Questions and Answers on Vaccination

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Questions on Immunization and Vaccination and Short Answers

Bağışıklama ve Aşı ile İlgili Sorular ve Kısa Cevaplar

Aslıhan Coşkun[1](İD), Pervin Özelçi[1](İD), Ateş Kara[1,2](İD)

[1] *Health Institutes of Türkiye, Türkiye Vaccine Institute, Aziz Sancar Research Center, Ankara, Türkiye*
[2] *Division of Pediatric Infectious Diseases, Department of Pediatrics, Hacettepe University Faculty of Medicine, Ankara, Türkiye*

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Question 1: Who is covered by the term "health worker"?

The World Health Organization (WHO) health workers as anyone engaged in work actions whose primary intent is to improve health and who has the potential to encounter patients/clients. Therefore, in addition to health personnel [physicians, nurses, midwives, pharmacists, laboratory and health technicians (including military health personnel), 112 emergency health services personnel and National Medical Rescue Team (UMKE) personnel who take part in emergencies, disasters and extraordinary situations]; pre-service health personnel (students of medical faculties, dentistry faculties, schools providing nursing/midwifery education, vocational health high schools, etc. -including military health personnel-), personnel working in health-care management services (health institution managers, medical secretaries, employees working in health institution information desk/cashier units) and support personnel (cleaning personnel, personnel in charge of health vehicles, cafeteria/dining hall personnel, social workers).

Question 2: Which vaccinations do I need to have as a health worker?

Vaccines that should be administered to healthcare workers can be evaluated in two groups. The first group consists of vaccines required for all healthcare workers. The second group includes vaccines required for healthcare workers who are exposed to additional risks due to their environment or duties.

Recommended vaccines for all healthcare workers are as follows:

Td/Tdab vaccine: Td vaccination schemes of all healthcare workers must be complete.

Healthcare workers whose vaccination status is unknown or undocumented should complete should complete the primary series with Td vaccine. The primary Td vaccination scheme for adults who have never been vaccinated is two doses with a four-week interval between the first and second dose and a booster dose six months after the second dose. The first Td booster dose following the primary series (0, 1, 7) should be administered five years after the last dose of the primary series, especially to ensure complete protection against diphtheria. Thereafter, a booster dose of Td should be administered every 10 years to maintain protection against tetanus and diphtheria. It is recommended that one of the booster doses administered to healthcare workers should preferably be the Tdab vaccine.

Female healthcare workers are recommended to receive one dose of the Tdab vaccine in each pregnancy to protect their newborn babies from whooping cough.

Correspondence Address / Yazışma Adresi

Ateş Kara

Division of Pediatric Infectious Diseases,
Department of Pediatrics,
Hacettepe University Faculty of Medicine,
Ankara, Türkiye

E-mail: ateskara@hacettepe.edu.tr

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In cases where vaccination has commenced according to the specified intervals in the vaccination schedule but cannot be completed, the vaccination scheme should be continued from where it was left, regardless of the time elapsed.

- Healthcare workers working in high-risk departments concerning pertussis disease (such as neonatal intensive care, delivery room, bone marrow transplantation and transplantation units, 112 emergency health services, National Medical Rescue Team (UMKE) personnel, and personnel working in emergency health vehicles) should receive one of the doses in the Td vaccination scheme in the form of the Tdab vaccine.

Measles-Mumps-Rubella-Mumps (MMR) vaccination: All healthcare workers should be immunized against measles, rubella and mumps.

In unimmunized and under-immunized persons, the age-appropriate scheme should be completed.

Persons without two doses of registered measles-containing vaccine administered at appropriate intervals (at least four weeks apart) should be considered unimmunized.

Persons are considered protected if they have a medical record of measles, rubella and mumps. For measles, a person should be considered to have had the disease if it has been diagnosed by a physician in previous years and confirmed by a laboratory in recent years. For rubella and mumps, it is considered to have had the disease in the presence of laboratory confirmation under all circumstances.

Healthcare workers who are registered as having received two doses of vaccine, with the first dose administered at 12 months of age or later and the second dose administered no earlier than four weeks after the first dose, are considered immune to measles, rubella and mumps.

- The length of time elapsed after the first dose does not matter; the second dose of vaccine is administered by resuming the scheme.

It is not recommended that people undergo routine laboratory tests to determine whether they have had the disease before measles, rubella and mumps vaccination. However, if the antibody levels of the person are checked for any reason and found to be positive for all three diseases, the person does not need to be vaccinated.

MMR vaccine should be administered if the healthcare worker is potentially susceptible to any of the measles, rubella and mumps diseases.

Serological testing is not recommended for healthcare workers who are considered fully vaccinated according to the records. Repeat vaccination is not recommended even if the serological test result(s) performed for any reason are negative.

Varicella vaccine: All healthcare workers should be immunized against varicella, regardless of their work environment.

Those who have a documentation of a diagnosis or verified history of varicella (chickenpox) or zoster (shingles) from a health care provider, those with positive varicella IgG antibody, those who have a record of having been vaccinated in two doses (at least three months apart between the ages of 12 months and 13 years, at least four weeks apart if administered at the age of 13 years and later) are considered immune to varicella disease, since healthcare workers and the high-risk patients they care for may also be at high risk.

People who do not have a documented diagnosis or verified history of vaccination record of varicella or Herpes zoster should have their antibody levels evaluated serologically before vaccination.

For healthcare workers, varicella vaccination is recommended in two doses at least four weeks apart. After vaccination, 3-5% may develop a rash similar to that of chickenpox. It is recommended that people who develop a rash should not come into contact with high-risk individuals who are not immune to chickenpox (e.g. immunocompromised individuals) until the rash disappears.

Hepatitis B vaccine: Hepatitis B vaccination schemes of all healthcare workers must be complete.

For healthcare workers, it is recommended to perform serological examination for hepatitis B (HBsAg, anti-HBs, anti-HBc total) before administering hepatitis B vaccine, even if they have been vaccinated before, to be included in the health records.

If HBsAg (+) and/or isolated anti-HBc (+), the patient should be referred to a gastroenterology/infectious diseases specialist, and HBsAg and anti-HBs (-) should be vaccinated.

Hepatitis B vaccine scheme is administered in three doses at 0, 1 and 6 months.

When there is a disruption in the 0-1-6-month scheme; the vaccination scheme is adjusted as follows: at least four weeks between the first and second dose of hepatitis B vaccine, at least eight weeks between the second and third dose of hepatitis B vaccine; and there should be at least four months between the first and third dose of hepatitis B vaccine.

Due to occupational contact risks for healthcare workers, anti-HBs response should be evaluated eight weeks (four weeks at the earliest) after the third dose of Hep-B vaccine administration:

- If the anti-HBs is 10 mIU/mL and above, the the vaccine is immune and no further serologic testing or vaccination is recommended for these healthcare workers, unless they have additional health problems such as immunosuppression, chemotherapy, chronic renal failure/dialysis program. In healthcare workers who need hemodialysis, anti-HBs values are checked annually as in hemodialysis patients, and in healthcare workers with chronic renal failure who do not need hemodialysis, if the risk persists, anti-HBs values are checked and if anti-HBs values are found to be <10 mIU, an additional dose of vaccine is administered.
- If anti-HBs is negative (below 10 mIU/mL), the person should receive another 3-dose series (0-1-6 months) of hepatit B vaccine followed by anti-HBs testing again 8 weeks (four weeks at the earliest) after the repeated scheme.
    - If the anti-HBs is still negative after two series of hepatitis B vaccination (total of six doses with the 0, 1, 6 scheme), the person is considered "considered as a non-responder" to hepatitis B vaccine. These persons should be medically evaluated for hepatitis B infection.
    - Healthcare workers who are non-responders should be considered susceptible to HBV and may need to obtain HBIG prophylaxis for any known or probable parenteral exposure to hepatitis B surface antigen. Health education/counselling should be proviede for these non-responder healthcare workers.

Vaccine-induced anti-HBs levels might decline over time. Provided that the registered three doses of Hepatitis B vaccine and the anti-HBs response is documented to be above 10 mIU/mL; If the anti-HBs antibody titre of the healthcare workers has been declined (below 10 mIU/mL) within years, the vaccine does not need to be administered again.

Influenza vaccine: Influenza vaccine should be administered as a single dose annually.

BCG vaccine: The World Health Organization recommends BCG vaccination for unvaccinated healthcare workers with a negative tuberculin skin test (TST) or interferon gamma release assay (IGRA) who are at risk of occupational exposure.

In the United Kingdom, BCG vaccination is recommended for healthcare workers and laboratory staff who may have close contact with patients with tuberculosis infection. Especially in obstetrics, pediatrics and departments with immunocompromised patients (transplantation, oncology and HIV units, etc.), it is recommended that health personnel be tested and immunized with BCG vaccine.

It is known that the incidence of tuberculosis in healthcare workers is high in our country. Therefore, it is necessary to carry out recruitment and periodic screening of healthcare workers and to record the results.

According to the current Tuberculosis Diagnosis and Treatment Guideline published by the Ministry of Health, tuberculin skin test (TST) is done, chest radiography is performed, and symptoms are evaluated. If the initial TST is negative, a second test is performed to look for a booster effect (a second TST for a booster effect is performed between one and four weeks; it can be performed up to one year, but as time passes, it becomes more difficult to differentiate booster from new transmission and conversion). As far as the booster effect is concerned, this is written as the TST result.

- If the second TST is positive, preventive treatment for tuberculosis is given; before preventive treatment, it must be demonstrated that there is no active disease.
- If initially TST-negative personnel become positive on subsequent screening (conversion), they require preventive treatment.
- Those who were previously TST positive are not subjected to repeat TST during periodic screening.
- If TB is suspected during screening, ARB and culture examination of sputum should be performed three times.

COVID-19 vaccine: COVID-19 vaccine should be administered in accordance with the scheme recommended by the Ministry of Health.

Question 3: In addition to these vaccines, which vaccines should be administered to healthcare workers and laboratory workers who are exposed to human tissue, blood, body fluids and wastes (urine/feces)?

Hepatitis A vaccine: It is required for students of medical faculties, nursing/midwifery schools, health vocational colleges and health personnel working in sub-care services (such as pediatric services, pediatric infection services, adult intensive care units) in health institutions and cleaning workers working in these departments, laboratory workers working with fecal material, 112 emergency health services personnel, National Medical Rescue Team (UMKE) personnel working in emergencies, disasters and extraordinary situations and personnel working in emergency health vehicles.

- Hepatitis A vaccine is recommended for all healthcare workers with chronic hepatitis, chronic liver disease, coagulation disorders and HIV/AIDS patients.

- Hepatitis A vaccine is administered in two doses at six-month intervals.
- It is necessary to evaluate antibody levels before hepatitis A vaccination.

Meningococcal vaccine: Since *Neisseria meningitidis* carries the risk of transmission from laboratory environments and culture media to humans it is recommended for personnel working with meningococci in microbiology laboratories and personnel likely to encounter meningococci, including 112 emergency health services personnel.

Four-component conjugated meningococcal vaccines-ACWY-Diphtheria toxoid vaccine is administered up to 55 years of age, while ACWY-CRM197 and ACWY-Tetanus toxoid vaccines are administered as a single primary vaccination dose without an upper age limit. In cases of continued exposure, all three vaccines are repeated every five years.

MenB-4C is administered in as two doses at one-month intervals. If the risk persists, it is recommended to administer as a single dose one year after completing the primary scheme, followed by a booster dose every two to three years.

MenB-FHbp is administered in two doses with an interval of six months or two doses with an interval of at least one month between them. The primary vaccination scheme is completed with a third dose at least four months after the second dose. If the risk persists, it is recommended to administer a single dose one year after completing the primary scheme, followed by a booster dose every two to three years.

MenB vaccines can be administered simultaneously with MenACWY vaccines if indicated. However, if possible, it is recommended to be administered from different anatomical regions.

Polio vaccine: All healthcare workers should have completed a full course of primary vaccination for polio prevention.

Other vaccines: Healthcare personnel working with some specific disease agents (e.g. rabies, Japanese encephalitis, cholera, smallpox, tick-borne encephalitis, typhoid, yellow fever, anthrax, tuberculosis, etc.) in reference laboratories must also be immunised against the relevant diseases.

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