

# VACCINATIONS FOR DENTAL HEALTHCARE PERSONNEL



**INFECTION PREVENTION CORNER**  
Kay Carl, RN, BS, Infection Preventionist

## Learning Objectives:

After reading this article, the reader should be able to:

- Understand the importance of a vaccination program for dental healthcare personnel.
- Identify what vaccinations are required and recommended for dental healthcare personnel.
- Prepare your office vaccination program to reflect the most current public health recommendations for infection prevention in dental settings.

A comprehensive infection prevention program is essential for a dental facility. This program should include a consistent vaccination component for dental healthcare personnel (DHCP). Because of their contact with patients and contaminated material from patients, DHCP are at risk of exposure to vaccine-preventable diseases. Provision and maintenance of immunity for these workers reduces their susceptibility to these diseases and the ability to transmit infectious agents to other workers and patients. The Center for Disease Control and Prevention (CDC) considers DHCP to be under the umbrella of Healthcare Personnel (HCP), so the guidelines are the same.

## Vaccinations vs. Immunizations Definitions

A vaccination is administering a vaccine to a patient. If the vaccine produces an immune response, then the patient has received an immunization. These words have been used interchangeably throughout the years, but that is not really correct. That is why antibody testing must be done to verify immunity to the Hepatitis B Virus (HBV) after the vaccine is given. COVID-19 vaccinations do not provide 100% Immunity. That is why vaccinated people still can get sick with COVID-19 but usually do not require hospitalization.

## Center for Disease Control and Prevention (CDC) Definition of Terms

**Immunity:** Protection from an infectious disease. If you are immune to a disease, you can be exposed to it without becoming infected.

**Vaccine:** A preparation that is used to stimulate the body's immune response against diseases. Vaccines are usually administered through needle injections, but some can be administered by mouth or sprayed into the nose.

**Vaccination:** The act of introducing a vaccine into the body to produce protection from a specific disease.

**Immunization:** A process by which a person becomes protected against a disease through vaccination. This term is often used interchangeably with vaccination and immunization.

## HISTORY

**OSHA:** On December 6, 1991, the Occupational Safety and Health Administration (OSHA) published the Bloodborne Pathogens Standard to take effect on June 6, 1992, and it is still in effect today. A portion of this law mandates employers to offer Hepatitis B vaccinations, at no charge, to all employees who are at risk from bloodborne diseases. If an employee refuses the vaccination, they must sign a declination form and may receive the vaccine later if they choose. Employers must provide Hepatitis B virus (HBV) antibody testing after the vaccination series to verify immunization has been achieved.

**BODEX:** Most of you are aware of OSHA law but may not be aware of the stand that our Arizona Board of Dental Examiners (BODEX) takes. As of 1994, our BODEX requires Arizona dentists must not only follow OSHA law but should also follow recommendations from the CDC. In addition, requirements were established for continuing education for license renewal including infectious disease and infection control units.

**CDC:** In 1997, the CDC published HCP immunization recommendations. In the CDC Guidelines for Infection Control in Dental Healthcare Settings – 2003, the guidelines adapted these same recommendations for DHCP. In 2016, the CDC updated the 2003 dental guidelines by including instructions how to carry them out. The CDC recommendations for a dental immunization program are as follows:

1. "Develop a written comprehensive policy regarding immunizing DHCP, including a list of all required and recommended immunizations.
2. Refer DHCP to a prearranged qualified healthcare professional or to their own healthcare professional to receive all appropriate immunizations based

on the latest recommendation as well as their medical history and risk for occupational exposure.”

These recommendations are strongly recommended for implementation and supported by experimental, clinical or epidemiologic studies and a strong theoretical rationale.

## PRIVATE DENTISTRY'S COMPLIANCE

Dental facilities associated with hospitals and government entities are probably already up to standard on immunization programs, but many independent practices are not. A recent survey by The National Institute for Occupational Safety and Health (NIOSH) and the Organization for Safety and Asepsis Procedures (OSAP) found that over 28% of private dental practices taking the survey did not have a site-specific bloodborne exposure control plan and 50% of those did not plan to implement one in the next 12 months. And that law was effective in 1992! So, what do you have to do? What are your responsibilities?

## OSHA LAW: HEPATITIS B VACCINATION AND IMMUNIZATION

*Hepatitis B Vaccinations:* The Hepatitis B vaccinations have been available since the early 1980's. Admission for dental schools, hygiene and dental assisting schools now include HBV vaccination requirements. Newborns are given their initial dose of the HBV vaccination series during the first minutes of their lives while being assessed for their APGAR (activity, pulse, grimace, appearance and respiration) score. It is becoming rare that a new employee does not have this vaccination. If not, the employer must offer the HBV vaccination series to the employee who is to be exposed to bloodborne pathogens in the course of their work. OSHA requires that the employer must pay for the Hepatitis B vaccination and HBV antibody screen.

*New HBV Vaccine:* In 2018 the Advisory Committee on Immunization Practices (ACIP) approved a new HBV vaccine, Heplisav-B™, that provides

a two-dose series at least 4 weeks apart. That means after the initial dose, a second dose can be administered in 4 weeks and then testing for antibodies 4-8 weeks after the series, thus having results in a much shorter time than with the three-dose vaccines, Engerix-B and Recombivax HB.

*Testing for Antibodies:* The employer must provide testing for antibodies within 1-2 months after the vaccine series is completed. If you have employees who have not yet been tested for the Hepatitis B Surface Antibody (Anti-HBs), even if it is past the 1-2-month recommendation, go ahead and test. A titer of  $\geq 10$  mIU/mL indicates that protection has been achieved. If there is not a detectable antibody, further medical evaluation is needed. If you test positive for the antibody, you are considered protected from Hepatitis B. Each employee should have their positive antibody test to keep for their permanent records.


*Immunity Can Wane.* The Anti-HBs levels can decline over a 30-year period. For example, if you were vaccinated in your 20's, test again in your 50's. If you test negative, you should complete another series and be tested. You may be advised by your healthcare provider to get Heplisav-B™, the two-step vaccine, and be tested in the shorter time period.

*Bloodborne Pathogen Exposure Protocol.* The protocol to follow should be in your exposure control plan. If you do not have one, consider obtaining the IP/OSHA tool kit. If the employee exposed has not been vaccinated or tested for immunity, it becomes a risk management issue for the employer.

A titer of  $\geq 10$  mIU/mL Anti-HBs indicates that protection from HBV has been achieved.

## CDC RECOMMENDED VACCINES FOR DENTAL HEALTHCARE PERSONNEL

The CDC recommends the follows vaccinations for DHCPs: COVID-19, HBV, Influenza (flu), Measles/Mumps/Rubella (MMR), Varicella (Chickenpox) and Tetanus/Diphtheria/ Pertussis.



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You should be aware of what vaccines your employees have received. An unvaccinated employee can pose a risk management issue if a vaccine-preventable disease is transmitted to a patient. If your employees are missing some vaccinations, what you make your responsibility will reduce your risk. So let us address each vaccination recommendation.

*COVID-19 Vaccinations:* As information on this fluctuates and it is the only addition to the requirements set in 2011, it is best to check in with the latest information provided by the CDC.

*Flu Shots:* Flu shots are recommended for DHCP. Affecting 5 to 15% of the population of the United States each year, influenza infections result in approximately 226,000 hospital admission and 36,000 deaths annually. Since 1981, the CDC has recommended annual influenza vaccination for the healthcare personnel. In 2006, the CDC called for HCW who decline seasonal flu shots to sign declination statements. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) calls for hospitals to establish an annual flu vaccination program to practitioners and staff, to provide education regarding the flu and to track acceptance and declination and take steps to increase the vaccination rates. Many hospitals now require yearly flu vaccinations as a condition of work.

Get the facts on flu shots. The shots are a killed virus; you cannot get the flu from the shot. You still might get a sore arm for a few days. You may even still get the flu, but it should not be as severe. It will protect you. If you get the flu without being vaccinated, you could be very ill and unable to work for a couple of weeks. If you transmitted the flu to an elderly or compromised person, it could be fatal. Protect yourself, your family, your coworkers, and your patients by getting the flu shot and providing it for your staff.

The CDC recommends annual influenza vaccination as the best way to protect yourself against the flu and its potentially serious complications.

*Measles/Mumps/Rubella (MMR):* It is highly likely that your employees have had the MMR vaccinations as requirement for school attendance, or in the case of older employees, have had the disease. A history of MMR vaccination or disease is required. If received MMR in the years 1963-1967, a killed measles vaccine was given and was not effective. Test for antibodies and vaccinate if necessary.

*Varicella (Chickenpox):* This is a relatively new vaccine that has been available since 1995. Depending upon the age of the health-care worker, they may already have had the disease or have had the vaccine. If non-immune to Varicella, it would be wise to get the vaccination series of two doses. Being immune to Varicella prevents the development of painful Herpes Zoster (Shingles) later in life or when immunity is compromised. If a non-immune employee has been exposed to Varicella, they must be excluded from work during the infectious stage to prevent transmission to non-immune patients and other health-care personnel. Having DHCP immunized to Varicella will prevent lost workdays. It is important to note that a fetus can suffer birth defects if the mother contracts Varicella during her pregnancy.

*Tetanus/Diphtheria/ Pertussis:* Pertussis can be extremely serious especially in babies and young children, causing pneumonia, convulsions, brain damage, or death. We now know that adults can get pertussis and infect newborns that cannot be given a pertussis vaccine until six months of age. As a result, a combined tetanus/diphtheria/pertussis vaccine called Tdap (pronounced, "tee dap") has been developed. Tdap is only for children 7 years and older, adolescents, and adults. A single shot of Tdap should be given to adults and then a booster dose or Td (tetanus and diphtheria) given every ten years.

If you have not gotten the Tdap before, get it regardless of the last time you received a tetanus shot.

*All of the above vaccinations are also included in the CDC recommended adult schedule so the employee may be able to be vaccinated by their own medical provider and be covered by their own insurance. Check it out. It will not hurt to try to see if the cost can be covered this way. You are still responsible for the HBV vaccination and testing.*

## **NEW HEPATITIS B VACCINATION RECOMMENDATIONS FOR ADULTS**

On November 3, 2021, CDC's Advisory Committee on Immunization Practices (ACIP) voted to recommend universal hepatitis B vaccination of adults through age 59 years, and all adults with risk factors age 60 or older. Any adult age 60 or older may be vaccinated. This is good to know for family members who should be vaccinated.

## **IN CONCLUSION**

If you go to online to Vaccinations for Dental Healthcare Personnel at <https://ce.azda.org/Infection-Control/>, you will see that I have provided for you an Employee Health Vaccination/ Tests Record Worksheet that is from the IP/OSHA Tool Kit. As part of the hiring process, have the new employee fill out the worksheet in addition to the rest of the documentation that is required for hire. Most DHCP have these records. Have in place an agreement with an occupational medical provider who is experienced in the testing, vaccination and assessment of healthcare employees. These two steps will do it. It will also have in place where to immediately send your employee in case of a bloodborne exposure as required in your OSHA Bloodborne Pathogen Plan. Once the history of vaccinations for your employees is compiled and brought up to date, the flu shots have been the only vaccinations that needed to be addressed annually. But now COVID-19 vaccinations may become a yearly recommendation. Tetanus shots are due every 10 years and CDC now recommends a single dose of Tdap for adults to replace



### Kay's Two Cents

I do not consider myself an expert when it comes to vaccinations, just know the basics. As an infection control nurse, I have administered hundreds of vaccines, but the pharmacy handled the logistics. As to dentists giving vaccinations, several states now allow dentists to give vaccines in varying degrees. I am not a fan of that. Vaccines must be kept at certain temperatures and logs must be kept for proof of compliance. Vaccines outdate at different times. There is a lot to it, and it can be expensive and time consuming. Reactions to vaccines vary and you must be prepared to treat and report. Immunize.org at [immunize.org](https://immunize.org) has extensive information on vaccines and the accountability required. I would not want the responsibility or headache. ■

View an Employee health vaccination/ tests record worksheet <https://tinyurl.com/yupzvr2>

the next booster dose of tetanus and diphtheria toxoids vaccine (Td). Whether you need a Tdap again in 10 years or just a tetanus shot is being debated. A one-page guide from the Immunization Action Coalition is an excellent resource to download.

An unvaccinated employee can pose a risk management issue if a vaccine-preventable disease is transmitted to a patient. If your employees are missing some vaccinations, what you make your responsibility will reduce your risk. Please note that the vaccinations listed above for DHCP are not the only vaccinations recommended for adults.

### OVERWHELMED? DON'T BE.

The IP/OSHA Tool Kit that is available at [ce.azda.org/osha-toolkit](https://ce.azda.org/osha-toolkit), has completed plans that only require you to put your name on it and follow the instructions. Documentation forms are also available, including vaccinations.

- 1 <https://www.cdc.gov/vaccines/adults/rec-vac/hcw.html>
- 2 <https://www.cdc.gov/vaccines/vac-gen/imz-basics.htm>
- 3 <https://www.osha.gov/laws-regs/regulations/standard-number/1910/1910.1030>
- 4 <https://www.cdc.gov/oralhealth/infectioncontrol/pdf/recommendations-excerpt.pdf> page 4
- 5 <https://www.cdc.gov/niosh/updates/upd-06-07-17.html>
- 6 <https://www.osha.gov/laws-regs/federalregister/1991-12-06>
- 7 <https://www.cdc.gov/vaccines/schedules/vacc-updates/heplisav-b.pdf>
- 8 <https://www.fda.gov/vaccines-blood-biologics/approved-vaccine-products/hepatitis-b-vaccine-recombinant>
- 9 <https://www.cdc.gov/vaccines/pubs/pinkbook/hepb.html#Vaccine>, under laboratory testing
- 10 <https://www.cdc.gov/vaccines/adults/rec-vac/hcw.html>
- 11 <https://www.vaccines.gov/>
- 12 <https://www.cdc.gov/flu/prevent/keyfacts.htm#benefits> under Vaccine Benefits
- 13 <https://www.cdc.gov/vaccines/hcp/vis/vis-statements/tdap.html> go to print VIS
- 14 [https://www.immunize.org/askexperts/experts\\_hepb.asp](https://www.immunize.org/askexperts/experts_hepb.asp)
- 15 <https://www.immunize.org/catg.d/p2017.pdf>
- 16 <https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf>

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