



CAR T Cell Therapy Myths Debunked:

Your guide to what cell therapy is (and isn't)

Living with blood cancer can feel overwhelming, especially when it comes to making treatment decisions. It's important to understand what cancer treatment options are available and how they differ by asking questions and working with your healthcare providers to determine the most appropriate path for you.

Chimeric antigen receptor (CAR) T cell therapy is an innovative treatment that's FDA-approved for certain blood cancers. Because of the cutting-edge science behind it, CAR T cell therapy may sometimes be misunderstood. Keep reading to learn the facts about this treatment.

 **Myth** CAR T cell therapy is too new, and it has only been studied for a couple years.

 **Fact** CAR T cell therapy has been researched for over 30 years.


CAR T cell therapy development timeline



Since 2017, CAR T cell therapies continue to demonstrate effectiveness and safety in clinical trial outcomes for people with certain blood cancers. Beyond clinical trials, similar results have been seen in the "real world," meaning results have been collected from patients who received CAR T cell therapy after the treatment received FDA approval.

Learn more about the history of CAR T cell therapy [here](#).


 **Myth** CAR T cell therapy is only used as a last resort, after chemotherapy and autologous stem cell transplant.


 **Fact** For certain blood cancers, CAR T cell therapies may be used as early as after relapse or failure of initial treatment, which may or may not include a stem cell transplant.


Your doctor may recommend CAR T cell therapy if your disease has:


returned after treatment (relapsed)

or


not responded to previous therapy (refractory)

 **Myth** CAR T cell therapy is the same as an autologous stem cell transplant, chemotherapy or bispecifics.

 **Fact** They are different types of treatments.

CAR T cell therapy

Autologous stem cell transplant

Chemotherapy

Bispecific antibodies

What it is?

A type of immunotherapy scientists create by adding lab-made genes to your cancer-fighting T cells

A procedure that replaces cancerous stem cells with your own healthy stem cells


A systemic medication that destroys cancer cells by keeping them from growing, dividing and making more cells


Lab-made proteins that help destroy immune system "invaders" such as cancer cells

How it works?

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| <ul style="list-style-type: none">• Adds chimeric antigen receptors (CARs) — or hooks — to your own specific disease-fighting white blood cells (in this case, your T cells) to help recognize and fight target cells containing a specific antigen on the surface of the cell, including normal and cancer cells• Cells continue to multiply in your body to work to target and attack cancer cells long after the infusion occurs | <ul style="list-style-type: none">• Uses your own stem cells (harvested from either your blood or bone marrow) to replace cells that have been destroyed by cancer, potentially acting as a "rescue" to the bone marrow from the toxic side effects of high doses of chemotherapy and radiation used to treat the cancer• Restores your body's ability to produce new blood cells after treatment (but does not target cancer directly) | <ul style="list-style-type: none">• Uses powerful chemicals to either kill or slow the progression of fast-growing cells, including cancer cells, in the body• Typically given intravenously (through a vein) as an infusion but sometimes given as a pill, capsule or in liquid form | <ul style="list-style-type: none">• Brings together two different cells — a target cell and an immune cell — allowing the immune cell to come in contact with the unhealthy cell and become activated to fight it• Typically given intravenously until the disease progresses or reaches an unacceptable level of toxicity |
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Learn more about the different types of treatments [here](#).

 **Myth** Receiving CAR T cell therapy is a long, difficult infusion process compared to stem cell transplant.

 **Fact** The CAR T cell therapy process* includes a one-time infusion that typically takes approximately 30–60 minutes, whereas an autologous stem cell transplant infusion can last 1–5 hours. Other key factors include:

CAR T cell therapy

Autologous stem cell transplant

Treatment process


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|  <ul style="list-style-type: none">• Typically spans 2–3 months• *Includes: apheresis (removal of certain types of white blood cells from the blood), manufacturing, administration and adverse event monitoring• Includes a short course of chemotherapy before CAR T infusion to prepare the body to receive modified cells | <ul style="list-style-type: none">• Typically spans 2–7 months• Includes apheresis (removal of stem cells from the blood) or bone marrow harvest, freezing cells until you're ready for transplant, infusion and adverse event monitoring• Can only be done after the cancer has been treated with high-dose chemotherapy or radiation |
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*These may not be the only steps required in the process. Full infusion appointment includes additional steps and will vary in length.

Treatment location

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|  <ul style="list-style-type: none">• CAR T cell therapy center<ul style="list-style-type: none">– Option for outpatient setting (no hospitalization needed), if determined by your doctor– Inpatient (requires hospital stay) infusion requires you to be in the hospital before, during and right your treatment, as determined by your doctor | <ul style="list-style-type: none">• Autologous stem cell transplant center<ul style="list-style-type: none">– Option for outpatient setting or inpatient setting, as determined by your doctor and treatment center– Inpatient transplant typically requires a hospital stay before, during and right after treatment |
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Adverse event monitoring

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|  <ul style="list-style-type: none">• Monitored for at least 2 weeks following the infusion for potential serious side effects including cytokine release syndrome (CRS), neurotoxicities and other adverse events<ul style="list-style-type: none">– Side effects may require treatment in the hospital• Must stay within close proximity of a treatment center for 2 weeks following treatment• Must not drive for at least 2 weeks post infusion• Long-term monitoring for side effects, disease status and other cancers | <ul style="list-style-type: none">• Short-term monitoring for about 2–3 weeks following the transplant to ensure your blood counts recover, and once they return to normal, the immune system takes several months to recover<ul style="list-style-type: none">– Side effects may require treatment in the hospital• Must stay within close proximity of treating physician, during the 100 days following treatment |
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To learn more about monitoring and life after CAR T, please see [here](#).



Myth The steps of CAR T cell therapy are complicated and hard to understand.



Fact CAR T cell therapy does include multiple steps, but they can be easily broken down and understood.



Step 1: T cell collection (apheresis)

- Blood is withdrawn from your arm and put through a special machine.
- Key cells in the immune system, called T cells, are separated from other blood components by the machine.
- The remaining blood is then infused back into your body.



Step 2: "Programming" CAR T cells

T cells are sent to a specialized facility where they:

- Are "programmed" to become CAR T cells
- Are multiplied to millions
- Undergo strict testing and quality control
- And, finally, are shipped back to your doctor for your treatment.

Take an inside look at the CAR T manufacturing process [here!](#)



Step 3: Preparing for treatment (lymphodepleting chemotherapy)

- A few days before receiving CAR T cell therapy, you will receive a short course of chemotherapy, known as lymphodepleting chemotherapy, to help prepare the body to receive the CAR T cells.



Step 4: CAR T cell therapy infusion

- At the treatment center, you will usually receive your personalized CAR T cells as a one-time infusion, which usually takes approximately 30–60 minutes*.
- From there, the CAR T cells may continue to multiply and travel throughout your body to attack the target cancer cells.

*These may not be the only steps required in the process. Full infusion appointment includes additional steps and will vary in length.



Step 5: Monitoring

- Short term: Following infusion, you are monitored closely by your care team for possible side effects, which may be severe, life-threatening or fatal.
- Continued follow-up: Your care team will continue to follow up with you via phone calls and in-person appointments to assess whether the CAR T cell therapy is working and to watch for side effects.

Please see more information about side effects in the myth/fact below.

Read more on the [CAR T cell therapy treatment experience](#).



Myth The side effects of CAR T cell therapy outweigh the benefits this therapy can provide.



Fact Research demonstrates that, with a single infusion, CAR T cell therapy has been effective at producing improved outcomes in patients where another treatment option(s) has stopped working.

This does not encompass all the possible side effects of CAR T cell therapy, as they will vary from person to person based on a variety of factors, including what CAR T cell therapy you are prescribed. CAR T cell therapy trained healthcare providers are taught to spot and monitor for serious side effects. Prior to treatment, you should speak to your doctor about the possible side effects you may experience and when you should seek immediate medical care.

CAR T cell therapy side effect information

The most common side effects, which can be severe or life-threatening, include:



Cytokine release syndrome - condition that develops when your immune system responds too aggressively to a treatment or infection, which can include shortness of breath and fever



Neurologic toxicities - side effects that affect the body's nervous system, which can include difficulty speaking and headaches

- These side effects typically occur within 2 weeks after CAR T cell therapy and peak within 1–2 weeks after infusion but can occur later in some cases.
- Your CAR T treatment team is trained to manage the side effects.
- If you or your care partner notice any symptoms, make sure to notify your CAR T treatment team as soon as possible so they can manage any side effects.



CAR T cell therapy may increase your risk of getting secondary cancers, including certain types of blood cancers. T cell malignancies have occurred following CAR T cell therapy. The FDA has concluded that the overall benefits of CAR T cell therapy continue to outweigh potential risks.

To learn more about monitoring and life after CAR T, please see [here](#).



Myth Not that many people receive CAR T cell therapy, so it's hard to understand what patients actually experience.



Fact It is estimated that over 50,000 people have received CAR T cell therapy. Here are some of their perspectives.



"If treated inpatient, you'll want to bring with you to the center anything that will bring you comfort: a blanket, a good book, soft pajamas, etc."



"Recovery takes time. Don't expect to feel better right away."



"Knowing what was involved in each step and why each was needed was empowering. Don't be afraid to ask your patient navigator and healthcare team questions."



"Know what side effects to look for and how to manage them. The quicker you can recognize the symptoms, the quicker the medical team can act."



"Emotional support matters, too — simple things like watching TV with friends or chatting with family can bring comfort."



Myth Care partners don't need to know or prepare much for CAR T cell therapy.



Fact Care partners play a vital role in supporting patients through CAR T cell therapy and can do several things to help prepare in advance.

Care partners:

- Can be a loved one, friend or hired helper
- Provide day-to-day, emotional and physical support
- Help monitor for side effects, communicate with the healthcare team and manage practical needs (appointments, transport, home hygiene)
- While care needs are not always constant, care partners need to be available 24/7 during recovery

It's normal to get overwhelmed, so it's important for care partners to **take breaks, ask for help and practice self-care**.

You are not alone. Healthcare teams offer guidance and resources to prepare and support care partners in this essential role.



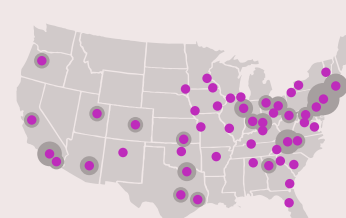
Myth My treatment center doesn't offer CAR T, so I probably can't get it.



Fact If you are eligible to receive CAR T cell therapy, your doctor can refer you to a CAR T cell therapy center.

Staff at treatment centers are trained on how to deliver treatment and support to patients during every step of the process. Following CAR T cell treatment and adverse event monitoring by the CAR T cell therapy center, you can return to your referring physician for follow-up care.

The number of certified treatment centers continues to grow, with sites available around the U.S.



Check out this U.S. [treatment center locator](#) to find a center near you.

[Cell Therapy 360®](#) also provides solutions-oriented programs for eligible patients* who have been prescribed a BMS CAR T cell therapy, as well as their care partners. These programs offer support throughout the treatment journey, including assistance with transportation, lodging and meals.

Visit [CellTherapy360.com](#); or call 1-888-805-4555 and select option 1.

*Eligibility requirements apply.



Myth CAR T cell therapy is too expensive, and insurance doesn't cover the cost.



Fact Cancer treatment costs can be a very important consideration for patients. The majority of commercial insurance plans and most government payers cover CAR T cell therapies.



- For Medicare patients, CAR T cell therapies are covered for all FDA-approved indications under the National Coverage Determination.
- The price most patients pay for CAR T cell therapies varies according to their insurance coverage and patient cost-sharing benefit design.



Additional assistance and support programs may be available from authorized treatment centers, product manufacturers, charitable foundations, patient financial support programs and other sources. Eligibility requirements may apply and vary by program.

When discussing CAR T cell therapy with your doctor, clarify who on your healthcare team can assist with insurance coverage. To determine your insurance coverage for CAR T cell therapy, contact your provider and ask:

- Is the treatment location covered by my plan?
- Does my plan cover CAR T cell therapy? If not, what is the review process?

[Cell Therapy 360®](#) can investigate patient-specific coverage, coverage requirements and out-of-pocket (OOP) costs for BMS CAR T cell therapies.

Want to learn more about CAR T cell therapy?
Consult your care team to see if this treatment is right for you, or [find a certified treatment center](#) near you.