

How is two-step tuberculin skin testing done?

The two-step tuberculin skin test (TST) is used to detect individuals with past tuberculosis (TB) infection who now have diminished skin test reactivity. This procedure will reduce the likelihood that a boosted reaction is later interpreted as a new infection.

Four visits? Oh my!

The number of visits required may be reduced to **3** by using the following protocol:

Visit 1, Day 1

Place the 1st TST and have the employee return in 7 days for the test to be read. If the first test is positive, it indicates that the employee is infected with TB. Refer the employee for a chest x-ray and physician evaluation. An asymptomatic employee, whose chest x-ray indicates no active disease, may begin work.

Visit 2, Day 7

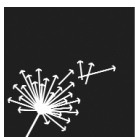
Place a 2nd TST on all employees whose 1st test is negative at 7 days.

Visit 3, Day 9 or 10

Read the 2nd test at 48-72 hours. A positive 2nd test indicates TB infection in the distant past. Refer the employee for a chest x-ray and physician evaluation. An asymptomatic employee, whose chest x-ray indicates no active disease, may begin work.

Sensitivity of this method

The majority of significant TST reactions will remain "positive" 7 days after application. Those that have diminished or disappeared by day 7 will be boosted back to positive by the 2nd TST. Reducing the number of visits from 4 to 3 will not reduce the sensitivity of the two-step TST.



Francis J. Curry National Tuberculosis Center
<http://www.nationaltbcenter.edu>

Updated March 2004

FAQ

Frequently Asked Questions

Who should receive a two-step TST?

New employees, at the time of hire, who will be tested periodically for TB infection and who:

- have never been tested; or
- have no documentation of prior testing; or
- do not remember being tested; or
- tested negative *over 12 months ago*.

This information is available at our website: www.nationaltbcenter.edu



TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER™

School of Pharmacy
Office of Student Services

Students are required to maintain current CPR (**BLS**) certification.

American Heart Association

<http://www.heart.org/HEARTORG/>

Basic Life Support (BLS**) for Health Care Professionals**
is the only certification that will be accepted.

To minimize the number of times you must renew CPR certification while enrolled in TTUHSC School of Pharmacy, **wait until May** to complete the CPR requirement. Submit a copy of your CPR card by June 5th in order to register on time for the fall semester and to be in compliance with the School of Pharmacy Immunization/CPR policy.

Scan and email a copy of your CPR (**BLS**) card to

sopadmissions@ttuhsc.edu

or fax to 806-356-4017

If you have any questions, call Student Affairs and Admissions
at 806-414-9393.

TTUHSC School of Pharmacy

Immunization Policy

In order to protect the health of our students and the health of the patients with whom they come in contact with, TTUHSC requires all entering students to provide documentation of several immunizations as well as the results of serological and/or quantitative titers to determine whether or not they are actually immune to certain diseases. Immunization requirements are based on regulations, guidelines and recommendations available as of October 2009 from the Texas Administrative Code (TAC), Texas Department of State Health Services (DSHS), the U.S. Centers for Disease and Control and prevention (CDC), and the U.S. Advisory Committee for Immunization Practices (ACIP).

Copies of lab reports, immunization and/or health records must be provided to the School of Pharmacy. **Attachment A** is a list of required vaccinations required for all students enrolled in healthcare fields.

NEW STUDENTS

All new students accepted to the program are required to be current on the following immunizations before you will be allowed to begin your first year of pharmacy school. A form is provided in **Attachment B** that the student may use to list the dates of various immunizations they have had. It is required that supporting documentation be attached to the form upon submission to the TTUHSC Office of Institutional Health.

Hepatitis B – Three (3) doses, generally first and second doses are one month apart, the third dose is four to six months after the first dose, or quantitative titer results demonstrating immunity is required. The hepatitis B third dose may be received during the first semester of pharmacy school due to the length of time required to obtain the full three doses.

MMR (Measles, Mumps, and Rubella) – Two (2) doses one month apart, or serological titer demonstrating immunity. *The serological titer must demonstrate immunity to all three diseases.*

Varicella – Two (2) doses one month apart, or serological titer demonstrating immunity.

Tdap (Tetanus, Diphtheria & Acellular Pertussis) – Must have been received within the last ten years. One adult dose is required.

TB Skin Testing – Testing within the past twelve months is required. The CDC DOES NOT recognize a previous history of BCG (bacille Calmette-Guerin vaccine) as reason to not take a yearly TB skin test. Unless there is a documentation of a *positive* TB skin test, a TB skin test within the past twelve months is required. If a *positive* TB skin test is documented, a report indicating a negative chest x-ray taken within the previous twelve months is required. For a positive TB skin test or if exposure to a suspected or confirmed positive TB patient has occurred, a completed TB Questionnaire must be submitted – **Attachment C**.

Meningococcal – One booster dose of MCV (Meningococcal vaccine) – Adult – during the five year period prior to enrollment. Note: exemption if 30 years or older on the first day of class in the semester of initial enrollment.

CPR – All new students must obtain an American Heart Association Basic Life Support for Healthcare Providers certification. **Only the American Heart Association CPR is accepted.**

CONTINUING STUDENTS

All continuing students must remain current throughout their pharmacy career. **Attachment A** is a list of required vaccinations required for all students enrolled in healthcare fields.

Flu Vaccine – At the current time, the flu vaccine is provided by the Office of Student Affairs and Admissions. This vaccine is provided in October of each year at no cost to the student. The students will be notified when the vaccine is available. They must obtain the vaccine and provide a copy of the documentation to the Office of Student Affairs and Admissions in Amarillo, Abilene, or Dallas or email to sopstudentaffairs@ttuhsc.edu. Any student who has an allergy to any vaccine component or has some other medical condition which prevents him/her from having this vaccine, a doctor's statement must be provided declaring the medical condition which prevents the injection. If at any time a student enters a clerkship rotation and the rotation site requires the flu vaccine before the vaccine is available through the Office of Student Affairs and Admissions, the student is required to obtain any and all required vaccinations before the rotation begins and the cost of the vaccine is borne by the student.

Meningococcal – Former TTUHSC School of Pharmacy students under 30 years of age who are enrolling following a break in enrollment of one fall or spring must provide documentation that they have received a meningitis vaccination.

Enrollment Requirements – Students involved in patient care related activities are required to maintain current student health records and CPR certification. Prior to each enrollment period, a review will be made of the students health records by the TTUHSC School of Pharmacy, Office of Student Affairs and Admissions and the student will be notified of impending requirements. If a student has any immunizations, screenings, vaccinations, or CPR certifications that may fall due (with the exception of the flu vaccine) during the next enrollment period, the student will be required to update their health record at least one week prior to the start of the semester. Any student who is not current with immunizations on the first day of the semester shall not be permitted to participate in any patient related activities. The student will be automatically dropped on the first day of the semester from any patient-related courses, rotations, and/or activities, and will not be allowed to complete any patient-care related courses during the entire semester. Students may enroll in patient-care courses for the following semester if all immunizations, CPR, flu vaccine (if applicable), and TB screenings are completed by the first day of the following semester. Patient-related activities are provided throughout all four years of pharmacy school.

Healthcare Personnel Vaccination Recommendations

Vaccines and recommendations in brief

Hepatitis B – If previously unvaccinated, give 3-dose series (dose #1 now, #2 in 1 month, #3 approximately 5 months after #2). Give intramuscularly (IM). For HCP who perform tasks that may involve exposure to blood or body fluids, obtain anti-HBs serologic testing 1–2 months after dose #3.

Influenza – Give 1 dose of influenza vaccine annually. Inactivated injectable vaccine is given IM, except when using the intradermal influenza vaccine. Live attenuated influenza vaccine (LAIV) is given intranasally.

MMR – For healthcare personnel (HCP) born in 1957 or later without serologic evidence of immunity or prior vaccination, give 2 doses of MMR, 4 weeks apart. For HCP born prior to 1957, see below. Give subcutaneously (Subcut).

Varicella (chickenpox) – For HCP who have no serologic proof of immunity, prior vaccination, or diagnosis or verification of a history of varicella or herpes zoster (shingles) by a healthcare provider, give 2 doses of varicella vaccine, 4 weeks apart. Give Subcut.

Tetanus, diphtheria, pertussis – Give 1 dose of Tdap as soon as feasible to all HCP who have not received Tdap previously and to pregnant HCP with each pregnancy (see below). Give Td boosters every 10 years thereafter. Give IM.

Meningococcal – Give both MenACWY and MenB to microbiologists who are routinely exposed to isolates of *Neisseria meningitidis*. Every 5 years boost with MenACWY if risk continues. Give MenACWY and MenB IM; if necessary to use MPSV4, give Subcut.

Hepatitis A, typhoid, and polio vaccines are not routinely recommended for HCP who may have on-the-job exposure to fecal material.

Hepatitis B

Unvaccinated healthcare personnel (HCP) and/or those who cannot document previous vaccination should receive a 3-dose series of hepatitis B vaccine at 0, 1, and 6 months. HCP who perform tasks that may involve exposure to blood or body fluids should be tested for hepatitis B surface antibody (anti-HBs) 1–2 months after dose #3 to document immunity.

- If anti-HBs is at least 10 mIU/mL (positive), the vaccinee is immune. No further serologic testing or vaccination is recommended.
- If anti-HBs is less than 10 mIU/mL (negative), the vaccinee is not protected from hepatitis B virus (HBV) infection, and should receive 3 additional doses of HepB vaccine on the routine schedule, followed by anti-HBs testing 1–2 months later. A vaccinee whose anti-HBs remains less than 10 mIU/mL after 6 doses is considered a “non-responder.”

For non-responders: HCP who are non-responders should be considered susceptible to HBV and should be counseled regarding precautions to prevent HBV infection and the need to obtain HBIG prophylaxis for any known or probable parenteral exposure to hepatitis B surface antigen (HBsAg)-positive blood or blood with unknown HBsAg status. It is also possible that non-responders are people who are HBsAg positive. HBsAg testing is recommended. HCP found to be HBsAg positive should be counseled and medically evaluated.

For HCP with documentation of a complete 3-dose HepB vaccine series but no documentation of anti-HBs of at least 10 mIU/mL (e.g., those vaccinated in childhood): HCP who are at risk for occupational blood or body fluid exposure might undergo anti-HBs testing upon hire or matriculation. See references 2 and 3 for details.

Influenza

All HCP, including physicians, nurses, paramedics, emergency medical technicians, employees of nursing homes and chronic care facilities, students in these professions, and volunteers, should receive annual vaccination against influenza. Live attenuated influenza vaccine (LAIV) may be given only to non-pregnant healthy HCP age 49 years and younger. Inactivated injectable influenza vaccine (IIV) is preferred over LAIV for HCP who are in close contact with severely immunosuppressed patients (e.g., stem cell transplant recipients) when they require protective isolation.

Measles, Mumps, Rubella (MMR)

HCP who work in medical facilities should be immune to measles, mumps, and rubella.

- HCP born in 1957 or later can be considered immune to measles, mumps, or rubella only if they have documentation of (a) laboratory confirmation of disease or immunity or (b) appropriate vaccination against measles, mumps, and rubella (i.e., 2 doses of live measles and mumps vaccines given on or after

the first birthday and separated by 28 days or more, and at least 1 dose of live rubella vaccine). HCP with 2 documented doses of MMR are not recommended to be serologically tested for immunity; but if they are tested and results are negative or equivocal for measles, mumps, and/or rubella, these HCP should be considered to have presumptive evidence of immunity to measles, mumps, and/or rubella and are not in need of additional MMR doses.

- Although birth before 1957 generally is considered acceptable evidence of measles, mumps, and rubella immunity, 2 doses of MMR vaccine should be considered for unvaccinated HCP born before 1957 who do not have laboratory evidence of disease or immunity to measles and/or mumps. One dose of MMR vaccine should be considered for HCP with no laboratory evidence of disease or immunity to rubella. For these same HCP who do not have evidence of immunity, 2 doses of MMR vaccine are recommended during an outbreak of measles or mumps and 1 dose during an outbreak of rubella.

Varicella

It is recommended that all HCP be immune to varicella. Evidence of immunity in HCP includes documentation of 2 doses of varicella vaccine given at least 28 days apart, laboratory evidence of immunity, laboratory confirmation of disease, or diagnosis or verification of a history of varicella or herpes zoster (shingles) by a healthcare provider.

Tetanus/Diphtheria/Pertussis (Td/Tdap)

All HCPs who have not or are unsure if they have previously received a dose of Tdap should receive a dose of Tdap as soon as feasible, without regard to the interval since the previous dose of Td. Pregnant HCP should be revaccinated during each pregnancy. All HCPs should then receive Td boosters every 10 years thereafter.

Meningococcal

Vaccination with MenACWY and MenB is recommended for microbiologists who are routinely exposed to isolates of *N. meningitidis*. The two vaccines may be given concomitantly but at different anatomic sites, if feasible.

References

- 1 CDC. Immunization of Health-Care Personnel: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*, 2011;60(RR-7).
- 2 CDC. CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management. *MMWR*, 2013;62(10):1–19.
- 3 IAC. Pre-exposure Management for Healthcare Personnel with a Documented Hepatitis B Vaccine Series Who Have Not Had Post-vaccination Serologic Testing. Accessed at www.immunize.org/catg.d/p2108.pdf.

For additional specific ACIP recommendations, visit CDC's website at www.cdc.gov/vaccines/hcp/acip-recs/index.html or visit IAC's website at www.immunize.org/acip.

R# _____

Name: _____

Email: _____

Phone number: _____

Attachment B

TTUHSC SOP Immunization Requirements

Copies of lab reports, immunizations and/or health records must be provided.

Must be submitted by June 1st

1. **Varicella (Chicken Pox): Documentation of 2 Varicella vaccine doses**

Dose #1 date _____ Dose #2 date _____

OR

Documented Varicella immunity-titer (blood test)

Date of Test: _____ (Attach Report)

(TTUHSC does not accept history of disease)

2. **Measles, Mumps, and Rubella (MMR): Documentation of 2 MMR vaccine doses**

MMR #1-Date _____ MMR# 2-Date _____

OR

MMR titer (blood test): Date of test _____ (Attach Report)

3. **Tuberculosis:**

2-STEP TB skin test (May 1st start)

Visit 1 / day 1 - Place the 1st TST and have the student return in 7 days for the test to be read.

1st test Date: _____ Result: _____ mm

2nd test Date: _____ Result: _____ mm

If positive on TST

Negative Chest X-Ray if (+) TST Date: _____ Result: _____

Visit 2 / day 7 - Place 2nd TST on all students whose 1st test is negative at 7 days.

Chest X-Ray must be no older than 1 year, if TB skin test is positive.
(Attach Report)

Visit 3 / day 9 or 10 - Read the 2nd test at 48-72 hours.

TTUHSC will also accept **IGRA (T-SPOT or quantiferon)** testing in place of a TB test

Date: _____ Results: _____

4. **Hepatitis B series: Documentation of 3 Hepatitis B vaccine doses**

Dose#1 date _____ Dose #2 date _____ Dose #3 date _____

OR

Hepatitis B Surface Antibody (blood test) Date of Test: _____ (Attach Report)

5. **Tetanus/diphtheria (Td): Tetanus Diphtheria booster (required within past 10 years)**

Td Date: _____ (Tdap will suffice)

6. **Tdap (Tetanus, Diphtheria, and Acellular Pertussis): Adult Dose**

Tdap date: _____

7. **Meningococcal Vaccine (MCV): Adults 22 and younger (vaccine within the last 5 years)**

MCV date: _____ circle exemption (age, online)

8. **Influenza Vaccine:**

Influenza date: _____ (required during FLU season October- May)

This completed form and supporting documentation should be forwarded as soon as possible to:

TTUHSC Office of Institutional Health, Immunization Coordinator
3601 4th Street • MS 8150 • Lubbock TX 79430

email to cathy.garza@ttuhsc.edu • fax 806-743-1865

Attachment C

Texas Tech University Health Sciences Center - Amarillo Employee/Student Health

Tuberculosis Health Questionnaire

If you have had a previously positive TB skin test (TST), *or* you are a new reactor to the TST, *or* if you are a new employee or student, *or* if you were exposed to a suspected or confirmed positive TB patient, you are requested to review and answer the following questions.

In the past, it was practice to do a yearly chest x-ray and was thought to be sufficient follow-up. However, some persons may develop an active tuberculosis infection with a normal chest x-ray.

Consequently, this brief questionnaire is very important. You will be requested to answer all of the questions on this page at least once each year to satisfy your yearly Tb evaluation. If you have experienced any of the following symptoms in the past year, please check "YES".

	YES	NO
1. Productive cough (3 weeks +)	[]	[]
2. Persistent weight loss without dieting	[]	[]
3. Night sweats	[]	[]
4. Loss of appetite	[]	[]
5. Swollen glands, usually in the neck	[]	[]
6. Persistent low grade fever	[]	[]
7. Coughing up blood	[]	[]
8. Easy fatigability	[]	[]
9. Chest pain	[]	[]

Note: The above symptoms are suggestive of Tb infection, but could also be symptomatic of other health problems and you may want to have them evaluated.

Name (Please Print)

Department / School

Signature

Date