

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

1 Month CAR T-Cell Follow-Up
<b>Investigations:</b> <ul style="list-style-type: none"> <li>CBCD, electrolytes, Cr, LFTs, INR, aPTT</li> <li>Ferritin, CRP</li> <li>Quantitative IgG, IgA, IgM (<i>see notes 1 and 2</i>)</li> <li>Hepatitis B DNA + HBsAg, <i>if core antibody (total) or HBsAg positive (see note 4)</i></li> </ul>
3 Month CAR T-Cell Follow-Up
<b>Investigations:</b> <ul style="list-style-type: none"> <li>CBCD, electrolytes, Cr, LFTs, INR, aPTT</li> <li>Quantitative IgG, IgA, IgM (see notes 1 and 2)</li> <li>Hepatitis B DNA + HBsAg, <i>if core antibody (total) or HBsAg positive (see note 4)</i></li> </ul> <b>Imaging and Pathology:</b> <ul style="list-style-type: none"> <li>PET/CT for response assessment</li> <li>Bone marrow aspirate/biopsy if prior involvement with lymphoma</li> </ul>
<b>Interventions:</b> <ul style="list-style-type: none"> <li>Dental Assessment (between 1-3 months post infusion)</li> </ul>
<b>Immunizations:</b> <ul style="list-style-type: none"> <li>See BCCDC Immunization Worksheet</li> <li>COVID19, PCV13 and influenza vaccines may commence as early as 3 months (<i>see note 3</i>)</li> </ul>
6 Month CAR T-Cell Follow-Up
<b>Investigations:</b> <ul style="list-style-type: none"> <li>CBCD, electrolytes, Cr, LFTs, INR, aPTT</li> <li>Quantitative IgG, IgA, IgM (<i>see notes 1 and 2</i>)</li> <li>Peripheral Blood Flow Cytometry (B &amp; T cell subsets)</li> <li>Hepatitis B DNA + HBsAg, <i>if core antibody (total) or HBsAg positive (see note 4)</i></li> </ul> <b>Imaging and Pathology:</b> <ul style="list-style-type: none"> <li>PET/CT for response assessment, <i>only if not in CR at 3-month scans</i></li> </ul>
<b>Immunizations:</b> <ul style="list-style-type: none"> <li>See BCCDC Immunization Worksheet</li> <li>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).</li> </ul>
9 Month CAR T-Cell Follow-Up
<b>Investigations:</b> <ul style="list-style-type: none"> <li>CBCD, electrolytes, Cr, LFTs, INR, aPTT</li> <li>Quantitative IgG, IgA, IgM (<i>see notes 1 and 2</i>)</li> <li>Hepatitis B DNA + HBsAg, <i>if core antibody (total) or HBsAg positive (see note 4)</i></li> </ul>
<b>Immunizations:</b> <ul style="list-style-type: none"> <li>See BCCDC Immunization Worksheet</li> </ul>

12 Month CAR T-Cell Follow-Up
<b>Investigations:</b> <ul style="list-style-type: none"> <li>• CBCD, electrolytes, Cr, LFTs, INR, aPTT</li> <li>• Quantitative IgG, IgA, IgM (<i>see notes 1 and 2</i>)</li> <li>• Peripheral Blood Flow Cytometry (B &amp; T cell subsets) (<i>see note 4</i>)</li> <li>• TSH, T3, T4</li> <li>• FSH/LH for females, Testosterone for males</li> <li>• Hepatitis B DNA + HBsAg, <i>if core antibody (total) or HBsAg positive (see note 4)</i></li> </ul> <b>Imaging and Pathology:</b> <ul style="list-style-type: none"> <li>• CT for response assessment, <i>if in CR at 3 or 6 month PET/CT, or</i> PET/CT for response assessment, <i>if in PR at 3 or 6 month PET/CT.</i></li> <li>• Age-appropriate malignancy screening</li> </ul>
<b>Interventions:</b> <ul style="list-style-type: none"> <li>• Dental Assessment</li> </ul>
<b>Immunizations:</b> <ul style="list-style-type: none"> <li>• See BCCDC Immunization Worksheet</li> </ul>

## 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 2<sup>nd</sup> 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: <ul style="list-style-type: none"> <li>• Pentamidine 300mg IV q21d</li> <li>• Dapsone<sup>‡</sup> 100mg po daily</li> <li>• Atovaquone<sup>†</sup> 1500mg po daily</li> </ul>	1 year and CD4 >200 <sup>Ω</sup>
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 400 mg 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.

<sup>Ω</sup> If CD4 count <200 at 1 year post infusion risk / benefit of PJP prophylaxis continuation should be considered.

<sup>†</sup> Optimal alternative in Toxoplasmosis IgG positive patients. Not covered by Pharmacare. Ideally taken with high fat meal to optimize absorption.

<sup>‡</sup> Contraindicated with 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.**