



A Guide to **CAR T** Cell Therapy

This guide has been given to you to provide information that may help you decide, together with your healthcare team, whether CAR T cell therapy may be a potential treatment option for you.

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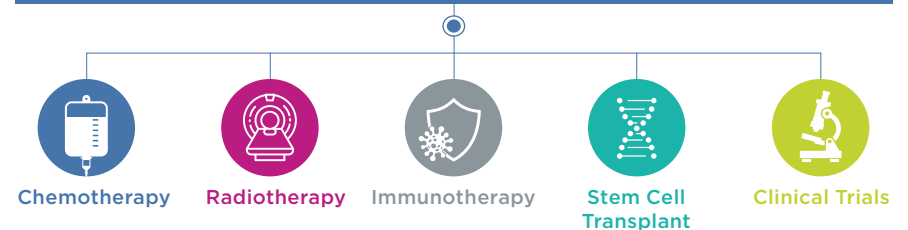
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A Guide to CAR T Cell Therapy

You have been given this booklet to provide you with information about CAR T cell therapy, which is a treatment for certain types of blood cancers. **The aim of this booklet is to help you understand CAR T cell therapy, so you and your healthcare team can decide whether it may be a potential treatment option for you.**

This guide is intended as an additional resource alongside guidance from your healthcare team, who will discuss all your treatment options with you.

Apart from CAR T cell therapy, there may be a number of other treatment options available to you. These could include:



All options will be discussed with you by your healthcare team.

CAR T Cell Therapy

Chimeric antigen receptor (CAR) T cell therapy is a type of individualised treatment that may be offered to people with certain types of aggressive (fast-growing) blood cancers like lymphoma or leukaemia, who have already undergone two or more other kinds of cancer treatment.¹

CAR T cell therapy is a form of immunotherapy, which means it uses your own immune system to fight your cancer.¹

Unlike other kinds of cancer treatment, it is made from your T cells, which are a type of white blood cell.¹

The job of your T cells is to target and remove bacteria, viruses and cancerous cells.^{1,2}

However, in some cases, cancerous cells have ways of hiding from T cells, which makes it difficult for your body to fight the cancer.^{1,3}

How it Works

CAR T cell therapy works by transforming T cells to help them find and fight cancerous cells.¹

T cells are collected from your body, inserted with a gene that causes them to produce chimeric antigen receptors (CARs) on their surface, and then infused back into your bloodstream.¹

These newly modified cells — known as CAR T cells — have the ability to bind to and attack the cancerous cells in your body.¹

Specialist Treatment Centres

CAR T cell therapy can only be given in specialist treatment centres.¹

These treatment centres are based in specialist hospitals, which are qualified to provide CAR T cell therapy.¹

If you don't live close to your treatment centre, you may need to arrange temporary accommodation following the treatment process so you can be within reach of the treatment centre.

You may also need extra help from friends and family during this time. You'll find more information about this on **page 11**.

What May Happen Next

To find out if you're eligible for CAR T cell therapy, your doctor may need to perform a number of tests. These could include:⁴

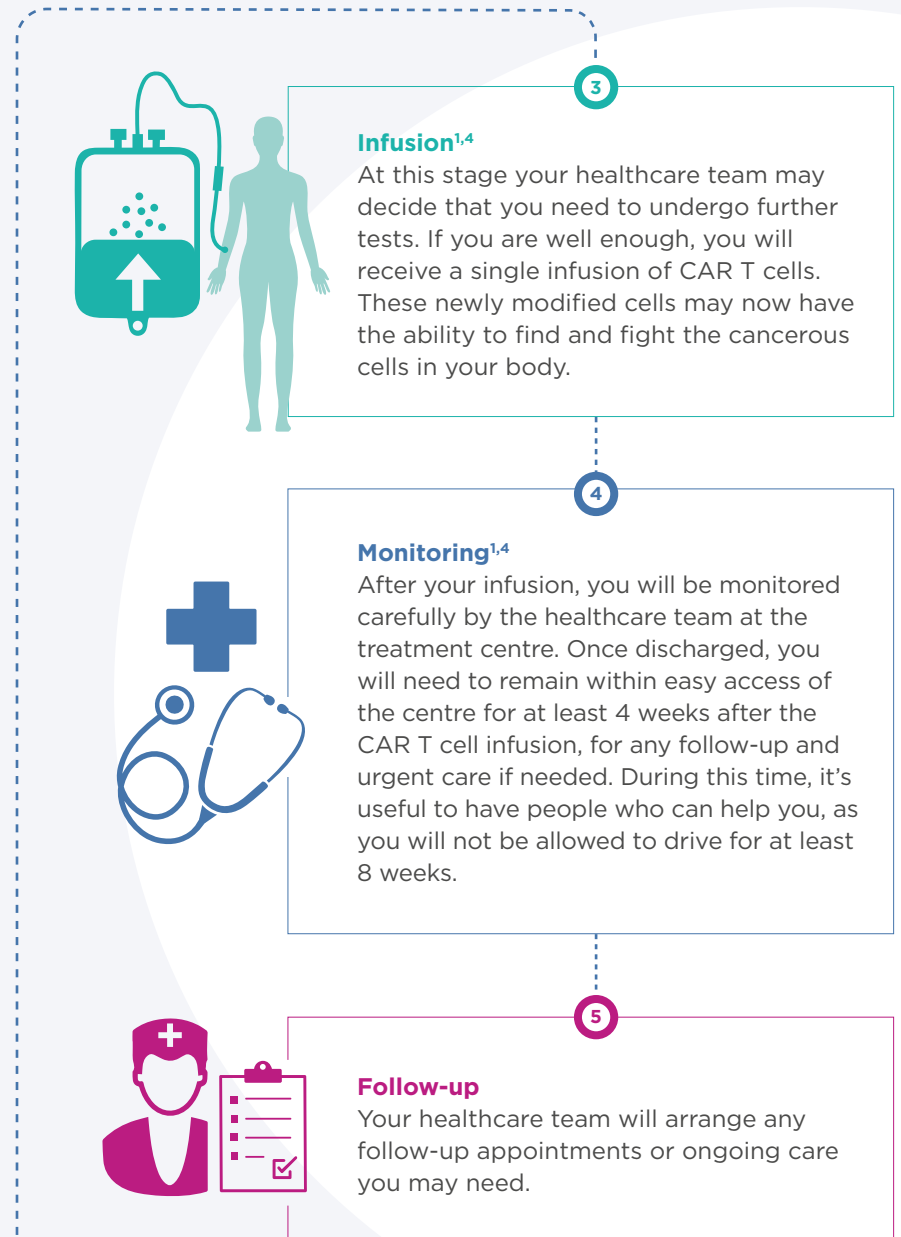
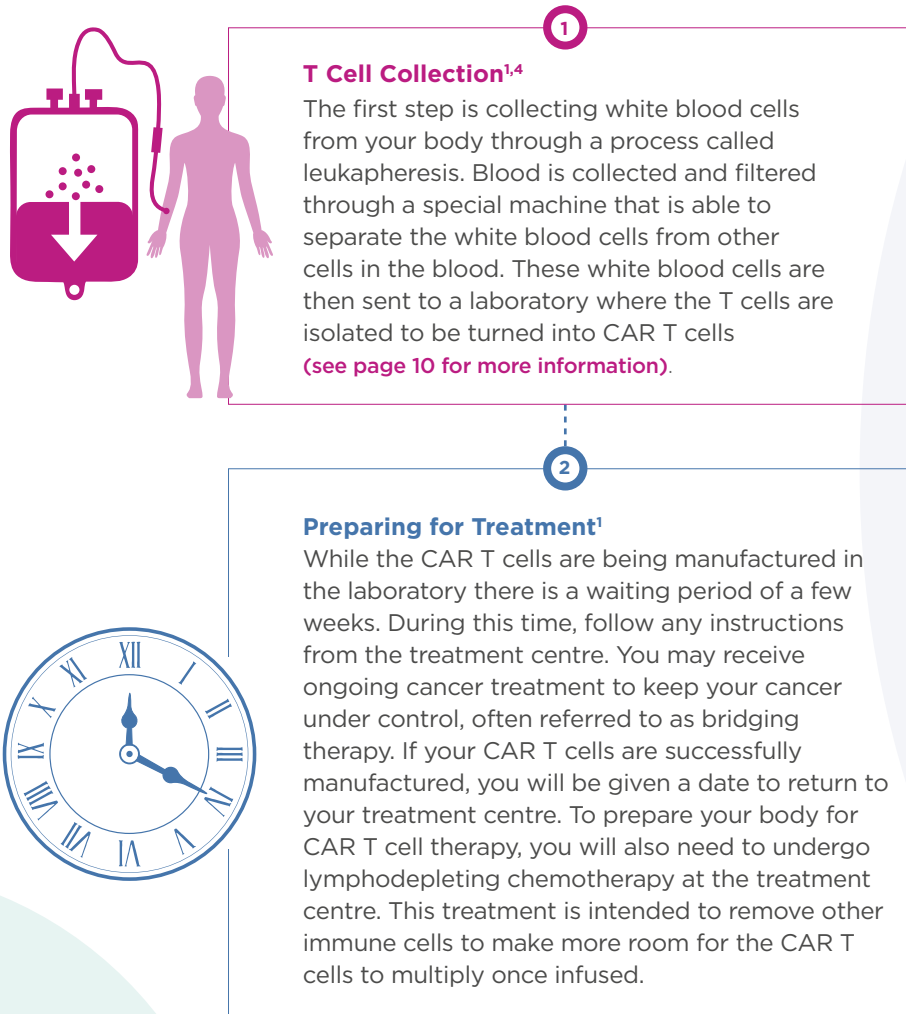
- Tests to check your heart
- Tests to check for signs of infection
- Tests to check the function of your kidneys
- Tests to check the function of your liver

In some cases, your doctor may need to monitor your health for a period of time before deciding whether the treatment is right for you.⁴



Treatment Process

CAR T cell therapy involves several steps over a number of weeks, but timing may vary. These steps are outlined in the diagram below:



Possible Side Effects of Treatment

CAR T cell therapy, like many treatments, has side effects.¹ While not everybody will experience all of them, some of these side effects may be severe. Your healthcare team will identify and manage these side effects with you. They will also be able to help you understand the risks associated with the treatment. Two of the most common side effects are neurological adverse reactions and cytokine release syndrome (CRS).⁴

Neurologic adverse reactions	
This refers to a range of side effects that affect the brain or central nervous system, which can occur following the infusion of CAR T cells. Signs or symptoms may include: ⁵	
●	Confusion and disorientation
●	Difficulty speaking
●	Difficulty understanding speech
●	Difficulty writing
●	Short-term memory loss
●	Tremors (shaky arms or body parts)
●	Agitation
●	Increased sleepiness
●	Fits
●	Loss of consciousness
●	Loss of balance or coordination

Cytokine release syndrome (CRS)	
This occurs when CAR T cells release large amounts of cytokines (proteins) into the bloodstream, causing an inflammatory response. Signs or symptoms may include: ⁶	
●	Fever (e.g. temperature above 38°C)
●	Light-headedness
●	Dizziness
●	Low blood pressure
●	Shortness of breath
●	Rapid heartbeat
●	Chills
●	Fatigue
●	Weakness
●	Headache

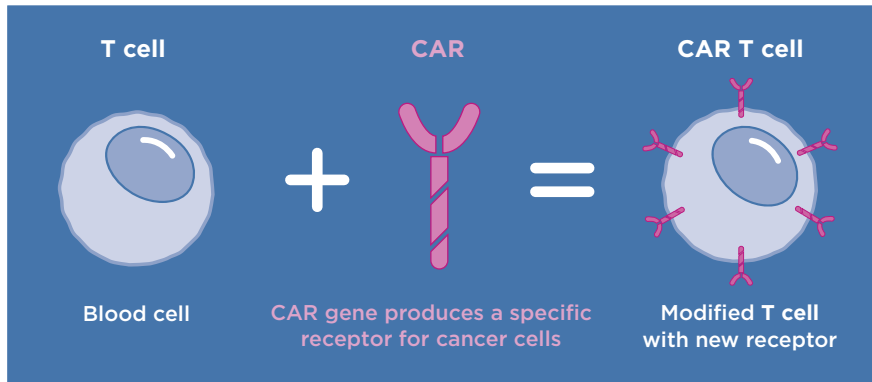
Specialised healthcare teams are well-trained to manage these side effects, and — if necessary — will transfer you to an Intensive Care Unit (ICU) to ensure the best possible care. Alert the healthcare team urgently if you experience any of these signs or symptoms.



How CAR T Cells are Manufactured

Once collected through the process of leukapheresis, white blood cells (which include T cells) are sent to a laboratory.^{1,4}

There, scientists modify the T cells into CAR T cells by inserting a chimeric antigen receptor (CAR) gene.¹



These newly modified CAR T cells are then multiplied for several days to produce the number of cells your treatment requires.¹

Once quality checks have been undertaken, these cells are frozen and sent back to the treatment centre, where they are thawed prior to infusion.¹

Support

Should you choose to proceed with CAR T cell therapy, it's helpful to have a number of people who can support you during your treatment.

Support might include arranging transportation to and from appointments, helping with meals, and reporting any side effects or problems to your healthcare team if you're unable to.

The following organisations have a range of information and support for people coping with cancer.

Lymphoma Australia

 www.lymphoma.org.au
 1800 953 081

Rare Cancers Australia

 www.rarecancers.org.au
 1800 257 600

Leukaemia Foundation

 www.leukaemia.org.au
 1800 620 420

Cancer Council Australia

 www.cancer.org.au
 13 11 20



This informative booklet on CAR T cell therapy is available to download via the QR code.

It is available in English, Simplified Chinese, Arabic, Korean, Vietnamese and Hindi.



This guide has been produced by Gilead Sciences Pty Ltd.

References: **1.** Lymphoma Australia. Chimeric Antigen Receptor (CAR) T-Cell Therapy Fact Sheet. Available at: www.lymphoma.org.au/lymphoma/treatments/chimeric-antigen-receptor-car-t-cell-therapy/. Accessed February 2025. **2.** Verywell Health. The Role of T-Cells in Cancer. Available at: www.verywellhealth.com/2-patients-cancer-free-after-immunotherapy-treatment-5218255. Accessed February 2025. **3.** de Charette M, Houot R. *Haematologica*. 2018;103(8):1256–68. **4.** Yakoub-Agha I, et al. *Haematologica*. 2020;105(2):297–316. **5.** Tallantyre EC, et al. *J Neurol*. 2021;268(4):1544–54. **6.** Lee DW, et al. *Blood*. 2014;124(2):188–95.

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