

VACCINATION GUIDELINES

Catch-up vaccination in practice

Examples in the event of an unknown, incomplete or incompletely known immunisation status in the general population

December 2019

OBJECTIVES

To decipher catch-up vaccination guidelines and provide healthcare professionals with examples of frequently encountered situations of catch-up vaccination in clinical practice.

IN CHILDREN

5-month-old infants from Mayotte with no other vaccination than at birth

Infant from Mayotte vaccinated at birth (BCG + HepB), seen at 5 months without further vaccination.

- 5 months: DTCaPHibHepB (1) + VPC13 (1) + MenC (1) if accepted.
- 6 months: MenC (1) if not performed at 5 months.
- 7 months: DTCaPHib + VPC13 (2).
- 12 months: MMR1 + MenC (2).
- 13 months: DTCaPHibHepB + VPC13 (3).
- 16-18 months: MMR (2).

Three-year-old child at risk of pneumococcal infection and not vaccinated against *Streptococcus pneumoniae*

Three-year-old child with a diagnosis of severe asthma and not vaccinated against *S. pneumoniae*, other vaccinations up to date according to the health record.

- M0: PCV 13.
- M2: PPV23.
- 5-year booster: PPV23, 5 years later.

Five-year-old boy who arrived in Ile de France without a health record and vaccination delay

Five-year-old boy, born in France and having lost his health record after moving to Ile de France. The parents remember his being vaccinated until the age of one, but neglected to follow up. No BCG scar.

- **M0:** preferably start with the following 4 injections subject to acceptance by the legal representative and the child's tolerance: DTCaPHib, MMR (1), Men C, and Hep B (1) with delivery of a prescription for the assay of tetanus and anti-HBs antibodies to be performed within 4 to 8 weeks.
- **M2:**
 - continuation of vaccinations undertaken: MMR (2);
 - administration of vaccinations not yet undertaken: BCG[†];
 - anti-tetanus antibodies = 1.2 IU/ml (≥ 1 IU/ml): no additional injection of DTPaP;
 - anti-HBs antibodies = 6 IU/l (<100 IU/l): perform Hep B (2).
- **M8-12:** continuation of vaccinations undertaken: Hep B (3).
- **Then resumption of the vaccination schedule at the age of 11-13 years:** dTcaP.

1. During the supply difficulties, at-risk children under 5 years of age (migrant children born in a country with a high tuberculosis endemicity, or at least one of whose parents originates from one of these countries, or having to stay for 1 month or more in one of these countries, or children in a vulnerable situation), along with children born in Mayotte and Guyana, have priority.

Five-year-old boy who arrived in Ile de France without a health record and vaccination delay

Five-year-old boy, born in France and having lost his health record after moving to Ile de France. The parents remember his being vaccinated until the age of one, but neglected to follow up. No BCG scar.

- **M0:** preferably start with the following 4 injections: DTCaPHib, MMR (1), Men C, and Hep B (1) with delivery of a prescription for the assay of tetanus and anti-HBs antibodies to be performed within 4 to 8 weeks.
- **M2:**
 - continuation of vaccinations undertaken: MMR (2);
 - administration of vaccinations not yet undertaken: BCG[†];
 - anti-tetanus antibodies = 0.05 IU/ml (<0.1 IU/ml): give a DTPaP (2) injection immediately, followed by a third dose at M8;
 - anti-HBs antibodies = 250 IU/l (≥ 100 IU/l): no additional dose, acquired immunity.
- **M8-12:** continuation of vaccinations undertaken: DTCaP (3).
- **Then resumption of the vaccination schedule at 11-13 years old with dTcaP.**

IN ADOLESCENTS

Fourteen-year-old girl having received only compulsory vaccinations

Young girl aged 14, born in France and having documented evidence of having received only compulsory vaccinations (DTP) until the age of 6 years in her health record, but no trace of subsequent boosters.

- **M0:** preferably start with the following 4 injections: dTCaP, MMR (1), Men C, and Hep B (1).
- **M1:**
 - continuation of vaccinations undertaken: MMR (2);
 - administration of vaccinations not yet undertaken: HPV (1).
- **M7-14:** continuation of vaccinations undertaken: Hep B (2) and HPV (2).
- **Then resumption of the vaccination schedule at 25 years old with dTcaP.**

Twenty-year-old man having lost his health record

Young man seen at age 20 without a health record, sexually active with multiple partners (relationship with men - MSM).

- **M0:**
 - HIV, HBV and STI screening: HIV serology, HBsAg, anti-HBsAb, anti-HBc Ab, hepatitis C serology, IgG anti-hepatitis A, syphilis serology, Chlamydia and urinary, anal and pharyngeal Gonococcus PCR;
 - Four injections administered during the initial consultation if the young person accepts it: dTcaP (1) then perform an assay for tetanus antibodies 4 to 8 weeks later; MMR (1), Men C, HPV (1).
- **D7:** HIV, HCV and syphilis serology, along with PCR for Chlamydia and Gonococcus: negative.
- **Hepatitis B Serology:** HBsAg negative, anti-HBsAb = 20 IU/l, anti-HBcAb negative: Post-vaccination immunity acquired, failing any vaccination evidence, the duration of immunity is unknown, a single additional dose of Hep B vaccine is administered.
- **Anti-hepatitis A IgG:** negative, individual not immune: administration of an initial dose of HepA vaccine (1).
- **M2:**
 - continuation of vaccinations undertaken: MMR (2) and HPV (2);
 - anti-tetanus antibodies <0.1 IU/ml: administration of dTP (2).
- **M8:** continuation of vaccinations undertaken: dTP (3), HPV (3), HepA (2).

Forty six-year-old woman with no health record

Forty six-year-old woman lost her health record, says she hasn't had any vaccines since childhood. No intercourse considered risky. No young children in her entourage.

- **M0:** administer dTP, then assay for tetanus antibodies in 4 to 8 weeks.
- **W4-8:** anti-tetanus antibodies = 0.3 IU/ml (i.e. between 0.1 and 1 IU/ml): previous scheme possibly incomplete. Need for an additional dose in 6 months.
- **M8:** continuation of vaccinations undertaken: dTP (2).
- **Resumption of the vaccination schedule:** dTP at 65 years + annual flu + shingles.

Seventy two-year-old man returning to nursing home without health record

Seventy two-year-old man, institutionalised in a nursing home. The man presents with type 2 diabetes and heart failure, he would have received a previous pneumococcal vaccination more than 5 years ago.

- **M0:** 4 injections given at the first consultation if accepted by the patient: dTP (1), Shingles, influenza (in season) and VPC 13.
- **W8:** administer PPV23; anti-tetanus antibodies = 0.1 IU/ml (i.e. between 0.1 and 1 IU/ml): previous scheme potentially incomplete. Need for an additional dose in 6 months.
- **M8:** continuation of vaccinations undertaken: dTP (2).
- **Resumption of vaccination schedule:** dTP (booster) at age 85 + annual flu.

Sixty seven-year-old man

A 67-year-old man followed for type 2 diabetes complicated by end-stage kidney failure on pre-dialysis. He remembers having been vaccinated during his military service and having received a vaccine from his former attending physician a year ago but with no documentation.

The vaccine received a year ago could be a dTP, VPC13, PPV23 or flu vaccine. There is thus a theoretical risk of hyper-reactogenicity linked to the close administration of two tetanus vaccines within 5 years of each other, or of hypo-response linked to the administration of two PPV23 vaccines within 5 years of each other. Failing any documentation however, and in view of the generally non-serious nature of hyper-reactivity reactions, it is advisable to offer repeat vaccination against diphtheria, tetanus, polio and *S. pneumoniae*, but also against influenza and hepatitis B (after prior serological testing) in view of the dialysis project. The catch-up scheme could therefore be as follows:

- **D0:** hepatitis B serology testing (HBsAg, anti-HBsAb, anti-HBc Ab) and preferably start with the following 4 injections: dTP (1), then assay for tetanus antibodies in 4 to 8 weeks, and VPC 13, Shingles and Flu during the campaign.
- **D7:** rendering of the biological results: 3 negative Hep B markers, continue vaccinations: Hep B (1) (Engerix® B 20 µg double dose) and measure anti-HBs antibodies in 4 to 8 weeks.
- **W5:** Anti-tetanus Ab = 0.05 (i.e. <0.1 IU/ml): give dTP (2); Anti-HBsAb = 90 IU/l (i.e. <100 UL/l): give Hep B (2) (Engerix B® 20 µg double dose).
- **W8:** administer PPV23 and Hep B (3) (Engerix B® 20 µg double dose).
- **M8:** dTP (3) and Hep B (4) (Engerix B® 20 µg double dose).
- **Resumption of the vaccination schedule:** dTP (booster) at age 75 + annual flu + annual control of anti-HBs Ab and Hep B booster if anti-HBs Ab <10 IU/l.

IN THE EVENT OF TRAVEL

Thirty-year-old man preparing for a trip abroad

A 30-year-old traveller consults in a yellow fever vaccination centre for the yellow fever vaccine and leaves for Senegal within 3 months. He has lost his vaccination record and does not remember the date of these last vaccines. He had several unprotected sexual relations with women.

- **D0:** perform hepatitis B serology (HBsAg, anti-HBsAb, anti-HBc Ab) and screen for HIV and STIs (Chlamydia and urinary Gonococcus PCR, Syphilis serology) and preferably start with the 4 following injections: dTcaP (1) and assay for tetanus antibodies in 4 to 8 weeks, Yellow fever (if possible, avoid YF-MMR co-administration), Hep A (1) and ACYW meningitis vaccine (in season).
- **D7:** 3 negative Hep B markers: Hep B (1) according to an accelerated schedule ± typhoid and rabies according to the conditions of the stay.
- **D14:** Hep B (2).
- **W5:** MMR (1) and tetanus Ab = 0.02 IU/ml (i.e. <0.1 IU/ml): dTP (2) and Hep (3).
- **W10:** MMR (2).
- **M8:** Hep A (2), dTP (3).
- **M13:** Hep B (booster).



This document presents the main points of the guideline "Catch-up vaccination in practice. Examples in the event of an unknown, incomplete or incompletely known immunisation status in the general population".

This guideline and the associated scientific argument can be viewed in full at www.has-sante.fr December 2019