efficacy."



Dr. Joshua Hill
Assistant Professor in the Vaccine and Infectious Disease Division at Fred Hutchinson Cancer Research Center

The MMRF is committed to answering myeloma patients' questions, and this effort will rapidly generate much needed data to provide them with answers about the effectiveness of COVID-19 vaccinations. By also creating a rich and unique biospecimens resource for analysis, the community will gain a deeper understanding of the immunological consequences of COVID-19 vaccination among blood cancer patients at the B-cell level, and at the T-cell level, as an optimal immune response combines both."



Hearn Jay Cho MD, PhD
Chief Medical Officer Multiple Myeloma Research Foundation