LEUKEMIA & LYMPHOMA SOCIETY®

CART Process

The Chimeric Antigen Receptor (CAR) T-Cell Therapy Process

The following steps detail how the CAR T-cell therapy process works. For more information about this process, visit **www.LLS.org/CART**.

1 THE PATIENT AND DOCTOR TALK

- A patient decides with his/her doctor that CAR T-cell therapy is the right treatment option.
- The patient then schedules a time in the hospital or treatment center for his/her T cells to be collected.

2 IN THE HOSPITAL/ TREATMENT CENTER

- Blood is taken from the patient.
- The white blood cells (which include T cells) are separated out and the rest of the blood is put back into the patient's bloodstream. This procedure is called "leukapheresis."
- The patient's T cells are sent to the laboratory/ manufacturing facility.

3 IN THE LABORATORY/ MANUFACTURING FACILITY

- The patient's T cells are modified (genetically engineered [changed]) to find and kill cancer cells.
- The engineered T cells are now called "CAR T cells."
- The patient's engineered CAR T cells are multiplied in the laboratory until there are millions of them. Then, they are frozen.
- The patient's frozen CAR T cells are sent back to the hospital or treatment center where the patient is being treated.

4 IN THE HOSPITAL/ TREATMENT CENTER

- The patient receives a course of chemotherapy to reduce the number of normal T cells in the body to make space for the CAR T cells.
- The patient's CAR T cells are thawed and then infused into the patient's bloodstream.

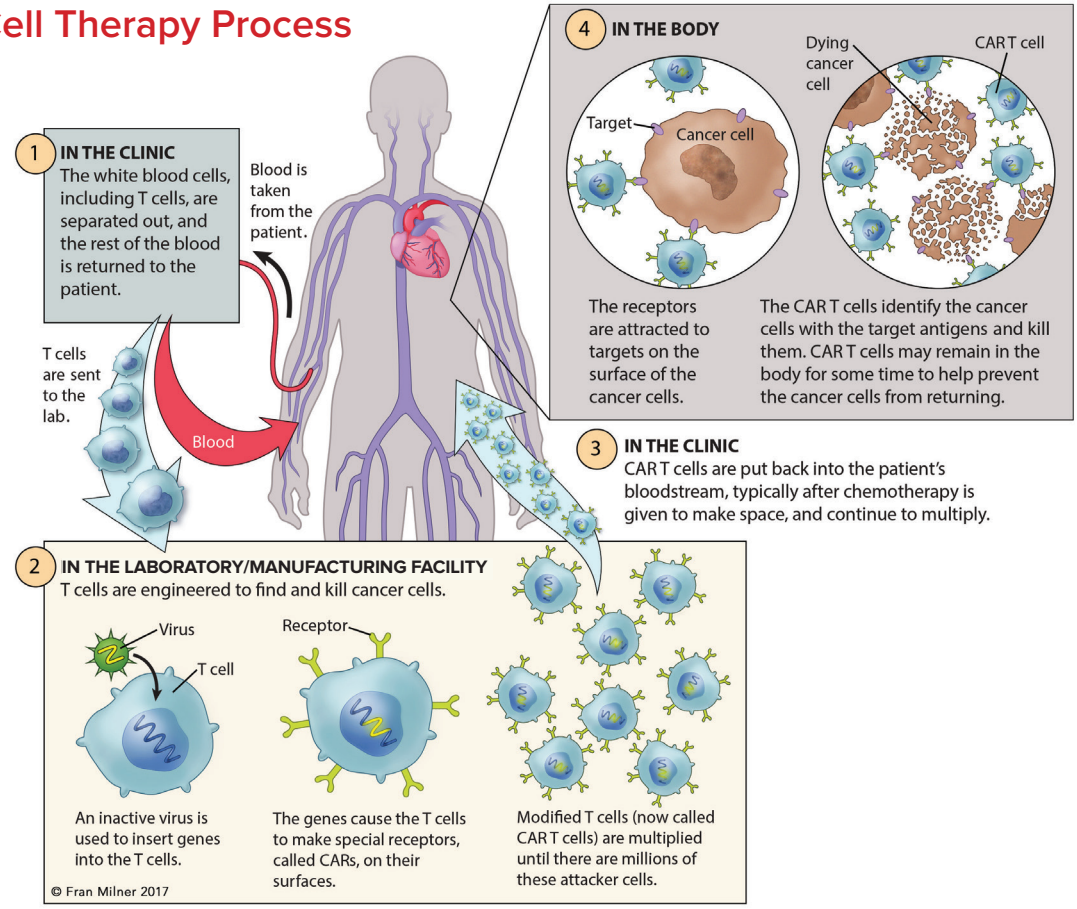
5 IN THE PATIENT'S BODY

- The CAR T cells multiply in the patient's bloodstream.
- The CAR T cells find and kill the cancer cells.
- The CAR T cells may remain in the bloodstream to attack the cancer if it returns.

6 MONITORING THE PATIENT

- The patient's doctor will monitor the patient for side effects. The patient may need to either stay in the hospital or may have to return to the hospital for a period of time.
- The doctor will continue to follow up with the patient to understand the long-term results of the treatment.

CAR T-Cell Therapy Process



There are two US Food and Drug Administration (FDA) approved treatments for CAR T-cell therapy.

Tisagenlecleucel (Kymriah™) is FDA approved for the treatment of

- patients up to 25 years of age with B-cell precursor acute lymphoblastic leukemia (ALL) that is either refractory or in a second or later relapse.
- adult patients whose disease has relapsed or who have refractory large B-cell lymphoma and having had two or more lines of systemic therapy—including
  - diffuse large B-cell lymphoma (DLBCL) not otherwise specified (NOS)
  - high-grade B-cell lymphoma
  - DLBCL arising from follicular lymphoma.

Kymriah is not indicated for treatment of patients with primary central nervous system lymphoma.

Axicabtagene ciloleucel (Yescarta®) is FDA approved for the treatment of adult patients with relapsed or refractory large B-cell lymphoma after two or more lines of systemic therapy, including

- DLBCL NOS
- primary mediastinal large B-cell lymphoma
- high-grade B-cell lymphoma
- DLBCL arising from follicular lymphoma.

Yescarta is not indicated for the treatment of patients with primary central nervous system lymphoma.

Clinical Trials. Chimeric antigen receptor T-cell therapy continues to be available to patients who are participating in a clinical trial. Trial protocols vary. Depending on the clinical trial, care may be provided in either a hospital setting or an intensive outpatient treatment center where the doctors have experience administering cellular immunotherapy. Patients may have to stay at the treatment facility or they may need to plan to stay close by before, during or following treatment. Some trial protocols require patients to confirm the availability of a caregiver before they can enroll in the trial.

You can work one-on-one with an LLS Clinical Trial Nurse Navigator who will personally assist you throughout the entire clinical-trial process. Clinical Trial Nurse Navigators are registered nurses with expertise in blood cancers, clinical trials and bone marrow transplant. Your Clinical Trial Nurse Navigator will

- Provide education about clinical trials and your disease journey
- Speak with you to understand your goals, provide guidance and help you to navigate the clinical-trial process
- Help you to understand the clinical-trial process, including your rights and obligations as a participant
- Ask you for details about your diagnosis, including your genetic profile, past treatments and responses, your current physical condition and medical history, that might impact your eligibility for certain clinical trials
- Help you to understand how your financial situation, insurance coverage, support network and ability and willingness to travel far distances might impact your choice of clinical trials
- Provide you with a detailed list of appropriate clinical trials to discuss with members of your healthcare team
- Guide and advocate for you in your efforts to enroll in a clinical trial, including connecting you with trial sites
- Help address and overcome obstacles to enrollment
- Be available for support throughout your experience in the clinical-trial process.

Please call an LLS Information Specialist at 800.955.4572 or visit www.LLS.org/CTSC for more information about this program.

For more information about CAR T-cell therapy, please visit www.LLS.org/Booklets to see the free LLS booklet *Chimeric Antigen Receptor (CAR) T-Cell Therapy Facts*.

GET SUPPORT. REACH OUT TO OUR INFORMATION SPECIALISTS.

The Leukemia & Lymphoma Society team consists of master's level oncology social workers, nurses and health educators who are available by phone Monday–Friday, 9 am to 9 pm (ET).

Contact us at **800.955.4572** or **www.LLS.org/InformationSpecialists.**

Interested in receiving more information? Text any of these keywords to 411321.

KEYWORD	TOPIC
CARTQUESTIONS	Questions to ask your doctor
CARTEFFECTS	Side-effect management
CARTSTRESS	Tips for managing stress