



VACCINATING HEALTH-CARE WORKERS
against Hepatitis B



- In the Western Pacific Region, 160 million people are infected with hepatitis B, causing 360 000 deaths per year
- Health-care workers are at higher risk of becoming infected with hepatitis B than others in the community
- Hepatitis B vaccination is safe and effective at preventing infection
- Trainee health care workers should be vaccinated prior to patient contact
- Existing health care workers should also be offered vaccination

WHAT IS HEPATITIS B?

Hepatitis B virus (HBV) is a blood-borne virus that affects the liver, causing jaundice (yellowish discolouration of the skin and eyes), nausea, abdominal pain and fatigue. It can be transmitted from mother to baby, by contact between household members, sexual contact, or by exposure to blood or other body fluids (semen or vaginal fluid). Most adults who become infected with hepatitis B will recover, but about 10% will remain infected. People with chronic infection have a one in four risk of developing life-threatening liver failure or liver cancer.

WHY ARE HEALTH-CARE WORKERS (HCWs) AT RISK?

Health-care workers may be exposed to hepatitis B due to injury with a contaminated needle or instrument, or if there is blood contact from an infected person with broken skin or mucosal surfaces (eyes, nose or mouth) in their workplace. Hepatitis B virus can survive outside the body for up to seven days.

WHAT CAN WE DO TO PREVENT HEPATITIS B INFECTION?

- Observe safe universal precautions, including use of personal protective equipment
- Handle and dispose of sharp items safely
- Vaccinate health-care workers against HBV

WHICH HCWs SHOULD BE VACCINATED?

- Health-care workers who are at risk of exposure, including clinical staff (nurses, doctors, dentists, clinical assistants, ambulance personnel, pharmacists, ancillary medical personnel and others with clinical contact), laboratory staff, support staff (cleaners, laundry staff, mortuary workers and maintenance staff) and any others who may be in contact with contaminated materials.
- Trainees in any of the above areas should be vaccinated before contact with patients.
- Health-care workers engaged in the private health sector should also be vaccinated.

Anyone in the above groups who does not have a record of receiving three HBV vaccine doses should be vaccinated.

Two key approaches to vaccinating HCWs:

1. Vaccinate trainees and new health-care workers
2. Vaccinate existing health-care workers

1. CHECK-LIST FOR ESTABLISHING A PROGRAMME TO VACCINATE NEW HCWs

Start-up activities:

- Develop vaccination policy
- Assess best strategy, considering best times to access HCWs (“points of opportunity”):
 - for trainees: preferably at training entry, or before starting clinical contact
 - at job entry
 - other vaccination opportunities for those missed at above stages
- Raise awareness among stakeholders
- Raise awareness among HCWs
- Develop implementation plan
 - integrate the above points of opportunity into programme planning
 - ensure supply, distribution, draft role descriptions, adverse event management and recording and monitoring
 - integrate provision of other vaccines recommended for HCWs: measles/mumps/rubella, tetanus and influenza
- Secure funding

Ongoing activities:

- Provide HCWs with records of their own vaccination status
- Monitor vaccine coverage routinely among HCWs
- Address logistics problems
- Respond to barriers to vaccination uptake among HCWs
- Maintain awareness among HCWs and stakeholders

WHAT IS THE VACCINE SCHEDULE AND DOSAGE?

Three doses are required, at 0, 1 and 6 months. The exact dose depends on the vaccine formulation; however, for most formulations, the adult dose is double the childhood dose.

WHO CANNOT HAVE THE VACCINE?

The only contraindication to HBV vaccination is a previous life-threatening allergic reaction to the HBV vaccine itself or to baker’s yeast, which is extremely rare. Almost everyone can have the HBV vaccine. For example, HBV vaccine can be safely given to HCWs who have other health problems, including hepatitis C, and to women who are pregnant or breastfeeding.

DO HEALTH-CARE WORKERS NEED TO BE TESTED FOR HEPATITIS B INFECTION BEFORE VACCINATION?

Not necessarily. It is safe to give the vaccine even to people already infected with HBV. Screening for pre-existing chronic infection is cost-effective only in very high prevalence areas, thus vaccinating everyone is usually the best approach. Testing for existing HBV infection should only be performed where guidelines exist to respond to positive test results, protect confidentiality and prevent discrimination.

DO HEALTH-CARE WORKERS NEED TO BE TESTED AFTER HEPATITIS B VACCINATION?

Not necessarily. More than 90% of adults vaccinated with the above three-dose schedule will have significant immunity to HBV infection. Where resources allow, documentation of immune response by testing for protective anti-HBsAb levels (>10mIU/mL) may be performed one to two months after the final vaccine dose. Testing for immunity after vaccination can be cost-effective and identifies both people with chronic infection and those who do not respond to the vaccine. As above, guidelines for maintaining confidentiality, responding to chronic infection and lack of immune response should be in place before testing.

DOES BEING VACCINATED GUARANTEE THAT A PERSON DOES NOT HAVE HEPATITIS B?

No. Some people may already have HBV infection before receiving the vaccine, even without being aware of it. If this is the case, they will still have the infection after vaccination, as the vaccine can only prevent a future infection.

2. CHECK-LIST FOR CONDUCTING AN ACTIVITY TO VACCINATE EXISTING HCWs

Preparation

- Obtain agreement from agencies and organizations including private service providers
- Secure funding
- Develop vaccination guideline and ensure logistics
- Prepare database to monitor coverage (for each of the three required doses)
- Integrate with adverse event following immunization (AEFI) surveillance system
- Provide staff training on HBV vaccination and recording process
- Raise awareness among HCWs, to ensure highest possible uptake
- Distribute vaccines and other logistics

During the activity

- Provide HCWs with vaccination record card
- Record vaccination in reporting database

After the activity

- Analyse data for gaps and issues
- Report to relevant bodies
- Plan for vaccination program of new and training HCWs, if not in place

HOW SHOULD HBV VACCINATION BE RECORDED AND MONITORED?

The date and dose of the vaccination should be recorded. A copy should be kept by the vaccinating facility and a copy provided to the HCW. Uptake of hepatitis B vaccination by HCWs within the health facility should be monitored to ensure staff at risk are protected by vaccination.

WHAT IS THE COST OF VACCINATING HCWs?

The HBV vaccine is relatively inexpensive. As health-care workers are vital to the functioning of health systems, the cost of illness within this group is substantial. Preventing HBV infection in this high-risk group reduces expenditure on treatment of illness and supports future workforce sustainability.

WHAT LEGAL STRUCTURE IS REQUIRED?

This will depend on the individual country. Either mandatory vaccination or strong recommendations are advocated. A non-punitive plan to manage HCWs who refuse vaccination, including testing for public safety reasons, should be included.

UNIVERSAL PRECAUTIONS TO PROTECT PATIENTS AND HCWs REMAIN ESSENTIAL.

This includes provision of personal protective equipment, promotion of safe injecting practices and maintenance of safe waste disposal systems.

Vaccination protects HCWs against HBV infection, but not against other blood-borne viruses such as hepatitis C or HIV. If a HCW is exposed (e.g. with a needle-stick injury), post-exposure prophylaxis guidelines must be followed, including HBV vaccination if they have not already had a full vaccine course, and hepatitis B immunoglobulin if indicated and available.

References

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