Commonly Asked Questions

How is CAR-T cell therapy different from stem cell transplantation?
Both stem cell transplantation and CAR-T cell therapy are cellular therapies, and many of the steps in the procedures are similar, such as collecting cells from the patient, conditioning chemotherapy, and reinfusion of the cells. However, CAR-T cell therapy involves in vivo engineering and stem cell transplantation differs in many ways. A transplant is not immunotherapy (promoting the body’s own immune response), but rather gives a patient a new immune system to rebuild after chemotherapy. Patients who receive stem cells from a matched donor may require immunosuppression to control rejection of the graft or experience graft-versus-host disease. Since the CAR-T cells are your own genetically altered cells, your body should not reject these new cells. Additionally, the chemotherapy is less intense, with fewer side effects, and the side effects caused by cytokine release syndrome (CRS) are unique to CAR-T cell therapy.

Is the procedure covered by insurance?
Before undergoing this procedure, check with your medical insurance provider to see what costs the provider will cover and what costs you will be responsible for paying. If there is a dispute about coverage or if coverage is denied, ask your insurance carrier about their appeals process. If a claim is repeatedly denied, contact your state’s insurance agency.

Which symptoms should I call my healthcare provider about or go to the emergency room?
You will need to seek immediate attention for any of the following:
• Signs or symptoms associated with CRS including fever, chills, fatigue, rapid heartbeat, nausea, vomiting, short of breath, and feeling faint or dizzy upon standing.
• Signs or symptoms associated with neurologic events including altered mental state, sleepiness, memory loss, or personality changes, changes in your level of consciousness, difficulty writing, speech disorders, tremors, and confusion.
• Signs or symptoms associated with infection such as fever or chills.
• Signs or symptoms associated with bone marrow suppression including feeling overtired, bleeding that does not stop, or feeling faint or dizzy upon standing.

How can I be sure that I am getting my own CAR-T cell therapy?
There are several quality control checks throughout the process to make sure that you only receive your own CAR-T cells. Some pharmaceutical companies may have patient assistance programs in place that help to provide drugs to qualified patients, as well.

Can I take other medications at the same time as CAR-T cell therapy?
Before receiving the CAR-T cell therapy, tell your healthcare provider about all the medications, including the dosages, you currently take. Be sure to include prescription and over-the-counter medicines, as well as vitamins and herbal supplements. It is important to tell your healthcare provider about all your medical history, including if you have or have had:
• Neurologic conditions (such as seizures, stroke, or memory loss)
• Lung or breathing conditions
• Liver conditions
• Kidney conditions
• Any recent or active infection

For additional information on financial aid resources, view LRF’s fact sheet available at lymphoma.org/publications, or contact the LRF Helpline at (800) 500-9976 or helpline@lymphoma.org.

Immunotherapy enhances the power of a patient’s immune system to attack tumors. An immunotherapy approach, called chimeric antigen receptor (CAR) T cell therapy, uses patients’ own immune cells to treat their cancer.

Supported through unrestricted grants from:
The Process

Leukapheresis

The first step of CAR-T cell therapy is to obtain some of your T cells, a type of white blood cell.

This process is called leukapheresis and usually takes three to four hours.

- During leukapheresis, your blood is removed through an IV.
- Your blood is processed through a machine that separates your T cells from the other blood cells.
- The rest of your blood cells are returned to your body.

T-Cell Engineering

The T cells are sent to a processing center where they are engineered.

- During leukapheresis, your lymphocytes are removed from your body.
- Your lymphocytes are processed in a machine that removes the protein (for instance, CD19) on lymphoma cells.
- CAR (Chimeric Antigen Receptors) are attached to the surface of the T cells.
- This process is called leukapheresis and usually takes three to four hours.

CAR-T Cells Attack

Once enough of your CAR-T cells are available at the processing center,

- The T cells are sent to a processing center where they are engineered.
- Your blood is then passed through a machine that separates your T cells from the other blood cells.
- The rest of your blood cells are returned to your body.

CAR-T Cells Attack the Lymphoma

Once the CAR-T cells enter your body, they begin to multiply and attack the lymphoma cells.

- It is important to remain closely observed by your healthcare team so that you can be monitored for side effects.
- There is no established guidelines for the number of CAR-T cells needed to be effective.

Chemotherapy

A few days prior to your CAR-T cell infusion, you will receive low-dose chemotherapy.

- The chemotherapy suppresses the immune system slightly so that it does not react to your CAR-T cells.
- It gives the CAR-T cells the chance to grow and fight your lymphoma.

CAR-T Cell Therapies in Lymphoma

Approved CAR-T Cell Therapies*

- CD19 is the most commonly targeted antigen in lymphoma.
- CAR-T cells can attack the lymphoma cells, white blood cells are activated and release cytokines (chemicals in the body).
- Your blood is then passed through a machine that separates your T cells from the other blood cells.
- The rest of your blood cells are returned to your body.

CAR-T Cell Therapies

- CAR-T cells can stay in your body for years, even if all the tumor cells are gone.
- Other normal healthy cells in your body can also be attacked and killed by your CAR-T cells.
- Many CAR-T cell therapies are being developed for lymphoma and multiple myeloma.

CAR-T Cell Therapies in Clinical Trials

- Several CAR-T cell therapies are in clinical trials, including tocilizumab monoclonal antibody (anti-IL-6R).