

RECORD OF IMMUNIZATIONS FOLLOWING ADULT HEMATOPOIETIC STEM CELL TRANSPLANT (HSCT)

Patient Name:
Date of Birth:
PHIN:

 Autologous HSCT Allogeneic HSCT
Date of BMT:
Month 0 = (MM/YY)

Approximate timing after HSCT	≥ 3 months after HSCT "Month 0"	≥ 4 months after HSCT "Month 1"	≥ 5 months after HSCT "Month 2"	≥ 6 months after HSCT "Month 3"	≥ 12 months after HSCT "Month 9"	≥ 13 months after HSCT "Month 10"	≥ 14 months after HSCT "Month 11"	≥ 24 months after HSCT "Month 21"	≥ 27 months after HSCT "Month 24"
COVID-19¹ (COVID-19 mRNA)	_____ MM / DD / YY	_____ MM / DD / YY		_____ MM / DD / YY					
Pneu-C-20 (Pneumococcal conjugate)	_____ MM / DD / YY	_____ MM / DD / YY	_____ MM / DD / YY		_____ MM / DD / YY				
Varicella Zoster (Shingrix®)		_____ MM / DD / YY	_____ MM / DD / YY		Recommended for autologous patients only – not currently provincially funded				
DTaP-IPV-Hib (5 in 1) (Diphtheria, tetanus, acellular pertussis, inactivated polio, haemophilus influenzae type B) ²					_____ MM / DD / YY		_____ MM / DD / YY	_____ MM / DD / YY	
Men-C-ACYW -135 (Meningococcal conjugate)					_____ MM / DD / YY		_____ MM / DD / YY		
HA (Hepatitis A) (Havrix®1440 Adult)					_____ MM / DD / YY			_____ MM / DD / YY	
HB (Hepatitis B)³ (Engerix-B® 40 mcg dose = 2 mL of 20 mcg/mL = 2 syringes)					_____ MM / DD / YY	_____ MM / DD / YY	_____ MM / DD / YY	_____ MM / DD / YY	
HPV-9 (Human Papillomavirus 9-valent)⁴ 9 years to 45 years of age inclusive (Gardasil®9)					_____ MM / DD / YY		_____ MM / DD / YY	_____ MM / DD / YY	
MMR (Measles, mumps, rubella)^{5 6 7}	Live Vaccines – please see bullet point 5 6 for initiation criteria							_____ MM / DD / YY	_____ MM / DD / YY
Var (Varicella)^{5 6 8} (Varivax III™)								_____ MM / DD / YY	_____ MM / DD / YY
Influenza (inactivated)	Lifelong seasonal administration starting 3 months after date of HSCT – individuals > 65 y.o. should receive <u>high-dose</u> influenza vaccine								
Td (Tetanus, diphtheria)	Every 10 years for continued protection								

***** RITUXIMAB MAINTENANCE PATIENTS SHOULD RECEIVE at least one dose of COVID-19 and Pneu-C-20 vaccine and the Influenza vaccine if available before the start of maintenance therapy as per the schedule WITH THE REMAINDER OF VACCINATIONS DEFERRED UNTIL 6 MONTHS AFTER LAST DOSE OF RITUXIMAB THERAPY *****

- 1** Regardless of pre-HSCT immunization status, individuals should receive a primary series of COVID-19 vaccine post-HSCT. Following completion of the primary series, refer to Manitoba Health's COVID-19 Vaccine Eligibility web page for current recommendations for the timing of subsequent doses.
- 2** Use of pediatric formulation DTaP-IPV-Hib in adults is off-license and is based on expert opinion from the MBMT program.
- 3** Post-vaccination testing for antibodies to hepatitis B surface antigen is recommended 1-2 months after the series to ensure protection. If anti-HBs are "negative" or "low", provide an additional series of hepatitis B vaccines again using the higher dose 40 mcg/dose schedule. Retest anti-HBs one month after the second series of hepatitis B vaccine. If anti-HBs remain "negative" or "low," they are considered non-responders and susceptible to hepatitis B.
- 4** The extended age qualification to 46 years for males is based on expert opinion from the MBMT program and differs from Manitoba Immunization Guidelines
- 5** Administer only if off all immunosuppressive therapy for at least 3 months and currently not receiving immunomodulatory drugs. **Note: Patients receiving lenalidomide may receive MMR and Varicella.**
- 6** Interval between IVIG and a live vaccine depends on the dose of IVIG used and ranges between seven and eleven months. Refer to the Canadian Immunization Guide - [Blood products, human immunoglobulin and timing of immunization: Canadian Immunization Guide - Canada.ca](#)
- 7** Serological testing post 2nd dose of MMR. No further vaccine doses should be administered if measles antibody is not detected. The individual would be offered immune globulin on subsequent exposure to wild-type measles. No further vaccine doses should be administered if rubella antibody is not detected. The individual would be considered non-immune to rubella. Mumps immunity screening is not recommended.
- 8** Varicella vaccine may be administered during the same visit but at a separate injection site as the MMR vaccine. If not given during the same visit as another live virus vaccine (MMR), administration of the two live vaccines should be separated by at least 4 weeks

****ALL VACCINES LISTED ABOVE ARE PROVIDED FREE OF CHARGE BY MANITOBA HEALTH AND OBTAINED FROM THE PROVINCIAL VACCINE WAREHOUSE ****

When administering vaccines, follow contraindications and routine precautions for immunizations as stated in the current version of the Canadian Immunization Guide and the supplementary National Advisory Committee on Immunization Statements online: <http://phac-aspc.gc.ca/naci-ccni/index-eng.php>. For further information or assistance regarding the immunization of patients after HSCT, contact the Adult Clinical Nurse Specialist at (204) 787-1864 or the Pharmacist at (204) 787-4493.

RECORD OF IMMUNIZATIONS FOLLOWING PEDIATRIC HEMATOPOIETIC STEM CELL TRANSPLANT (HSCT)

Patient Name:
Date of Birth:
PHIN:

 Autologous HSCT Allogeneic HSCT
Date of BMT:
Month 0 = (MM/YY)

Approximate timing after HSCT	≥ 3 months after HSCT "Month 0"	4 months after HSCT "Month 1"	5 months after HSCT "Month 2"	6 months after HSCT "Month 3"	12 months after HSCT "Month 9"	13 months after HSCT "Month 10"	14 months after HSCT "Month 11"	24 months after HSCT "Month 21"	27 months after HSCT "Month 24"
COVID-19¹ 6 months to 4 years of age inclusive COVID-19 mRNA (Moderna Spikevax preferred)	_____ MM / DD / YY	_____ MM / DD / YY	_____ MM / DD / YY						
COVID-19¹ 5 years of age and older COVID-19 mRNA	_____ MM / DD / YY	_____ MM / DD / YY	_____ MM / DD / YY						
Pneu-C-20 (Pneumococcal conjugate)	_____ MM / DD / YY	_____ MM / DD / YY	_____ MM / DD / YY		_____ MM / DD / YY				
DTaP-IPV-Hib (Diphtheria, tetanus, acellular pertussis, inactivated polio, haemophilus influenzae type B) ²					_____ MM / DD / YY		_____ MM / DD / YY	_____ MM / DD / YY	
Men-C-ACYW -135 (Meningococcal conjugate)					_____ MM / DD / YY		_____ MM / DD / YY		
HA (Hepatitis A) 6 months to 18 years inclusive (Havrix [®] 720 Pediatric)					_____ MM / DD / YY			_____ MM / DD / YY	
HB (Hepatitis B)³ 1 year to 15 years of age inclusive (Engerix-B [®] 20 ug dose = 1 mL of 20 mcg/mL = 1 syringe)					_____ MM / DD / YY	_____ MM / DD / YY		_____ MM / DD / YY	
HB (Hepatitis B)³ 16 years of age and older (Engerix-B [®] 40 ug dose = 2 mL of 20 mcg/mL = 2 syringes)					_____ MM / DD / YY	_____ MM / DD / YY	_____ MM / DD / YY	_____ MM / DD / YY	
HPV-9 (Human Papillomavirus 9-valent) 9 years to 45 years of age inclusive (Gardasil [®] 9)					_____ MM / DD / YY		_____ MM / DD / YY	_____ MM / DD / YY	
MMR (Measles, mumps, rubella)^{5 6 7} 12 months of age and older								_____ MM / DD / YY	_____ MM / DD / YY
Var (Varicella)^{5 8} 12 months of age and older (Varivax III [®])								_____ MM / DD / YY	_____ MM / DD / YY
Influenza (inactivated)	Lifelong annual seasonal administration starting 3 months after date of HSCT								
Td (Tetanus, diphtheria)	Every 10 years for continued protection								

- ① Regardless of pre-HSCT immunization status, individuals should receive a primary series of COVID-19 vaccine post-HSCT. Following completion of the primary series, refer to Manitoba Health's COVID-19 Vaccine Eligibility web page for current recommendations for the timing of subsequent doses. The COVID-19 mRNA vaccines are the recommended vaccines. The Moderna vaccine is preferred for 6 months to 4 years of age due to quicker protection from a three-dose series; if Pfizer or a combination of Pfizer and Moderna vaccine is used, then a total of 4 doses is recommended.
- ② Use of pediatric formulation DTaP-IPV-Hib above 7 years of age is off-license and is based on expert opinion from the MBMT program.
- ③ Post-vaccination testing for antibodies to hepatitis B surface antigen is recommended 1-2 months after the completed series to ensure protection. If anti-HBs are negative provide an additional series of hepatitis B vaccine according to age. Retest anti-HBs one month after the second series of hepatitis B vaccine. If anti-HBs remain negative they are considered non-responders and susceptible to hepatitis B.
- ⑤ Administer **only if off all immunosuppressive therapy for at least 3 months** and currently not receiving immunomodulatory drugs. **Note: Patients receiving lenalidomide may receive MMR and Varicella.**
- ⑥ Interval between IVIG and a live vaccine depends on the dose of IVIG used and ranges between seven and eleven months. Refer to the Canadian Immunization Guide - [Blood products, human immunoglobulin and timing of immunization: Canadian Immunization Guide - Canada.ca](#)
- ⑦ Serological testing post 2nd dose of MMR. No further vaccine doses should be administered if measles antibody is not detected. The individual would be offered immune globulin on subsequent exposure to wild-type measles. No further vaccine doses should be administered if rubella antibody is not detected. The individual would be considered non-immune to rubella. Mumps immunity screening is not recommended.
- ⑧ Varicella vaccine may be administered during the same visit but at a separate injection site as the MMR vaccine. If not given during the same visit as other live virus vaccine (MMR), administration of the two live vaccines should be separated by at least 4 weeks. The combined MMR-V vaccine is contraindicated due to higher incidence of adverse effects compared to MMR and Varicella vaccine given separately.

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