Provincial Health Services Authority

CAR T-Cell First Year Follow-Up Recommendations for Primary Hematologists/Oncologists
(Lymphoma Patients)

1 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Ferritin, CRP • Quantitative IgG, IgA, IgM (***see notes 1 and 2***) • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***)
3 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Quantitative IgG, IgA, IgM (see notes 1 and 2) • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***) **Imaging and Pathology**: • PET/CT for response assessment • Bone marrow aspirate/biopsy if prior involvement with lymphoma
Interventions: • Dental Assessment (between 1-3 months post infusion)
Immunizations: • See BCCDC Immunization Worksheet • COVID19, PCV13 and influenza vaccines may commence as early as 3 months (***see note 3***)
6 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Quantitative IgG, IgA, IgM (***see notes 1 and 2***) • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***) **Imaging and Pathology:** • PET/CT for response assessment, *only if not in CR at 3-month scans*
Immunizations: • See BCCDC Immunization Worksheet • Provide lab requisition for Hepatitis B sAb titre for patient to do 1 month after receiving third Hepatitis B vaccine dose (Public Health Unit will inform patient when to do testing).
9 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Quantitative IgG, IgA, IgM (***see notes 1 and 2***) • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***)
Immunizations: • See BCCDC Immunization Worksheet

12 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Quantitative IgG, IgA, IgM (***see notes 1 and 2***) • Peripheral blood "Immunophenotyping for TBNK". In Cerner, order "*Immunophenotyping (Flow Cytometry) T Cells B Cells NK Cells Blood*" Powerplan. (includes CD4 count, ***see note 4***). • TSH, T3, T4 • FSH/LH for females, Testosterone for males • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***) **Imaging and Pathology:** • CT for response assessment, *if in CR at 3 or 6 month PET/CT*, **or** PET/CT for response assessment, *if in PR at 3 or 6 month PET/CT*. • Age-appropriate malignancy screening
Interventions: • Dental Assessment
Immunizations: • See BCCDC Immunization Worksheet
Long Term Follow-Up
Lifelong follow-up is strongly recommended for patients treated with CAR T-cell therapy to monitor for late toxicities and secondary cancers. Annual follow-up with their primary oncologist is strongly recommended.

NOTES

1. Prophylactic IVIg can be considered in patients with IgG levels <5.0g/L AND one of:
   a) One life threatening bacterial infection in the past 12 months,
   b) Two serious bacterial infections in the past 6 months

   IVIg should be administered at an initial dose of 0.4g/kg adjusted body weight given IV monthly to target a trough IgG level of 7-10 g/L. The lowest possible maintenance dose to achieve this trough should be utilized. IVIg use should be assessed every 6 months.

   See Provincial Blood Coordinating Office (PBCO) for further guidance on IVIG and SCIG for secondary immunodeficiency (https://www.pbco.ca/index.php/programs/immunodeficiency/secondary-immunodeficiency).

2. Testing for *IgG subclasses* is not necessary.

3. Most vaccinations can start at 6 months with the following exceptions:
   a) Primary COVID19 vaccine series (3 doses) may commence as early as 3 months after CART therapy.
   b) PCV13 series may commence as early as 3 months after CART therapy.
   c) Influenza vaccine may commence as early as 3 months after CART therapy ***during influenza season*** (usually November to April). If influenza vaccine is given < 6 months post-transplant, a

2nd dose should be offered 28 days later. Live attenuated influenza vaccine is contraindicated for CAR T-cell therapy recipients.

4. Patients treated with CAR-T cell therapy are at increased risk of infection both from the procedure itself, B-cell aplasia, underlying disease and multiple prior lines of therapy.

	When	Medication	Duration
HSV or VZV	Seropositive patients	Valacyclovir 500mg PO BID Acyclovir 800mg PO BID	From LD to 1 year post infusion and/or CD4 >200
PJP	All patients	Septra DS 1 tab PO BID M & Th Alternatives: • Pentamidine 300mg IV q21d • Dapsone[¥] 100mg PO daily • Atovaquone[t] 1500mg PO daily	1 year and CD4 >200[Ω]
HBV	HBcAb or HBsAg positive patients	Entecavir 0.5mg PO daily, or Tenofovir disoproxil fumarate 300mg PO daily	18 months post CAR T-cell infusion
Fungal	Patients with ANC <0.5	Fluconazole 400mg PO daily	ANC >0.5 for 72 hours
Bacterial	High risk outpatients*	Ciprofloxacin 500mg PO BID	ANC >0.5 for 72 hours

LD = lymphodepletion.

*High ICAHT risk when ANC <0.5, leukemia, previous allogeneic stem cell transplant, treatment steroids, tocilizumab or anakinra, prior IFI, 4+ previous lines of therapy.

[Ω] If CD4 count <200 cells/µL (<0.200 x10^9 cells/L) at 1 year post infusion risk / benefit of PJP prophylaxis continuation should be considered. For patients remaining on PJP prophylaxis, monitor TBNK immunophenotyping (B&T cell subsets) q3months until CD4 count is 200 cells/µL or over.

[t] Optimal alternative in Toxoplasmosis IgG positive patients. *Covered by Pharmacare if patient has contraindication to Septra and is toxoplasmosis IgG positive; Special Authority required*. Ideally taken with high fat meal to optimize absorption.

[¥] Contraindicated in patients with G6PD deficiency (G6PD screen should be performed prior to initiation). Use with caution in patients with sulfa allergy.

If referring providers need additional advice, please contact the patient's VGH LBMT Program or Out-of-Province CART treating physician. Alternatively, they may contact Dr. Hannah Cherniawsky or Dr. Kevin Song at (604) 875-4863.