

**REQUIREMENTS AND RECOMMENDATIONS FOR IMMUNIZATIONS  
AND TB TESTING FOR HEALTH SCIENCE STUDENTS**

**TABLE OF CONTENTS**

<i>OVERVIEW OF REQUIRED VACCINES</i> .....	2
<i>REQUIRED VACCINES</i> .....	2
Influenza .....	2
Hepatitis B .....	2
Measles/Mumps/Rubella .....	2
Tetanus/Diphtheria/Pertussis .....	2
Tuberculosis Testing.....	3
Varicella.....	3
Meningococcal Quadrivalent (A, C, Y, W-135) .....	3
Polio Vaccine.....	4
<i>RECOMMENDED VACCINATIONS</i> .....	4
Hepatitis A.....	4
Serogroup B Meningococcal .....	4
Human Papillomavirus (HPV).....	5

## ***OVERVIEW OF REQUIRED VACCINES***

- **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 tetanus booster (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.
- **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.

The following instructions are adapted from the American College Health Association Guidelines. 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>. ACHA Guidelines for Tuberculosis Screening and Targeted Testing of College and University Students are available at [www.acha.org/guidelines](http://www.acha.org/guidelines).

## ***REQUIRED VACCINES***

### **Influenza**

Annual vaccination is required of all health professions students on an annual basis with the seasonal influenza vaccine.

### **Hepatitis B**

Students must have a primary hepatitis B series **AND** a positive ( $\geq 10$  mIU/mL) serological quantitative Hepatitis B surface antibody titer (anti- HBs or HBsAb). For students with a low titer ( $< 10$  mIU/ml), administer a hepatitis B booster dose and re-check titer 1-2 months after the booster. If the titer remains low, contact the Department of Student Health and Wellness for further advice.

### **Measles/Mumps/Rubella**

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

- 2 doses of MMR vaccine at least 28 days apart after 12 months of age.
- 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
- 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**

- One dose of Tdap required on or after 10th birthday.
- If last Tdap is more than 10 years old, must have a tetanus booster (Td or Tdap) within the last 10 years (after 9/1/2011 for fall or 1/1/2012 for spring).

## **Tuberculosis Testing**

Upon matriculation, health professions 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) All testing to must be done on or after 3-1-21 (fall entrance) or 7/1/21 (spring entrance).\*

**\* The CDC recommends postponing TST and IGRA testing until  $\geq 4$  weeks after completion of COVID vaccine series; students will be provided with a 30-day grace period after last vaccine to submit testing results (TST or IGRA). Testing completed too early may require repeat testing.**

### **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 not less than 7 days nor more than 3 months 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

## **Varicella**

Students must have either one of the following two options to meet the varicella vaccine requirement:

- 2 documented varicella vaccines that were given at least 4 weeks apart.
- Laboratory proof of immunity (blood titer) to varicella. If the varicella titer is negative or equivocal, the student should 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 varicella disease (i.e., chicken pox or shingles) will not be accepted for any health sciences student.

## **Meningococcal Quadrivalent (A, C, Y, W-135)**

*Required for students < 22 years of age.*

- Conjugate (Preferred)
- 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  $\geq 16$  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.

## **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.

## ***RECOMMENDED VACCINATIONS***

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

## **Hepatitis A**

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

## **Serogroup B Meningococcal**

- 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 ACYW-135 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<sup>®</sup>): use with caution if hypersensitive to latex.
- The two vaccines are not interchangeable, so the same product must be used for all doses.

**Human Papillomavirus (HPV)**

- 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:

- Women ages 15 to 26 years: 3 doses
- Men ages 15 to 21 years: 3 doses
- Men ages 15 to 26 years who have sex with men (MSM): 3 doses
- Transgender and gender non-conforming persons ages 15 to 26 years: 3 doses
- Men ages 15 to 26 years with HIV or other immune compromising conditions: 3 doses
- May be given to men ages 21-26
- Adults, age 27 through 45 years, based on shared clinical decision making. (Note: Although many adults ages 27–45 years have prior exposures to 1 or more HPV types, most have not been exposed to all 9 HPV types that are contained in the vaccine. Also, at any age, having a new sex partner is a risk factor for being exposed to a new HPV infection.)

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

- *Bivalent vaccine: for people assigned female at birth, three doses at 0, 1, and 6 months*
- *Quadrivalent vaccine: people assigned female at birth, 11 to 26 years old; and people assigned male at birth, 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 or gender non-conforming; 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 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 hypersensitivity 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.