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 prematriculation 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.

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.

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 healthcare professional students without other evidence of immunity should receive two doses of MMR.
- Those born before 1957 without other evidence of immunity should receive one dose if not in an outbreak setting and two doses if 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, Y, W-135) VACCINE

- Conjugate (Preferred)
- Polysaccharide (Acceptable alternative if conjugate not 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 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.

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**SEROGRUP 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 ACW 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.

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**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.
- DTP (also known as DTwP): pediatric (<age 7 years) preparation of diphtheria, tetanus toxoids, and whole cell pertussis (no longer available in the U.S.).
- Td: 7 years and older preparation of tetanus toxoid and reduced diphtheria toxoid.
- Tdap: adolescent and older preparation of tetanus toxoid, reduced diphtheria toxoid, 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.

INFLUENZA VACCINE
- Inactivated influenza vaccines: Trivalent (IIV3) or Quadrivalent (IIV4) or Recombinant (RIV3)
- Live attenuated influenza vaccine (LAIV; licensed for healthy, nonpregnant persons age 2-49 years).

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.

OTHER VACCINES RECOMMENDED FOR ADULTS

The following vaccines are recommended for adults. All entering college students should have received by these vaccines by 18 years of age. College matriculation provides the opportunity to assure that students have received 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 with nonhuman primates, and persons with chronic liver disease).

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, 1-2, and 6-12 mo.) for 18 years of age and older.

HEPATITIS B VACCINE

VACCINATION SCHEDULE: Given as a series of 3 age appropriate doses (given at 0, 1–2 mo., and 6–12 mo.) at any age. Adolescents ages 11–15 years can be given 2 adult doses (given at 0 and 4-6 mo.).*

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

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, 1-2, 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:
The 9-valent vaccine may be used to complete the series begun with a different product.

All persons 11-14 years: 2 doses separated by at least 6 months; may start at age 9 for increased risk groups

If no prior HPV vaccine given:
- Females ages 15 to 26 years: 3 doses
- Males ages 15 to 21 years: 3 doses
- Men ages 15 to 26 years who have sex with men (MSM), transgender persons, men with HIV or other immune compromising conditions: 3 doses
- May be given to men ages 21-26

Historical Vaccine Schedule (The following vaccines are no longer available and have been replaced by the 9-valent vaccine):
- Bivalent vaccine: for females only, three doses at 0, 1, and 6 months
- Quadrivalent vaccine: females 11 to 26 years old; males 11 to 21 years old, three doses at 0, 1–2, and 6 months

MAJOR INDICATIONS:
All 11- or 12-year olds; may be started at age 9.
If not vaccinated previously: women through age 26 and men through age 21.
If not vaccinated previously:
- Young men through age 26 who have sex with men, including those who identify as gay or bisexual or who intend to have sex with men;
- Young adults through age 26 who are transgender; and
- Young adults through age 26 with certain immunocompromising conditions (including HIV).

The HPV vaccines are indicated for prevention of cervical cancers in women and for use in both females and males for the prevention 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.

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.

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)

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.*

<table>
<thead>
<tr>
<th>Underlying condition</th>
<th>PPSV23</th>
<th>PCV 13</th>
<th>Revaccination 5 years after first dose</th>
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<tbody>
<tr>
<td>• cigarette smoking</td>
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<tr>
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*Source: [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6434a4.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6434a4.htm)
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 ____/________          Date of Birth ____/____/________           School ID#  ____________________________________________

M             Y      M         D            Y

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 ____/____/________     b. Dose #2 ____/____/________

M         D           Y                    M        D           Y

2. Quadrivalent polysaccharide (acceptable alternative if conjugate not available).      Date ____/____/________

M       D           Y

C. SEROGROUP B MENINGOCOCCAL

1. MenB-RC (Bexsero) __ routine      ____ outbreak –related

a. Dose #1 ____/____/________     b. Dose #2 ____/____/________

M         D           Y              M        D           Y

OR

2. MenB-FHbp (Trumenba)     __routine    ___ outbreak-related

a. Dose #1 ____/____/________     b. Dose #2 ____/____/________     c. Dose #3 ____/____/_______

M        D            Y             M        D            Y      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:  ____/____/________  Type of booster:     Td _____     Tdap _____

M       D           Y

E. INFLUENZA

Trivalent (IIV3) _____ Quadrivalent (IIV4) _____ Recombinant (RIV3) _____ Live attenuated influenza vaccine (LAIV) _____

Date of last dose:  ____/____/________

M         D           Y
F. HEPATITIS A
1. Immunization (hepatitis A)
   a. Dose #1 ____/____/________
   b. Dose #2 ____/____/________
   M         D           Y              M        D           Y
2. Immunization (Combined hepatitis A and B vaccine)
   a. Dose #1 ____/____/________
   b. Dose #2 ____/____/________
   c. Dose #3 ____/____/________
   M       D           Y       M       D           Y      M         D           Y
   M       D           Y       M       D           Y             M        D           Y
   Adult formulation _____ Child formulation _____
   Adult formulation _____ Child formulation _____
   Adult formulation _____ Child formulation _____
   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 ________

G. HEPATITIS B
1. Immunization (hepatitis B)
   a. Dose #1 ____/____/________
   b. Dose #2 ____/____/________
   c. Dose #3 ____/____/________
   M       D           Y                 M       D           Y      M       D           Y
   Adult formulation _____ Child formulation _____
   Adult formulation _____ Child formulation _____
   Adult formulation _____ Child formulation _____
   2. Immunization (Combined hepatitis A and B vaccine)
   a. Dose #1 ____/____/________
   b. Dose #2 ____/____/________
   c. Dose #3 ____/____/________
   M       D           Y       M       D           Y             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 PAPILLOMAVIRUS VACCINE (HPV9)
Immunization (indicate which preparation, if known)     Quadrivalent (HPV4) _____
   or     Bivalent (HPV2) _____     or 9-valent (HPV9) _____
   a. Dose #1 ____/____/________
   b. Dose #2 ____/____/________
   c. Dose #3 ____/____/________
   M         D           Y      M         D           Y                  M        D            Y
   M         D           Y      M         D           Y                  M        D            Y
I. VARICELLA
1. Immunization
   a. Dose #1 . ...................................................................................................................
   M        D            Y
   b. Dose #2 given at least 12 weeks after first dose ages 1–12 years . . . . . . . . . . . . . . . . . . . .
   and at least 4 weeks after first dose if age 13 years or older.
   M       D           Y
   2. History of Disease     Yes ___     No ___     or     Birth in U.S. before 1980     Yes ___     No ___

J. PNEUMOCOCCAL POLYSACCHARIDE VACCINE
PCV 13 _______  Date  ____/____/________  PPSV 23 _______  Date  ____/____/________
   M       D           Y                                      M       D           Y
K. POLIO
1. OPV alone (oral Sabin three doses):      #1 ____/____/________     #2 ____/____/________     #3 ____/____/________
   M      D           Y         M       D           Y                  M        D           Y
   2. IPV/OPV sequential:      IPV #1 ____/____/________     IPV #2 ____/____/________     OPV #3 ____/____/________     OPV #4 ____/____/________
   M       D            Y                 M       D           Y                M       D           Y               M       D           Y
   3. IPV alone (injected Salk four doses):     #1 ____/____/________     #2 ____/____/________     #3 ____/____/________     #4 ____/____/________
   M      D           Y            M       D           Y                    M        D           Y          M       D           Y

HEALTH CARE PROVIDER
Name  _______________________________________________      Signature  _______________________________________________________
Address  ____________________________________________________________      Phone (__________)________________________________

END of SAMPLE FORM
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APPENDIX C

Recommended Immunizations for Health Science Students

Overview

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.

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.

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.

Hepatitis B: 3-dose series of hepatitis B vaccine given at 0, 1 and 6 months AND documented quantitative hepatitis B surface antibody titer consistent with immunity after the appropriate vaccine series.

Influenza: 1 dose of inactivated Influenza vaccine yearly.

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.

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.

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 repeat the MMR series with at least 28 days between each dose. No titer is required after the MMR vaccine series.

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 repeat 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.

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.

Hepatitis B:

Students must have a series of 3 hepatitis B vaccines AND a positive ($\geq 10$ mIU/mL) serological quantitative Hepatitis B surface antibody titer (anti-HBs or HBsAb) that was performed at least 1-2 months after the 3rd dose of hepatitis B vaccine. A positive titer without documentation of the 3 shot series will not be accepted.

(immunization recommendations for health science students continues)
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 hepatitis B vaccine (#4) and re-titer at least 1-2 months after the dose.
- If the second anti-HBs titer is negative, the student will get 2 additional hepatitis B vaccines (#5 and #6) at 1 month and 6 months following dose #4. Students should pay particular attention to the date ranges in between the 3 hepatitis B vaccine doses to ensure that they are given at the appropriate time intervals for compliance.
- A final anti-HBs titer should be performed 1-2 months after the 3rd vaccine (dose #6) in the repeated hepatitis B series.
- If the student has received 2 complete series of hepatitis B vaccine (6 doses total) 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.

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
## 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.

<table>
<thead>
<tr>
<th>Td</th>
<th>Mo./day/year</th>
<th>Mo./day/year</th>
<th>Mo./day/year</th>
<th>Mo./day/year</th>
</tr>
</thead>
</table>

**Td booster**

**Must have one documented**

### 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.

<table>
<thead>
<tr>
<th>MMR - 2 required on or after 1st birthday</th>
<th>(#1) Mo./day/year</th>
<th>(#2) Mo./day/year</th>
</tr>
</thead>
</table>

**OR**

<table>
<thead>
<tr>
<th>Measles</th>
<th>2 required on or after first birthday</th>
<th>(#1) Mo./day/year</th>
<th>(#2) Mo./day/year</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Mumps</th>
<th>2 required on or after first birthday</th>
<th>(#1) Mo./day/year</th>
<th>(#2) Mo./day/year</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Rubella</th>
<th>1 required on or after first birthday</th>
<th>Mo./day/year</th>
</tr>
</thead>
</table>

**MMR Titer**

*must attach laboratory results

<table>
<thead>
<tr>
<th>Date of Titer</th>
<th>Result or Positive Titer</th>
</tr>
</thead>
</table>

### 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.

<table>
<thead>
<tr>
<th>Varicella</th>
<th>(#1) Mo./day/year</th>
<th>(#2) Mo./day/year</th>
</tr>
</thead>
</table>

**OR**

<table>
<thead>
<tr>
<th>Varicella Titer</th>
<th>Date of Titer</th>
<th>Result</th>
</tr>
</thead>
</table>

*must attach laboratory results

### Hepatitis B

3 doses of hepatitis B vaccines and a positive (≥10 mIU/mL) serological quantitative 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 3rd dose can receive a second series with a re-titer 1-2 months after the 6th dose. Non-responders should be counseled and evaluated appropriately.

<table>
<thead>
<tr>
<th>Hepatitis B Series</th>
<th>(#1) mo./day/year</th>
<th>(#2) mo./day/year</th>
<th>(#3) mo./day/year</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hepatitis B Quantitative Titer</th>
<th>Date of Titer</th>
<th>Result</th>
</tr>
</thead>
</table>

*must attach laboratory results

<table>
<thead>
<tr>
<th>Hepatitis B Series Repeat</th>
<th>(#1) mo./day/year</th>
<th>(#2) mo./day/year</th>
<th>(#3) mo./day/year</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hepatitis B Quantitative Titer Repeat</th>
<th>Date of Titer</th>
<th>Result</th>
</tr>
</thead>
</table>

*must attach laboratory results

### Tuberculin Skin Test (TST)

2 TSTs placed within the last 12 months within the United States. The 2nd TST must be placed at least 1 week AFTER the 1st TST read date.

<table>
<thead>
<tr>
<th>2 Step TST placed within the past 12 months</th>
<th>1st TST Place date</th>
<th>1st TST Read Date</th>
<th>2nd TST Place Date</th>
<th>2nd TST Read date</th>
</tr>
</thead>
</table>

**OR**

<table>
<thead>
<tr>
<th>IGRA TB Screening</th>
<th>Date of IGRA</th>
<th>Result</th>
</tr>
</thead>
</table>

*must attach laboratory results

__ T-Spot

__ Quantiferon Gold