

Guidelines for the Immunisation of children following treatment with Standard-Dose Chemotherapy

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Guidelines for the immunisation of children following treatment with Standard-Dose Chemotherapy

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Adapted from Vaccinations For Paediatric Patients Treated With Standard-Dose Chemotherapy And Hematopoietic Stem Cell Transplantation (HSCT) Recipients. Dr Soonie R. Patel, Professor Paul T. Heath and Prof R. Skinner (CCLG July 2018)

1.1 General Principles

- Avoid administration of all live vaccines to patients on chemotherapy and within 6 months following completion of chemotherapy
- MMR (Measles/Mumps/Rubella), VZV (Varicella Zoster Virus) and Rotavirus vaccines are the only live vaccines that can be administered to siblings of patients on chemotherapy (or within 6 months following completion of chemotherapy)
- Inactivated influenza vaccine is recommended in the autumn for all patients on chemotherapy or within 6 months of its completion. The live attenuated intranasal vaccine should not be given to this group of patients. All close contacts should also be offered the inactivated vaccine.
- Update primary health care records if vaccination takes place in hospital

1.2 Vaccination schedule for patients 6 months after completion of standard-dose chemotherapy

- Six months after completion of standard dose chemotherapy, a booster dose of vaccinations should be given.
- If the child did not complete the course of childhood vaccinations prior to starting treatment, then this should be completed.
- Subsequent routine booster doses will not be necessary if scheduled to be given within one year of the above booster doses

1.3 Vaccination of close contacts of patients receiving standard-dose chemotherapy (or within 6 months of completion)

The following live vaccines can be administered to siblings/ close family contacts of patients on chemotherapy or within 6 months following completion of chemotherapy.

- **MMR Vaccine** should be given to contacts as per the national vaccination schedule.
- **VZV vaccine (Varivax)** should be offered to healthy susceptible siblings (and adult family members who are VZV seronegative) of VZV seronegative patients. There is

theoretical risk of transmitting the attenuated vaccine virus to a susceptible individual; as a precautionary measure, any person who develops a vesicular rash after receiving VZV vaccine should avoid direct contact with the patient until the rash is dry and crusted.

- **Shingles vaccine (Zostavax)** Is offered to adults aged 70-79 years old, so the patient's grandparents may be offered this vaccine. Rarely the transmission of vaccine virus may occur between those vaccinated who develop a varicella-like rash and susceptible contacts. As a precautionary measure, any person who develops a vesicular rash after receiving Zostavax should avoid direct contact with the patient until the rash is dry and crusted.
- **Rotavirus vaccine (Rotarix):** Is given to infants aged 6-24 weeks. Rotarix should not be given to the patient but can be given to siblings. There is potential for transmission from the infant to immunocompromised contacts through the faecal-oral route for at least 14 days post-vaccination. However, vaccination of the infant will offer protection to household contacts from wild-type rotavirus disease and outweigh any risk from transmission of vaccine virus to any immunocompromised close contacts. Good personal hygiene should be observed following administration of Rotarix.

Travel Abroad

Live vaccines such as BCG, VZV, MMR, oral typhoid and yellow fever should be avoided during chemotherapy and for 6 months after completion of chemotherapy.

BCG Vaccine

If patient has previously had BCG and is considered to be at high risk of tuberculosis, perform mantoux test and if negative, re-vaccinate. If patient has not previously had BCG then vaccinate according to local policy.

Vaccination schedule for patients beginning 6 months after completion of standard-dose chemotherapy

Patient name and DOB:

Time after completion of chemotherapy	Age under 10 years Vaccine	Age 10 years and over Vaccine	Recommended dates
6 Months	DTaP / IPV ^{1,2} (Infanrix-IPV) Hib/Men C ^{1,2} (Menitorix) DTaP/IPV/Hib/HepB ² (Infanrix hexa) Men ACWY-conjugate (Menveo) PCV13 (Prevenar 13) Men B ³ (Bexsero) MMR ⁴ first dose (Priorix or MMRVaxPRO)	dTaP / IPV ¹ (Repevax) Hib/Men C (Menitorix) Men ACWY-conjugate (Menveo) PCV13 (Prevenar 13) Men B ³ (Bexsero) MMR ⁴ first dose (Priorix or MMRVaxPRO) HPV ⁵ (Gardasil)	
12 Months	MMR ⁴ second dose (Priorix or MMRVaxPRO)	MMR ⁴ second dose (Priorix or MMRVaxPRO) HPV ⁵ (Gardasil)	

[Vaccines: DTaP = Diphtheria/ Tetanus/ acellular Pertussis, dTaP = Low dose Diphtheria/ Tetanus/ acellular Pertussis, Hib = *H. influenzae b* conjugate, HepB =Hepatitis B, HPV = Human papillomavirus, IPV = Inactivated polio virus vaccine, Men B = Meningococcal B conjugate, Men C = Meningococcal C conjugate, Men ACWY = Menincoccal ACWY conjugate, MMR = Measles/Mumps/Rubella, PCV13 = 13 valent Pneumococcal conjugate]

¹ Can be given Infanrix-IPV (for <10 years age) or Repevax (for ≥10 years age)

² Give DTaP/IPV/Hib/HepB (Infanrix hexa) to children born after 1/07/17. Otherwise give DTaP / IPV (Infanrix-IPV) and Hib/Men C (Menitorix)

³ Give Men B vaccine to children born after 1/09/15

⁴ If patient did not receive MMR prior to starting chemotherapy give 2 doses MMR. If patient only received 1 dose of MMR prior to starting chemotherapy then should receive 2 doses of MMR after completion of chemotherapy. The 2nd dose should be given 6 months after the 1st dose. The 2nd dose can be given 3 months after the 1st dose or can be considered even earlier (1 month after 1st dose) in measles outbreak.

⁵ HPV vaccine should be offered to girls ≥12 years old: 2 doses of HPV vaccine (Gardasil) should be given at 0 and 6 months from starting re-vaccination. If patient is aged 15 years and over, 3 doses recommended at 0, 1, 6 months from starting re-vaccination. For girls that did complete the course, a booster dose should be given.