

Outpatient Monitoring



CAR T Cell Therapy in the Outpatient Setting

Outpatient infusion and monitoring may improve CAR T cell therapy access¹



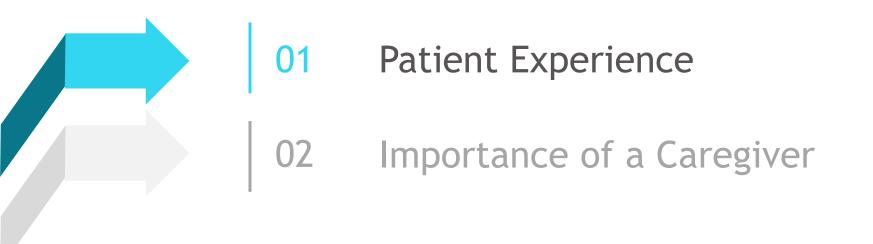
The decision to pursue inpatient vs outpatient administration of CAR T cell therapy lies with the provider^a and is based on a number of different factors^{b,2}

- CAR T cell therapy products have varying toxicity profiles and therefore HCPs, patients, and their caregivers need to be aware of the specific product's profile and AEs when infusing and monitoring^{2,3}
- Not all patients who receive CAR T cell therapy may be appropriate for treatment in the outpatient setting^{2,4}

References: 1. Bachier CR, et al. Abstract 8037. Presented at 2020 ASCO Virtual Scientific Program. 2. Yanez L, et al. HemaSphere. 2019;3:2(e186). 3. Smith S, Essell J. J Clin Pathways. 2018;4(8):42-47. 4. Gust J, et al. Cancer Discov. 2017;7(12):1404-1419.

^aThis assumes a setting-of-care-agnostic product label. ^bThe decision of the CAR T cell therapy administration setting lies with the treating physician. AE, adverse event; HCP, healthcare provider.

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Patient Journey Through the CAR T Cell Therapy Process

The steps of the CAR T cell process can be the same between outpatient and inpatient settings^{1,2}

Patient selection

Patient & consent & education

Patient screening

Leukapheresis and cell transport

CAR T manufacturing

Bridging and lymphodepleting chemotherapy

CAR T infusion & patient monitoring

Treat¹

• The CAR T cell

delivered to the

treatment site

administered

product is

Product is

Post hospital discharge monitoring

Long-term monitoring

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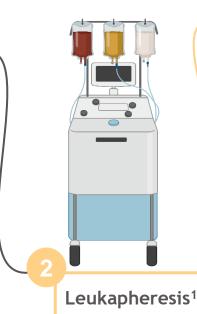
Patient Identification¹

- Appropriate patients will be identified for treatment at qualified treatment sites or referring sites
- Company will be notified and leukapheresis and treatment dates will subsequently be scheduled



References:

- 1. Beaupierre A, et al. *Clin J Oncol Nurs*. 2019;23:27-34.
- **2.** Smith S, Essell J. *J Clin Pathways*. 2018;4(8):42-47.



Patient will undergo apheresis, which involves collection of white blood cells

• Collected apheresis product will be sent to the manufacturer for production

Manufacturing¹

The CAR T cell product is created at a manufacturing facility







 Patients may require bridging therapy to maintain disease control* while the CAR T cell product is being manufactured

Prep¹

 Shortly prior to CAR T cell administration, the patient is prepared for treatment with lymphodepletion

Monitor

- The patient is monitored closely for at least 4 weeks and side effects are promptly managed. Caregiver support is critical during this time
- Thereafter, the patient is periodically monitored long term

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The CAR T Cell Infusion Setting

Factors to Consider When Determining CAR T Cell Infusion Settings¹

- Treatment center infrastructure
- Ability to provide patient coverage 24/7
- CAR T cell product offered
- Availability of reliable caregiver(s)
- Anticipated onset and severity of AEs
- Training, education, and protocols for managing AEs

- Every CAR T cell therapy program requires the ability to:
 - Safely administer CAR T cell therapy¹
 - Properly monitor and manage patients before, during, and following treatment²
- Treating physicians must determine the setting in which to safely deliver CAR T cell therapy¹
- CAR T cell therapy is typically infused in the inpatient setting; however, ambulatory infusion is becoming increasingly common¹

AE, adverse event.

References: 1. Taylor L, et al. *Clin J Onc Nurs*. 2019;23(2):20-26. 2. Beaupierre A, et al. *Clin J Oncol Nurs*. 2019;23:27-34.

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Considerations for Inpatient vs Outpatient Settings



Inpatient

- Staff that are educated about CAR T cell therapy should be present at all times while the patient is admitted; ICU staff should be trained on AE management¹
- Compliance with standards for infection control required for cell therapy¹
- Accessibility to ancillary services involved in the care of patients treated with CAR T cell therapy²
- Consideration toward inpatient bed management due to potential prolonged inpatient admissions for treatment and AE management¹



Outpatient

- Sufficient staff and hours/days of clinic operations to support all aspects of CAR T cell delivery¹
- Rooms or treatment areas must meet infection control standards for immunocompromised patients¹
- Patient/caregiver education should be provided regarding monitoring for and identifying AEs, and appropriate next steps¹
- Reliable workflow for the triaging of patients to the hospital in the event of an AE or other complication¹
- Education of emergency department (ED)/ outside hospital staff for potential management of CAR T cell therapy patients¹

Inpatient administration may be appropriate for patients with increased risk of CRS, NT, or other toxicities³

AE, adverse event; CRS, cytokine release syndrome; ICU, intensive care unit; NT, neurotoxicity. References: 1. Taylor L, et al. Clin J Onc Nurs. 2019;23(2):20-26. 2. McGuirk J, et al. Cytotherapy. 2017;19:1015-1024. 3. Yanez L, et al. HemaSphere. 2019;3:2(e186).

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Administration Considerations



Some hospitals have moved to outpatient infusion for some CAR T cell therapy trials¹

- Rooms or treatment areas must meet infection control standards for immunocompromised patients²
- Patient/caregiver education should be provided regarding monitoring for and identifying AEs, and appropriate next steps²
- Bed space in units should be reserved for potential inpatient admissions for CAR T-related AE management or other complications²
- Coordinated workflow for the triaging of patients to the hospital in the event of an AE or other complication²
- Education of emergency department/outside hospital staff for potential management of CAR T patients²
- Hours and days of clinic operations must be sufficient to support all aspects of CAR T cell infusion²

AE, adverse event.

References: 1. Teachey DT, et al. Nat Rev Clin Oncol. 2018;15(4):218. 2. Taylor L, et al. Clin J Onc Nurs. 2019;23(2):20-26.

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Post-infusion Monitoring



The practice of inpatient versus outpatient monitoring varies, depending on physician discretion, institutional guidelines, and CAR T cell products¹

- Patients must remain within close proximity to the treatment center for at least 4 weeks to ensure quick access to care, regardless of whether the patient received the CAR T cell therapy as an inpatient or outpatient²
- Depending on the patient, product, and center, inpatient monitoring may be required for a period of time^{1,3}
- Under certain circumstances, outpatient administration and monitoring may be appropriate per the treating physician's discretion¹
 - When this occurs, patients are usually observed in the treating center for a few hours after the CAR T cell therapy infusion to monitor for acute reactions; if none occur, they are permitted to leave the treatment center⁴
 - Hospitalization may be necessary if toxicities develop⁴

References: 1. Brudno JN, Kochenderfer JN. Blood Rev. 2019:34:45-55. 2. Taylor L, et al. Clin J Onc Nurs. 2019;23(2):20-26. 3. Neelapu SS, et al. Nat Rev Clin Oncol. 2018;15(1):47-62. 4. Maus MV, Levine BL. Oncologist. 2016;21:608-617.

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Post-CAR T Monitoring Considerations

The following is an example of a treatment center's post-infusion monitoring recommendations. Monitoring recommendations may vary across patients, products, and centers

0-2 weeks

2-3 weeks

≥4 weeks

Long-term

Regular appointments at the CAR T cell therapy treatment center to monitor side effects Less frequent appointments. Side effects are still common during this time, and it is important that patients come to scheduled appointments

At physician's regular clinic. If appropriate, patients that are stable may return to the primary hematologist

Perform physical exam, blood tests, image scans (PET or CT), bone marrow aspiration and biopsy, as appropriate

Life-long monitoring for secondary malignancies

Contact physician immediately if:

*Other symptoms not included here may also require immediate medical attention



Temperature ≥100.4°F (38°C)



Black or bloody stool, rectal bleeding, blood in urine



Headache that does not improve, blurred vision. dizziness



Coughing up/ vomiting blood, nosebleed that does not stop with pressure or ice



Difficulty breathing

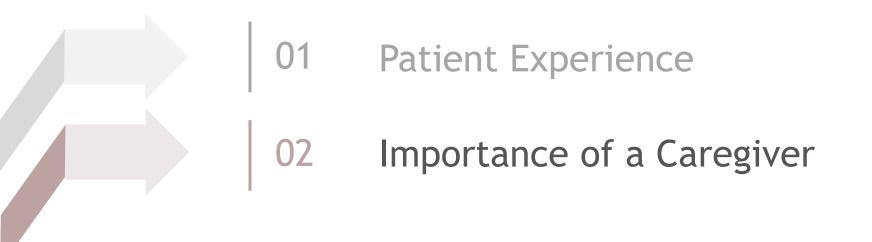


Tremors, confusion, loss of balance, trouble speaking, seizures

References: 1. Memorial Sloan Kettering Cancer Center. CAR T Cell Therapy A Guide for Adult Patients & Caregivers. https://www.mskcc.org/cancer-care/patient-education/car-cell-therapy-guide-adult-patients-caregivers. Accessed July 8, 2020. 2. National Institutes of Health. DailyMed. Accessed October 20, 2021. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=9b70606e-b99c-4272-a0f1-b5523cce0c59. 3. National Institutes of Health. DailyMed. Accessed October 20, 2021. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=aad3ba54-dfd3-4cb3-9e2b-c5ef89559189. 4. National Institutes of Health. DailyMed. Accessed October 20, 2021. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=594bb413af3b-4b97-afb3-bfe2b174f2ed. 5. National Institutes of Health. DailyMed. Accessed October 20, 2021. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=b90c1fe7-f5cc-464e-958a-af36e9c26d7c. 6. National Institutes of Health. DailyMed. Accessed October 20, 2021. https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=a16108c2-7ca7-45af-965e-54bda4713022. 7. Dana-Farber Institute. What Are The Side Effects of CAR T-Cell Therapy? Accessed October 20, 2021. https://blog.dana-farber.org/insight/2017/08/what-are-the-side-effects-of-car-t-cell-therapy.

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Caregiver Involvement and Support

Caregivers are an integral component of the patient care team during the post-infusion monitoring period, particularly in the outpatient setting

- Caregivers should be included in informed consent discussions, education, and all clinic visits
- Social workers may be needed to assist with lodging, psychosocial support, transportation, and family leave paperwork

Key points to communicate to caregivers

- Need for a reliable caregiver 24 hours a day for at least 4 weeks following CAR T cell infusion
- Staying close to the treatment center for at least 4 weeks (as instructed by the CAR T cell clinical care team)
- Monitor for signs/symptoms of CRS, NT, and other CAR T cell-related adverse events and take appropriate next steps

CRS, cytokine release syndrome; NT, neurotoxicity. References: 1. Taylor L, et al. Clin J Onc Nurs. 2019;23(2):20-26. 2. Perica K, et al. Biol Blood Marrow Transplant. 2018;24(6):1135-1141.

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Caregivers Provide Practical, Medical, and Emotional Support

Practical

- Transportation to and from appointments
- Support with insurance and financial issues
- Preparing and handling food safely
- Tidying living spaces
- Discussing updates on patient condition with friends and family
- Managing visitations

Medical

- Gather information from CAR T team
- Administer medications and record timing as instructed by healthcare team
- Measure and record patient temperature every 4 hours while awake
- Keep written record of fluid intake
- Venous catheter care
- Monitor for and report any new symptoms or changes in patient condition especially those consistent with CRS and NT
- Know when and who to contact for medical help in an emergency

Emotional

- Observing and responding to moods and feelings of patient
- Communicating and listening to patient
- Learning and understanding needs and decisions
- Prepared to contact healthcare team or social worker if they're worried about patient emotional state

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CRS, cytokine release syndrome; NT, neurotoxicity.

Reference: Memorial Sloan Kettering Cancer Center. CAR T Cell Therapy A Guide for Adult Patients & Caregivers. https://www.mskcc.org/cancer-care/patient-education/car-cell-therapy-guide-adult-patients-caregivers. Accessed July 8, 2020.

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Summary

- The CAR T cell patient journey with inpatient or outpatient administration has many similarities, except in infusion location
- The setting of CAR T cell therapy administration is decided by the treating physician based on a number of factors; some patients are suitable for outpatient administration
- Post-infusion, patients must return to the infusion center for frequent follow-up and may return to their regular physician's clinic or primary hematologist for long-term monitoring, per the CAR T treating institution's guidelines or CAR T physician's guidance
- Caregivers are required for post-infusion monitoring to provide medical, practical, and emotional support

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We hope you found it informative and educational



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