
ACHA Guidelines

Immunization Recommendations for College Students

Immunizations offer safe and effective protection from vaccine-preventable diseases and outbreaks. The United States is experiencing re-emergence of these diseases, in part due to factors such as un-immunized and under-immunized persons and global travel. The American College Health Association (ACHA) strongly supports the use of vaccines to protect the health of our individual students and our campus communities. In recognition of the vital role that vaccine coverage plays in community immunity (herd immunity), ACHA discourages use of nonmedical exemptions to required vaccines.

This guidance is provided to facilitate implementation of a comprehensive institutional immunization policy. Best practices for institutions of higher education include the following Immunization Recommendations for College Students (IRCS), encouraging students who request nonmedical exemptions to required vaccines to be counseled by a health service clinician, and considering exclusion of un-immunized students from school during outbreaks of vaccine-preventable diseases. Institutions may also be subject to additional requirements for pre-matriculation vaccinations and the granting of exemptions by state law.

The ACHA Vaccine-Preventable Diseases Advisory Committee updates this document in accordance with changing public health recommendations. These guidelines follow Advisory Committee on Immunization Practices (ACIP) recommendations published by the U.S. Centers for Disease Control and Prevention (CDC). Links to full information regarding ACIP provisional and final recommendations, including schedules, indications, precautions, and contraindications, are available at the CDC National Immunization Program website: <http://www.cdc.gov/vaccines/index.html>.

In addition to implementing a comprehensive institutional immunization policy, institutions are also encouraged to screen for tuberculosis (TB) infection, especially those students who are at increased risk, as this is a key strategy for controlling and preventing infection on college and university campuses. ACHA Guidelines for Tuberculosis Screening and Targeted Testing of College and University Students are available at www.acha.org/guidelines.

VACCINES TO REDUCE OUTBREAKS

Outbreaks, although much less common than sporadic disease occurrences, cause great disruption and emotional and financial burdens for campuses, students, and their families. Assuring compliance with the following immunization recommendations is particularly important in preventing disease clusters and outbreaks on campuses.

INFLUENZA VACCINE

- Inactivated influenza vaccines: Trivalent (IIV3) or Quadrivalent (IIV4) or Recombinant (RIV4)
- Live attenuated influenza vaccine (LAIV; licensed for healthy, nonpregnant persons age 2-49 years) *
- Adjuvanted inactivated influenza (aIIV3)

VACCINATION SCHEDULE: Annually (recommendation applies to any and all flu vaccines)

MAJOR INDICATIONS:

All members of a campus community age 6 months or older should receive annual vaccination.

College students at high risk of complications from the flu due to asthma, diabetes, or certain immuno-deficiencies; and students with contact with a high-risk individual.

Students enrolled in health care professional programs should receive annual influenza vaccination.

CONTRAINDICATIONS AND PRECAUTIONS: History of hypersensitivity to any of the components of the vaccine (applies to any and all flu vaccines) Note that persons allergic to eggs may safely receive flu vaccines.

*CDC's ACIP includes LAIV as an option in the 2018-19 season for those whom it is appropriate.

MEASLES, MUMPS, RUBELLA (MMR) VACCINE

VACCINATION SCHEDULE: Two doses of MMR at least 28 days apart after 12 months of age.

MAJOR INDICATIONS:

- All college students born after 1956 without lab evidence of disease.
- All health care professional students without other evidence of immunity should receive two doses of MMR.
- A 3rd dose should be given in a mumps outbreak when the individual is considered, by public health authorities, to be part of a group or population at increased risk
- Those born before 1957 without other evidence of immunity should receive one dose; two doses in an outbreak.

CONTRAINDICATIONS AND PRECAUTIONS: Pregnancy, history of hyper-sensitivity or anaphylaxis to any of the components in the vaccine. Receipt of blood products and moderate or severe acute infections. Guidelines exist for vaccination of persons with altered immunocompetence.

MENINGOCOCCAL QUADRIVALENT (A, C W, Y) VACCINE

- Conjugate
- Note: Polysaccharide vaccine is no longer available

VACCINATION SCHEDULE:

- Initial dose of conjugate vaccine: 11-12 yrs. of age
- Booster dose: 16 yrs. of age
- If initial dose given age 13-15 yrs.: booster dose at 16-18 yrs. of age
- If initial dose given age ≥ 16 yrs., no booster dose required

Persons with persistent complement component deficiencies or asplenia should receive a 2-dose primary series administered 2 months apart and then receive a booster dose every 5 years. Adolescents aged 11 through 18 years with HIV infection should be routinely vaccinated with a 2-dose primary series. Other persons with HIV who are vaccinated should receive a 2-dose primary series administered 2 months apart. All other persons at increased risk for meningococcal disease (e.g., microbiologists or travelers to an epidemic or highly endemic country) should receive a single primary dose.

For colleges and university with meningococcal vaccine policies as a requirement of enrollment or on-campus living: students 21 years of age and younger should have documentation of a dose of conjugate vaccine at ≥ 16 years of age. The booster dose can be administered any time after the 16th birthday. The minimum interval between doses of meningococcal conjugate vaccine is 8 weeks.

Routine vaccination of healthy persons who are not at increased risk for exposure is not recommended after age 21 years .

MAJOR INDICATIONS:

Adolescents 11-18 years of age and other populations at increased risk, including college students living in residence halls/similar housing, etc., persons with persistent complement deficiencies or asplenia, laboratory personnel with exposure to aerosolized meningococci, and travelers to hyperendemic or endemic areas of the world. Non-freshmen college students may choose to be vaccinated to reduce their risk of meningococcal disease. *

CONTRAINDICATIONS AND PRECAUTIONS:

History of hypersensitivity or serious adverse reaction to any of the components in the vaccine.

Avoid vaccinating persons who are known to have experienced Guillain-Barre (GBS) syndrome.

There is a theoretical risk of increased rates of local or systemic reactions when two diphtheria toxoid-containing vaccines are administered within a short interval (i.e., on different days). Efforts should be made to administer Tdap and tetravalent meningococcal conjugate (MCV4) vaccines simultaneously if both are indicated. If simultaneous vaccination is not feasible, Tdap and MCV4 vaccines (which contain diphtheria toxoid) can be administered in any sequence.

**Colleges may target all matriculating freshmen if targeting those in residence halls/similar housing is not feasible.*

SEROGROUP B MENINGOCOCCAL VACCINE

- MenB-4C (Bexsero[®], 2 dose series)
- MenB-FHbp (Trumenba[®], 2 or 3 dose series)

VACCINATION SCHEDULE:

- For MenB-4C: 0–2 months (Category A or B below)
- For MenB-FHbp: 0–2–6 months (Category A below), or 0–6 months (Category B below)

MAJOR INDICATIONS:

Category A: Should be administered to persons at increased risk due to:

- Outbreaks of serogroup B meningococcal disease
- Persistent complement component deficiencies
- Treatment with eculizumab for hemolytic uremic syndrome or paroxysmal nocturnal hemoglobinuria
- Anatomic or functional asplenia including sickle cell disease
- Laboratory workers routinely exposed to isolates of *N. meningitis*

[Category A: Recommendations made for all persons in age or risk-factor group.]

Category B: May be administered to:

- Adolescents and young adults age 16–23 for short term protection (preferred age 16–18)
- Serogroup B vaccines may be administered with Men ACWY but at different anatomic site, if possible.

[Category B: Recommendations are made through consultation and discussion between the individual and their health care provider.]

CONTRAINDICATIONS AND PRECAUTIONS:

- Defer in pregnant or lactating females unless at increased risk.
- History of hypersensitivity to any of the components of the vaccine.
- MenB-4 (Bexsero[®]): use with caution if hypersensitive to latex.
- The two vaccines are not interchangeable, so the same product must be used for all doses.

TETANUS, DIPHTHERIA, PERTUSSIS VACCINE

- DT: pediatric (<age 7 years), preparation of diphtheria and tetanus toxoids.
- DTaP: pediatric (<age 7 years), preparation of diphtheria, tetanus toxoids, and acellular pertussis.
- Td: 7 years and older, preparation of tetanus and diphtheria toxoids.
- Tdap: adolescent and older, preparation of tetanus, diphtheria toxoids, and acellular pertussis.

VACCINATION SCHEDULE:

Primary series in childhood (4 doses: DT, DTaP, DTP, or Td)

Booster doses: For adolescents 11–18 and adults 19–64: single dose of Tdap. Tdap can be administered regardless of interval since the last tetanus or diphtheria toxoid-containing vaccine.

Routine booster dose intervals: Adults should receive Td boosters at 10 year intervals, beginning 10 years after receiving Tdap.

Tetanus prophylaxis in wound management: For all age groups, patients who require a tetanus toxoid containing vaccine as part of wound management should receive Tdap instead of Td if they have not previously received Tdap. If Tdap is not available or was administered previously, Td should be administered.

MAJOR INDICATIONS: All college students. One dose of Tdap for all individuals ages 11–64 regardless of interval since last Td booster.

CONTRAINDICATIONS AND PRECAUTIONS:

History of hypersensitivity or serious adverse reaction to any of the components in the vaccine.

There is a theoretical risk of increased rates of local or systemic reactions when two diphtheria toxoid-containing vaccines are administered within a short interval (i.e., on different days). Efforts should be made to administer Tdap and tetravalent meningococcal conjugate (MCV4) vaccines simultaneously if both are indicated. If simultaneous vaccination is not feasible, Tdap and MCV4 vaccines (which contain diphtheria toxoid) can be administered in any sequence.

VARICELLA VACCINE

VACCINATION SCHEDULE: Two doses of varicella-containing vaccine at least 12 weeks apart if vaccinated between 1 and 12 years of age and at least 4 weeks apart if vaccinated at age 13 years or older.

MAJOR INDICATIONS:

- All college students without other evidence of immunity (e.g., born in the U.S. before 1980, a history of disease, two prior doses of varicella vaccine, or a positive antibody).
- All health care professional students with only one documented dose of vaccine or with a negative antibody titer should receive a total of two doses of vaccine.

CONTRAINDICATIONS AND PRECAUTIONS: Pregnancy, history of hyper-sensitivity or anaphylaxis to any of the components in the vaccine, and severe illness. Guidelines exist for vaccination of persons with altered immunocompetence.

OTHER VACCINES RECOMMENDED FOR ADULTS

The following vaccines are recommended for adults. College matriculation provides the opportunity to assure that students receive the appropriate vaccines.

HEPATITIS A VACCINE

VACCINATION SCHEDULE: Given as a series of 2 doses (given at 0, 6–12 mo.) for age 12 months or greater. *

MAJOR INDICATIONS: Recommended for routine use in all adolescents through the age of 18 and in particular for adolescent and adult high-risk groups (i.e., persons traveling to countries where hepatitis A is moderately or highly endemic, men who have sex with men, users of injectable and non-injectable drugs, persons who have clotting-factor disorders, persons working in hepatitis A research laboratories and with hepatitis A infected nonhuman primates, persons with chronic liver disease, and close personal contacts with international adoptees within 60 days after arrival from highly endemic countries).

CONTRAINDICATIONS AND PRECAUTIONS: History of hypersensitivity to any of the components of the vaccine.

*Combined hepatitis A and B vaccines may be given as a series of 3 doses (given at 0, 1, and 6 mo.) for 18 years of age and older.

HEPATITIS B VACCINE

- Hepatitis B-alum (single antigen – Engerix B, Recombivax HB)
- HepB-CpG (Heplisav-B)

VACCINATION SCHEDULE:

- Single Antigen Hep B—series of 3 doses (given at 0, 1 and 6 mo. interval) for adults 18 and over; adolescents ages 11-15 years may receive 2 adult doses of Recombivax HB (given at 0 and 4-6 mo. interval)*
- HepB-CpG—series of 2 doses (given at 0, 1 mo.); age 18 or older who are unvaccinated or incompletely vaccinated; must have minimum of 4 weeks interval and both doses HepB-CpG

INTERCHANGEABILITY AND DOSING SCHEDULE:

Series consisting of a combination of 1 dose of HepB-CpG and a single antigen HepB):

- Adhere to the 3-dose schedule, minimum of 4 weeks between dose 1 & 2; 8 weeks between dose 2 & 3; and 16 weeks between dose 1 & 3.
- If HepB-CpG is substituted for dose 2 of single antigen HepB, it is recommended that the HepB-CpG is the third dose (given a minimum of 4 weeks from the previous dose to complete the 3-dose series).

MAJOR INDICATIONS: All college students. In particular, students enrolled in health care professional programs should receive Hepatitis B vaccination.

CONTRAINDICATIONS AND PRECAUTIONS: Individuals with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any hepatitis B vaccine or to any component of Heplisav-B, including yeast.

**Combined hepatitis A and B vaccines may be given as a series of 3 doses (given at 0, 1-2, and 6-12 mo.) for 18 years of age and older.*

HUMAN PAPILLOMAVIRUS (HPV) VACCINE

- 9-valent (HPV9) [Bivalent (HPV2) and Quadrivalent (HPV4) are no longer available]

VACCINATION SCHEDULE:

Administer human papillomavirus (HPV) vaccine to **natal* females through age 26 years and natal* males through age 21 years** (males aged 22 through 26 years may be vaccinated based on individual desire for protection and clinical decision).

The number of doses of HPV vaccine to be administered depends on age at initial HPV vaccination:

- Aged 15 years and older with no previous dose of HPV vaccine: Administer 3-dose series at 0, 1–2, and 6 months (minimum intervals: 4 weeks between doses 1 and 2, 12 weeks between doses 2 and 3, and 5 months between doses 1 and 3)
- Aged 15 years or older with at least one dose initiated at age 15 or older: complete the series for a total of 3 doses
- Aged 9–14 years at HPV vaccine series initiation and received 1 dose (or 2 doses less than 5 months apart): Administer additional 1 dose
- Aged 9–14 years at HPV vaccine series initiation and received 2 doses at least 5 months apart: No additional dose is needed.

Special Populations

Adults with **immunocompromising conditions (including HIV infection)** through age 26 years: Administer 3-dose series at 0, 1–2, and 6 months

Men who have sex with men through age 26 years: Administer 2- or 3-dose series depending on age at initial vaccination (see above); if no history of HPV vaccine, administer 3-dose series at 0, 1–2, and 6 months.

Historical Vaccine Schedule (The following vaccines are no longer available and have been replaced by the 9-valent vaccine):

- *Bivalent vaccine: natal females, 3 doses at 0, 1 and 6 months*
- *Quadrivalent vaccine: 11 to 26 years; natal males, 11 to 21 yrs., 3 doses at 0, 1, 6 months*

MAJOR INDICATIONS:

- All 11- or 12-year olds; may be started at age 9.
- If not vaccinated previously: natal women through age 26; natal males through age 21.

The HPV vaccines are indicated for prevention of cervical cancers in women and for use in both females and males for the prevention of pre-cancers and genital warts, anal cancer, and anal intraepithelial dysplasia caused by HPV types included in the vaccine. No HPV or Pap test screening is required prior to administering vaccine; routine cervical cancer screening should continue according to current recommendations.

CONTRAINDICATIONS AND PRECAUTIONS: Pregnancy, history of hyper-sensitivity to yeast or to any vaccine component; moderate or severe acute illnesses (defer vaccine until improved); may be given to immunocompromised males and females but vaccine responsiveness and efficacy may be reduced.

**natal=gender assigned at birth*

PNEUMOCOCCAL VACCINE

- Pneumococcal conjugate vaccine (PCV13, Prevnar13)
- Pneumococcal Polysaccharide Vaccine-23 (PPSV23, Pneumovax 23)

VACCINATION SCHEDULE: Childhood, adolescence, adulthood

MAJOR INDICATIONS: Adults with certain medical conditions (see Appendix A); adults age 65 and older

CONTRAINDICATIONS AND PRECAUTIONS: History of hypersensitivity to any of the components of the vaccine.

POLIO VACCINE

- Inactivated (IPV)
- Oral poliovirus (OPV no longer available in U.S.)

VACCINATION SCHEDULE: Primary series in childhood with IPV alone, OPV alone, or IPV/OPV sequentially; IPV booster only if needed for travel after age 18 years.

MAJOR INDICATIONS: IPV for certain international travelers to areas or countries where polio is epidemic or endemic.

CONTRAINDICATIONS AND PRECAUTIONS: History of hypersensitivity to any of the components of the vaccine.

APPENDIX A

Medical Conditions or Other Indications for Administration of 13-valent Pneumococcal Conjugate Vaccine (PCV13) and Indications for 23-valent Pneumococcal Polysaccharide Vaccine (PPSV23)

For appropriate intervals refer to CDC.*

Underlying condition	PPSV23	PCV 13	Revaccination 5 years after first dose
<ul style="list-style-type: none"> • cigarette smoking • chronic heart or lung disease • diabetes mellitus • alcoholism • cirrhosis • liver disease 	X		
<ul style="list-style-type: none"> • CSF leak • cochlear implant 		X	
<ul style="list-style-type: none"> • sickle disease • congenital or acquired asplenia • HIV positive • congenital or acquired immunodeficiency • chronic renal failure • nephrotic syndrome • leukemia • lymphoma • Hodgkins disease • generalized malignancy • iatrogenic immunosuppression • solid organ transplant, • multiple myeloma 	X	X	X

*Source: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6434a4.htm>

See also <https://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf>

APPENDIX B

SAMPLE IMMUNIZATION RECORD

This is a SAMPLE immunization record form. If reproduced for use by a college or university health center, please insert your health center's contact information. This form should not be returned to ACHA.

PART I

Name First Name Middle Name Last Name
Address Street City State Zip
Date of Entry M Y Date of Birth M D Y School ID#
Status: Part-time Full-time Graduate Undergraduate Professional

PART II: TO BE COMPLETED AND SIGNED BY YOUR HEALTH CARE PROVIDER.

All information must be in English.

A. MMR (MEASLES, MUMPS, RUBELLA)

1. Dose 1 given at age 12 months or later #1 M D Y
2. Dose 2 given at least 28 days after first dose #2 M D Y

B. MENINGOCOCCAL QUADRIVALENT (A, C, Y, W-135)

1. Quadrivalent conjugate (preferred; administer simultaneously with Tdap if possible).
a. Dose #1 M D Y b. Dose #2 M D Y
2. Quadrivalent polysaccharide (acceptable alternative if conjugate not available). Date M D Y

C. SEROGROUP B MENINGOCOCCAL

The vaccine series must be completed with the same vaccine.

1. MenB-RC (Bexsero) routine outbreak-related
a. Dose #1 M D Y b. Dose #2 M D Y
OR
2. MenB-FHbp (Trumenba) routine outbreak-related
a. Dose #1 M D Y b. Dose #2 M D Y c. Dose #3 M D Y

D. TETANUS, DIPHTHERIA, PERTUSSIS

1. Primary series completed? Yes No Date of last dose in series: M D Y
2. Date of most recent booster dose: M D Y Type of booster: Td Tdap

E. INFLUENZA

Trivalent (IIV3) Quadrivalent (IIV4) Recombinant (RIV4) Live attenuated influenza vaccine (LAIV)
Adjuvanted inactivated influenza (aIIV3)
Date of last dose: M D Y

F. HEPATITIS A

1. Immunization (hepatitis A)

a. Dose #1 ___/___/___ M D Y b. Dose #2 ___/___/___ M D Y

2. Immunization (Combined hepatitis A and B vaccine)

a. Dose #1 ___/___/___ M D Y b. Dose #2 ___/___/___ M D Y c. Dose #3 ___/___/___ M D Y

G. HEPATITIS B

HepB-CpG (Heplisav-B) (2 dose series) is not interchangeable with other hepatitis B vaccines (3 dose series) but can substituted for dose #2 and #3.

1. Immunization (hepatitis B)

a. Dose #1 ___/___/___ M D Y b. Dose #2 ___/___/___ M D Y c. Dose #3 ___/___/___ M D Y
Adult formulation ___ Child formulation ___ Adult formulation ___ Child formulation ___ Adult formulation ___ Child formulation ___
HepB-CpG (Heplisav-B) ___ HepB-CpG (Heplisav-B) ___ HepB-CpG (Heplisav-B) ___

2. Immunization (Combined hepatitis A and B vaccine)

a. Dose #1 ___/___/___ M D Y b. Dose #2 ___/___/___ M D Y c. Dose #3 ___/___/___ M D Y

3. Hepatitis B surface antibody (recommended for individuals born in or whose mother was born in a hepatitis B endemic country and/or men who have sex with men; required for health science students).

Date ___/___/___ Result: Reactive ___ Non-reactive ___

H. HUMAN PAPILOMAVIRUS VACCINE

Immunization (indicate which preparation, if known) Quadrivalent (HPV4) ___ or Bivalent (HPV2) ___ or 9-valent (HPV9) ___

a. Dose #1 ___/___/___ M D Y b. Dose #2 ___/___/___ M D Y c. Dose #3 ___/___/___ M D Y

I. VARICELLA

1. Immunization

a. Dose #1 #1 ___/___/___ M D Y

b. Dose #2 given at least 12 weeks after first dose ages 1–12 years..... #2 ___/___/___ M D Y
and at least 4 weeks after first dose if age 13 years or older.

2. History of Disease Yes ___ No ___ or Birth in U.S. before 1980 Yes ___ No ___

J. PNEUMOCOCCAL POLYSACCHARIDE VACCINE

PCV 13 ___ Date ___/___/___ M D Y PPSV 23 ___ Date ___/___/___ M D Y

K. POLIO

1. OPV alone (oral Sabin three doses): #1 ___/___/___ M D Y #2 ___/___/___ M D Y #3 ___/___/___ M D Y

2. IPV/OPV sequential: IPV #1 ___/___/___ M D Y IPV #2 ___/___/___ M D Y OPV #3 ___/___/___ M D Y OPV #4 ___/___/___ M D Y

3. IPV alone (injected Salk four doses): #1 ___/___/___ M D Y #2 ___/___/___ M D Y #3 ___/___/___ M D Y #4 ___/___/___ M D Y

HEALTH CARE PROVIDER

Name _____ Signature _____

Address _____ Phone (_____) _____

END of SAMPLE FORM

If reproduced for use by a college or university health center, please insert your health center's contact information.

This form should not be returned to ACHA.

APPENDIX C

Recommendations for Immunizations and TB Testing for Health Science Students

Overview

Influenza: 1 dose of inactivated Influenza vaccine yearly.

Hepatitis B: a primary series **AND** documented quantitative hepatitis B surface antibody titer consistent with immunity after the appropriate vaccines series.

Measles/Mumps/Rubella (MMR): 2 doses of MMR vaccine at least 28 days apart after 12 months of age **OR** 2 doses of measles **and** 2 doses of Mumps at least 28 days apart after 12 months of age **and** one dose of rubella after 12 months of age **OR** laboratory proof of immunity to measles/mumps/rubella.

Tetanus/Diphtheria/Pertussis: In addition to primary series, all Health Care Personnel (HCP) should receive 1 dose of Tdap and have documentation of a Td or Tdap within the past 10 years.

Tuberculosis Testing: The CDC recommends initial base line testing with a 2-step TB skin test or a blood test for TB infection. Subsequent annual or serial screening is determined by state regulations or risk assessment.

Varicella: 2 doses of varicella vaccine given at least 4 weeks apart **OR** laboratory proof of immunity for those with a history of disease. If titer is negative or equivocal, give 2-dose varicella vaccine series. Do not repeat titer after series completion.

Note: Local requirements and clinical circumstances should be taken into consideration when using these guidelines to develop an institutional immunization policy for health science students.

Hepatitis B:

Students must have a primary hepatitis B series **AND** a positive (≥ 10 mIU/mL) serological quantitative Hepatitis B surface antibody titer (anti-HBs or HBsAb) that was performed at least 1-2 months after the final dose of the hepatitis B vaccine. A positive titer without documentation of the primary series will not be accepted.

For students with remote history of documented vaccine series completion without titer:

Draw anti-HBs titer upon matriculation

- If the anti-HBs titer is negative or equivocal, administer 1 dose of a hepatitis B vaccine and re-titer at least 1-2 months after the dose.
- If the second anti-HBs titer is negative, the student will need to complete this second hepatitis B series. Students should pay particular attention to the type of the hepatitis B vaccine they are receiving and the date ranges in between the hepatitis B vaccine doses to ensure that they are given appropriately for compliance consistent with CDC recommendations.
- A final anti-HBs titer should be performed 1-2 months after the final vaccine in the repeated hepatitis B series.
- If the student has received 2 complete series of hepatitis B vaccine and does not have a positive anti-HBs titer, they are considered a “non-responder” and must be evaluated by student health personnel for further evaluation and recommendations.
- HCP who are non-responders should be considered susceptible to hepatitis B infection and should be counseled about precautions to prevent HBV infection and the need to receive hepatitis B Immunoglobulin upon exposure to hepatitis B surface antigen positive (HBsAg) blood or fluids or blood or fluids with unknown HBsAg status. Non-responders should also be tested for HBsAg to evaluate for chronic hepatitis B infection. HCP who are chronic hepatitis B carriers should be counseled as to local and state guidelines for the safe provision of healthcare.

For unvaccinated HCP students or those with recent history of documented vaccine completion

Administer a 3-dose series of hepatitis B vaccine at 0, 1, and 6 months **AND** perform anti-HBs titer 1-2 months after dose #3 to document immunity.

- If anti-HBs is greater than or equal to 10 mIU/ml, the HCP is considered immune and no further testing or vaccination is recommended
- If the anti-HBs titer is less than 10 mIU/ml, the student should receive 3 additional doses of vaccine per the usual schedule of 0, 1, and 6 months, and a repeated titer should be performed 1-2 months after dose #3.

Influenza:

It is strongly recommended that all healthcare personnel receive the influenza vaccine yearly and many clinical sites require it as a condition of rotation for students.

Measles/Mumps/Rubella:

Students must meet any of the following 3 options to meet the measles, mumps, and rubella (MMR) vaccine requirement:

1. 2 doses of MMR vaccine at least 28 days apart after 12 months of age.
2. 2 doses of measles vaccine **and** 2 doses of mumps vaccine at least 28 days apart after 12 months of age **and** 1 dose of rubella vaccine after 12 months of age
3. Laboratory proof of immunity (blood titer) to measles, mumps and rubella. If titers are negative or equivocal, the student will receive the MMR series with at least 28 days between each dose. No titer is required after the MMR vaccine series.

Tetanus/Diphtheria/Pertussis:

Students must have had 1 dose of Tdap, the tetanus/diphtheria/pertussis vaccine (brand name Adacel or Boostrix). If the student does not have documentation of receiving a Tdap vaccine or is unsure if they have received it, a Tdap vaccine should be administered as soon as feasible without regard to the interval since the previous dose of Td. A Td booster or a Tdap is required within 10 years prior to matriculation.

Tuberculosis Screening

Upon matriculation, health science students should undergo baseline testing for tuberculosis with either a 2-step Tuberculin Skin Test or a blood test for TB infection (Interferon Gamma Release Assay [IGRA]).

Tuberculin Skin Test (TST) – 2-Step

Initial repeat testing is recommended for persons with a negative TST who are to undergo periodic TST screening and who have not been tested with tuberculin recently (within 1 year). This is intended to avoid “booster phenomenon” a misclassification of a subsequently reactive TST after initial testing as a TST conversion indicating recent infection.

- The criteria for positivity is based on risk factors. HCP are at intermediate risk.
- Individuals who have received the BCG vaccine should have their results interpreted according to standard criteria
- 2-Step TST is performed by intradermal injection of PPD (purified protein derivative) with the student returning in 48-72 hours to record induration and interpreted according to risk factors. If negative, a second TST is placed on the opposite forearm 7-21 days after initial negative results and the results are interpreted in the standard fashion
- If the repeat TST is positive, this is a true positive result and the student should be evaluated for latent or active TB.

IGRA

- CDC now endorses IGRA for initial screening and surveillance of HCP
- Two tests are available, Quantiferon Gold and T-spot
- Do not require a second patient visit
- Considered as sensitive as TST but more specific
- IGRA preferred to TSTs in persons who have received BCG or who are unlikely to return for a test reading in 48-72 hours

Serial Testing

- Utilize same testing methodology TST or IGRA

Utilize same brand of IGRA for serial testing

Varicella:

Students must have either 1 of the following 2 options to meet the varicella vaccine requirement:

1. 2 documented varicella vaccines that were given at least 4 weeks apart.
2. Laboratory proof of immunity (blood titer) to varicella. If the varicella titer is negative or equivocal, the student will receive the varicella series with the doses at least 4 weeks apart. No titer is required after the varicella vaccine series.

An affidavit or documentation of the student having had varicella disease (i.e., chicken pox or shingles) will not be accepted for any Health Science Student.

Health Science Initial Immunization Record

Student Name: _____ ID#: _____

Tetanus/Diphtheria/Pertussis: 1 dose of adult Tdap. If last Tdap is more than 10 years old, provide date of last Td and Tdap.				
Td	Mo./day/year	Mo./day/year	Mo./day/year	Mo./day/year
Tdap booster must have one documented	Mo./day/year			
Measles/Mumps/Rubella: 2 doses of MMR at least 28 days apart after 12 months of age OR 2 doses of Measles and 2 doses of Mumps at least 28 days apart after 12 months of age and 1 dose of Rubella after 12 months of age OR laboratory proof of immunity (blood titer) to measles/mumps/rubella. If titers are negative or equivocal, administer MMR series with doses at least 28 days apart. No titer is required after series completion.				
MMR - 2 required on or after 1st birthday	(#1) Mo./day/year	(#2) Mo./day/year		
OR				
Measles 2 required on or after first birthday	(#1) Mo./day/year	(#2) Mo./day/year		
Mumps 2 required on or after first birthday	(#1) Mo./day/year	(#2) Mo./day/year		
Rubella 1 required on or after first birthday	Mo./day/year			
OR				
MMR Titer must attach laboratory results	Date of Titer	Result		
Varicella: 2 doses of Varicella at least 4 weeks apart OR laboratory proof of immunity to varicella. If titer is negative or equivocal, administer Varicella series with doses at least 4 weeks apart. No titer is required after series.				
Varicella 2 doses	(#1) Mo./day/year	(#2) Mo./day/year		
OR				
Varicella Titer must attach laboratory results	Date of Titer	Result		
Hepatitis B: 3 doses of hepatitis B vaccines and a positive (≥ 10 mIU/mL) serological <u>quantitative</u> hepatitis B surface antibody titer (HBsAb) 1-2 months after the date of the last vaccine is considered proof of lifelong immunity. If series was completed in the remote past, and if the titer checked upon matriculation is negative, student will get 1 hepatitis B vaccine dose (#4) and re-titer at least 1-2 months after vaccine. If the second titer is negative, student will get 2 additional hepatitis B vaccines (#5 and #6) per the standard schedule. A final titer should be done 1-2 months after the 6th vaccine and if this is negative, the student should be considered a non-responder and evaluated and counseled appropriately. Those students recently vaccinated with a negative titer after the 3 rd dose can receive a second series with a re-titer 1-2 months after the 6 th dose. Non-responders should be counseled and evaluated appropriately.				
Hepatitis B Series 2 or 3 doses required depending on vaccine formulation	(#1) mo./day/year	(#2) mo./day/year	(#3) mo./day/year	
	Adult formulation ____ Child formulation ____ HepB-CpG (Heplisav-B) ____	Adult formulation ____ Child formulation ____ HepB-CpG (Heplisav-B) ____	Adult formulation ____ Child formulation ____ HepB-CpG (Heplisav-B) ____	
Hepatitis B Quantitative Titer must attach laboratory results	Date of Titer	Result		
Hepatitis B Series Repeat	(#1) mo./day/year	(#2) mo./day/year	(#3) mo./day/year	
Hepatitis B <u>Quantitative</u> Titer Repeat must attach laboratory results	Date of Titer	Result		
Tuberculin Skin Test (TST): 2 TSTs placed within the last 12 months within the United States. The 2 nd TST must be placed at least 1 week AFTER the 1 st TST read date.				
2 Step TST placed within the past 12 months	1 st TST Place date	1 st TST Read Date	2 nd TST Place Date	2 nd TST Read date
OR				
IGRA TB Screening must attach laboratory results ___ T-Spot ___ Quantiferon Gold	Date of IGRA	Result		

Prepared by ACHA's Vaccine-Preventable Diseases Advisory Committee



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