

VACCINATION GUIDELINES

Catch-up vaccination for newly arrived migrants

In the event of unknown, incomplete
or incompletely known
immunisation status

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OBJECTIVES

Provide healthcare professionals with a tool to assist with catch-up vaccination for migrants in whom vaccines are rarely up-to-date with respect to the French vaccination schedule and whose vaccination history is most often unknown.

GENERAL PRINCIPLES OF CATCH-UP

Verification of immunisation status and catch-up vaccination cannot be dissociated from other prevention actions and must be thought of in a global approach to health promotion, prevention, family planning and screening. The organisation and provision of a comprehensive prevention pathway and access to appropriate medico-psychosocial care for unaccompanied foreign minors and migrants is a top-priority public health issue.

In this global initiative, the information delivered to the user is essential and must shed light on the objective of vaccination and all medical, social and preventive care. In situations where there is a language barrier or a distance from prevention structures, the use of professional interpretation and/or health mediation must be facilitated. Any reluctance concerning vaccination, beliefs or cultural or religious representations must also be taken into account.

Catch-up vaccination must be performed as soon as possible after entering the territory and within an optimum period of 4 months after arrival, during the "health appointment". It is accompanied by medico-social support for those who need it (support with social rights and care access formalities, referral to multi-purpose vaccination centres, etc.).

Ensuring traceability is essential for the continuation of catch-up.

General rules of catch-up

- **All doses of vaccines received count**, regardless of the time since the last dose received, once the minimum age, minimum interval between doses and the recommended dose of antigen for age have been observed.
- Prefer the use of combined vaccines in accordance with their age limit set by the MA (e.g. hexavalent and Infanrix quinta® vaccines not indicated after 3 years).
- Up to four injections can be performed during one vaccination session subject to agreement by the vaccinated person. ➔

- Use different sites for multiple injections, spaced at least 2.5 cm apart, favouring the deltoids in older children and adults and the anterolateral aspect of the thigh in infants. Injections into the buttocks should be avoided. Following a BCG vaccination, do not vaccinate on the same limb for 3 months.
- All vaccines can be given on **the same day or at any interval, except for live viral vaccines which must be given on the same day or 4 weeks apart**. The co-administration of yellow fever and MMR vaccines should be avoided and a period of at least 4 weeks between these vaccines is recommended.
- There is no risk in administering vaccines to a person who may already be immune to this disease, and therefore catch-up vaccination is indicated in the event of unknown status.
- Increased reactogenicity when administering excess doses of tetanus toxoid or diphtheria antigen vaccines is possible, though these reactions are infrequent and do not cause complications. When extensive oedema of the limb or an Arthus-like phenomenon occurs, however, DTPCa/dTPca vaccination should be interrupted and an assay for tetanus antibodies should be proposed.
- The presence of a minor infection or a low-grade fever should not delay catch-up. The existence of a febrile illness (>38 °C) or acute moderate to severe infection does not contraindicate vaccination, but can lead to this latter being delayed for a few days.
- Definitive medical contraindications to vaccination are extremely rare: severe allergy during a previous vaccine injection, Guillain Barré syndrome within 6 weeks of administration of a vaccine, and, for live attenuated vaccines, congenital or acquired immunosuppression. Live MMR, chickenpox and BCG vaccines are contraindicated during pregnancy.
- Catch-up vaccination must, moreover, respect the vaccination obligations in force and ensure that the vaccinations required for entry or maintenance in communities are observed (11 valences for children born after 1 January 2018 and 3 valences - DTP- for children born before this date).

STEPS TO TAKE DURING CATCH-UP

- **Determine, for each valency, the number of doses that the individual should have received**, taking into account the age at the time of catch-up, of previous doses received with proof of vaccination, ensuring that the minimum interval between previous doses received (primary vaccination and booster) have been respected, regardless of the age of the doses administered.
- Previous vaccinations will not be taken into consideration if no proof of vaccination can be provided.
- Doses administered too soon after a previous dose will not be taken into account. Conversely, if certain doses have been administered after an excessive period, the doses administered are still taken into account and only the missing doses to complete a primary vaccination schedule and the first booster will be administered.
- For people of foreign origin or who were vaccinated abroad, vaccination records when available must be interpreted taking into account the vaccination schedules of the countries of origin and the usual abbreviations in English-speaking or Spanish-speaking countries. Websites such as those of WHO and ECDC can help with this interpretation.
- **Define a catch-up programme:** administer the missing vaccinations or complete the regimens started by continuing from where they were stopped. Respect the intervals between each dose. Preferably start with vaccines protecting against invasive infectious diseases and/or those requiring multiple doses. Observe the minimum interval between each dose (see table on catch-up sheet).
- Certain pre-vaccination serology tests (hepatitis A and B, chickenpox) can be an aid in determining the immunisation status and catch-up, but only in cases of low risk of drop-out. They should be integrated into a comprehensive health check as recommended for newly arrived migrants and including screening for frequent communicable and non-communicable diseases.
- When immunisation status is unknown, **assay anti-tetanus antibodies 4 to 8 weeks after an age-appropriate dose** of tetanus vaccine and take the result into account when determining continued catch-up.
- When immunisation status is unknown, **assay anti-HBs 4 to 8 weeks after an age-appropriate dose** of vaccine against hepatitis B and take the result into account when determining continued catch-up.

Overview of the main English or Spanish language abbreviations for people vaccinated abroad

- DTP or DTaP or Tdap: Diphtheria, Tetanus, acellular Pertussis Vaccine
- DTWP: Diphtheria, Tetanus, whole Pertussis Vaccine
- MMR: Measles, Mumps, Rubella Vaccine
- OPV: Oral Polio Vaccine and IPV: Inactivated Polio Vaccine
- HepB or HB or HBV: Hepatitis B Vaccine
- HepA: Hepatitis A Vaccine
- HPV: Human Papillomavirus Vaccine
- PCV: Pneumococcal Conjugate Vaccine
- PPV23: 23-valent Pneumococcal Polysaccharide Vaccine
- MCV: Meningococcal Conjugate Vaccine
- MenC / MenB / MenACYW: Meningococcal C/B/ACYW Vaccine
- VZV: Varicella Vaccine
- Rota: Rotavirus Vaccine
- SRP: Sarampion, Rubéola, Paperas (Measles, Mumps, Rubella)
- VAR: Measles vaccine
- VAA: Vaccin anti-amaril or FJ: yellow fever

SEROLOGY TESTS USEFUL FOR CATCH-UP IN A MIGRATION CONTEXT

If the conditions allow serology testing, some are useful for catch-up as long as they allow for the person's actual immunity and avoid the injection of unnecessary doses of vaccine.

The following serology tests are recommended:

- **systematic screening for hepatitis B** (HBsAg, anti-HBs Ab, anti-HBc Ab) in cases of medium- or high-endemic countries or exposure to risk; Otherwise, the use of an HBsAg Rapid Diagnostic Test (combined with HIV and HCV rapid diagnostic tests where indicated) is recommended;
- **serological testing of acquired immunity against chickenpox** for migrants aged 12 to 40 with no reported history of chickenpox and who are from a low-seroprevalence country for chickenpox, particularly tropical countries (sub-Saharan Africa, South-east Asia, Central and South America);
- **serological testing of hepatitis A** only in children from 1 year of age and up to 18 years of age for those born to a family in which one member is from a country of high endemicity or who are likely to stay there for more than one year;
- **HIV infection screening - even though this is not a prerequisite for live vaccines - and HCV for high-risk exposures;**
- **screening for latent TB infection** (by IGRA or Tuberculin IDR) **for under-18s and TB disease for all** people at risk of exposure or from countries with high incidence of TB (www.hcsp.fr/explore.cgi/avisrapportsdomaine?clefr=668). Screening for LTI is also offered to adults under 40 in certain situations (infants in entourage, work in a care setting, etc.), www.hcsp.fr/explore.cgi/avisrapportsdomaine?clefr=668;
- **assay of anti-tetanus and/or post-vaccination anti-HBs antibodies** if conditions permit, to avoid unnecessary doses of vaccine.

The other serology tests are not recommended in catch-up situations, including measles, mumps, rubella, diphtheria and pre-vaccination tetanus.

Interpretation of pre-vaccination hepatitis B serology

Hbs Ag	Anti-HBs	Anti-HBc	Interpretation	Steps to take
Positive	Negative	Positive	Acute or chronic Hepatitis B virus infection	Referral for specialist care No vaccination indication
Negative	Negative or <10 IU/l	Negative	Non-immune or post-vaccination immunity with loss of anti-HBs Ab	If indicated, 3-dose vaccination or administer one dose then titrate anti-HBs antibodies 4 to 8 weeks later
Negative	Positive 10-99 IU/l	Negative	Acquired post-vaccination immunity	Failing any evidence of vaccination, the duration of immunity is unknown, a single additional dose of Hep B vaccine may be administered
Negative	Positive ≥100 IU/l	Negative	Long-term acquired post-vaccination immunity	No vaccination indication
Negative	>10 IU/l	Positive	Immunity acquired after illness	No vaccination indication
Negative	Negative	Positive	Anti-HBc antibody isolated. Post-illness acquired immunity in most cases ¹	No indication for vaccination or HBV DNA test outside of a specific context (immunosuppression and pregnancy)

1. After exclusion of a possible false positive result from the anti-HBc Ab assay by means of a second test.

Interpretation of post-vaccination hepatitis B serology (4 to 8 weeks after a dose)

Anti-HBs antibody level	Steps to take
If anti-HBs Ab ≥ 100 IU/l	No additional dose, anamnestic reaction
If anti-HBs Ab <100 IU/l	Complete regimen to be continued: administer a dose at 1 month and 6 to 12 months later

Interpretation of post-vaccination tetanus serology (4 to 8 weeks after a dose of DTPaP/dTcaP ± other valences)

Anti-tetanus antibody level	Steps to take	Modalities for continuing the vaccination schedule
≥ 1 IU/ml	Anamnestic response. No additional dose	Resumption of the vaccination schedule according to age with a minimum interval of 2 years for the next dose (DTPaP/dTcaP) for 6-13 year olds and 5 years for 14 year olds and over. Whenever possible, readjust to the French schedule in force for subsequent doses (2, 4, 11 months, 6 years, 11-13 years, 25-45-65 years then every 10 years)
0.1 to 1 IU/ml	Potentially incomplete previous schedule. Repeat one dose 6 months later	
<0.1 IU/ml	Has probably never been vaccinated. Repeat a dose at 2 months and at 8-12 months	

CATCH-UP MODALITIES

Two approaches are proposed, depending on the conditions and circumstances of catch-up

Simplified catch-up can be considered, especially for anyone - particularly in a migration situation - who is unlikely to be seen again and for whom it is desirable to prioritise and do as much as possible during a single consultation. It is also suitable for actions outside the walls of vaccination centres frequently performed in a single session.

This simplified catch-up is likely to be completed remotely. All steps must be taken to encourage these people to continue and complete their vaccinations, as soon as conditions permit.

Simplified catch-up vaccination in the event of a single vaccination session

	Simplified catch-up
Catch-up modalities procedure	Administer age-appropriate vaccines, prioritising vaccines that protect against invasive diseases and/or require multiple injections: <ul style="list-style-type: none"> in a single step during the same consultation at different injection sites without restrictions on the number of injections or antigens, but within the limit of the number accepted by the person to be vaccinated (in practice up to 4 injections)
Pre-vaccine serology, failing this a Rapid diagnostic test	In the event of exposure to the risk of contamination by the hepatitis B virus, screen for hepatitis B, ideally using complete pre-vaccination serology (HBsAg, anti-HBs Ab, anti-HBc Ab) (combined with HIV and HCV serology tests and a migrant health check-up if indicated), or failing this using a HBsAg rapid diagnostic test (combined with HIV and HCV rapid diagnostic tests where indicated)
Modalities for continuing catch-up	In the event of a new consultation, complete the primary vaccination schedule, then resume the vaccination schedule according to age, respecting the minimum intervals between boosters

Advanced catch-up vaccination if several vaccination sessions are possible

	Advanced catch-up
Catch-up vaccination modalities	Administer age-appropriate vaccines, prioritising vaccines that protect against invasive diseases and/or require multiple injections: <ul style="list-style-type: none"> at different injection sites without limiting the number of injections and antigens, within the limits of what is accepted by the person to be vaccinated and/or their legal representative
Pre-vaccination serology tests	<ul style="list-style-type: none"> In the event of exposure to the risk of contamination by the hepatitis B virus, screen for hepatitis B, ideally using complete pre-vaccination serology (HBsAg, anti-HBs Ab, anti-HBc Ab) (combined with HIV and HCV serology tests and a migrant health check-up if indicated), or failing this using a HBsAg rapid identification and screening test (combined with HIV and HCV rapid identification and screening tests where indicated). Perform a chickenpox serology test for migrants aged 12 to 40 with no reported clinical history of chickenpox Perform a hepatitis A serology test in children over the age of 1 year and up to 18 years
Post-vaccination serology tests	<ul style="list-style-type: none"> Perform an anti-tetanus antibody assay 4 to 8 weeks after a dose of DTCaP±HibHepB/dTcaP/dTP Perform an anti-HBs antibody assay 4 to 8 weeks after a dose of DTCaPHibHepB or Hep B where indicated
Modalities for continuing catch-up vaccination	<ul style="list-style-type: none"> Continue primary DTCaP/dTcaP/dTP and hepatitis B vaccinations and, depending on age, hepatitis A and chickenpox according to serology test results Catch up with any vaccinations not yet administered Complete the primary vaccination schedule (MMR, etc.) Then resume the vaccination schedule according to age, respecting the minimum intervals between two boosters

Catch-up time-line for newly arrived migrants with unknown immunisation status by age

For children under one year of age, the French vaccination schedule should be implemented without post-vaccination serology tests.

Children aged 1 to 5 years

D0	D3- D5	M1	M2	M8 to 12
DTCaPHibHepB (up to 36 months) or DTCaPHib + HepB (after 36 months)		± anti-tetanus Ab and anti-HBs assay at W4-W8	±DTCaP (according to anti-tetanus Ab) ± HepB (according to anti-HBs Ab)	± DTCaP (according to anti-tetanus Ab) ± HepB (according to anti-HBs Ab)
PCV13 (if between 2 months and 2 years)			PCV1 (if between 2 months and 2 years)	
MMR. The MMR vaccine will be administered after performing the IDR or IGRA, if this latter is indicated and performed from the outset		MMR 2 nd dose		
Men C (with an interval of at least 6 months if a dose was received before 1 year)				
Search for BCG vaccine scar and, where indicated ² , perform IGRA preferentially or failing this, tuberculin IDR from the outset or more than 4 weeks after a dose of MMR if only one sample is to be collected from the child			± BCG if negative screening	
HBV and HIV serology testing if indicated as part of the "migrant health check-up" from the outset or 4 to 8 weeks after a HepB vaccination if the child is to be sampled only once				

2. 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.

Children aged 6 to 13 years

D0	D3- D5	W4-W8	M2	M4	M8 to 12
DTCaP		± anti-tetanus and Anti-HBs assay W4-W8	± DTCaP (according to anti-tetanus Ab)		± DTCaP
MMR (after IDR/IGRA if indicated and performed from the outset)		MMR 2			
Men C					
HPV (girls aged 11 to 13 years)					± HPV 2 (girls aged 11 to 13 years)
HBV, HIV serology tests ± "migrant health check-up" from the outset or 4 to 8 weeks later	Reading of results ± HepB1 (if 3 negative Hep B markers)	± HepB2 (according to Anti-HBs Ab assay at W4-W8)			± Hep B3
± chickenpox serology test if no prior history (teenagers aged 12 to 13 years)		± chickenpox 1 (if no prior history and negative VZV serology)	± chickenpox 2		

Search for BCG vaccination scar and, where indicated ^{2,3} , preferably perform IGRA or, failing this, tuberculin IDR from the outset, or 4 to 8 weeks after an MMR dose if the child is to be sampled only once			
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3. For children who have resided or spent more than a month in a country with high endemicity.

Children aged 14 to 18 years and adults

D0	D3-D7	W4-W8	M2	M3	M8 to 12
dTcaP		± anti-tetanus assay and W4-W8	± dTP (depending on anti-tetanus Ab assay)		± dTP (depending on anti-tetanus Ab assay)
MMR 1 (after IDR/IGRA if indicated and carried out from the outset*)		MMR 2			
Men C if ≤24 years old					
HPV1 (girls aged 14 to 19, MSM ≤26)			± HPV2 (girls aged 14-19, MSM ≤26)		± HPV3 (girls aged 15-19, MSM ≤26)
HBV and HIV serology test + "Migrant health check-up"	Reading of results ± HepB 1 (according to initial serology)	± W4-W8 anti-HBs Ab assay	± HepB 2 (according to W4-W8 anti-HBs Ab assay)		± HepB 3 (according to W4-W8 anti-HBs Ab assay)
± chickenpox serology if no prior history and <40 years, or woman of		± chickenpox 1 (if no prior history, <40 years old and negative VZV serology)	± chickenpox 2		
Search for latent TB: IGRA or IDR (children up to 17 years old and adults under 40 in particular situations)					

CATCH-UP TRACEABILITY

Ensuring the traceability of the vaccinations carried out is essential for the continuation of catch-up, which may be undertaken by other healthcare professionals.

Systematic traceability of vaccinations carried out is necessary. As such, whenever possible, a vaccination record should be issued to vaccinated persons and in all cases a certificate of vaccination specifying the batch number of the vaccine. Moreover, the use of digital solutions or photographing the vaccination record are encouraged.

Any pre- or post-vaccination serology tests performed should be reported on the vaccination record in order to facilitate the implementation of catch-up (consequences on doses to be completed) and avoiding unnecessary or redundant serology tests.

