**IMMUNIZATION REQUIREMENTS**  
See Healthcare Personnel Vaccination Recommendations – Appendix B

Documented immunizations and TB skin tests required for admission to the School of Nursing include:

| 1. **Tetanus-Diphtheria with Pertussis Booster** | **Required:** One time dose of Tdap AND Current Td booster  
*Tetanus vaccination must be done every 10 years, and one of the updates must include pertussis booster. After the Tdap is received once then further tetanus vaccinations are required to be only Td.* |
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<td>• Tdap Vaccination</td>
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| 2. **Measles, Mumps, Rubella** | **Required:** Documentation of 2 doses MMR vaccination OR A positive titer is required for Mumps, Measles and Rubella.  
*If able to provide documentation of two MMR doses, no titer is required. If unable to provide documentation of two MMR doses, a titer must be completed. If the titer is non-responsive, or equivocal, documentation of a repeat series, 2 doses of MMR vaccine, is required.* |
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<td>• 2 doses of MMR vaccination OR positive titer for Mumps, Measles and Rubella</td>
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| 3. **Hepatitis B Vaccination** | **Required:** Students must provide an initial titer for Hepatitis B and upload this into Moodle. If immune, all requirements are met.  
The student is responsible to have the titer drawn in the event of clinical exposure to blood or other potentially infectious body fluids as stated in the SON Blood Borne Pathogen Policy.  
*If the student has a negative titer after 6 doses of the vaccine, the student is considered a non-responder. Non-responders are considered susceptible to Hepatitis B, and the student should take appropriate precautions to prevent exposure and infection to Hepatitis B. Testing for Hepatitis B surface antigen should be considered. Students found to be Hepatitis B surface positive should be medically evaluated.* |
|---|---|
|   • Positive titer  
   • If not positive, then a new series of vaccinations and a new titer  
   Hepatitis B Vaccination is a series of three vaccinations on a schedule:  
   #1 Initiation  
   #2 – 1 month after #1  
   #3 – 5 months after #2  
   OR the new Heplisav Series is two vaccinations:  
   #1 Initiation  
   #2 – 1 month after #1 |   |

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<tr>
<th>4. <strong>Varicella (Chicken Pox)</strong></th>
<th><strong>Required:</strong> Documentation of 2 doses of Varicella vaccination OR A positive titer</th>
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<td>• 2 doses of Varicella vaccination OR positive titer</td>
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### 5. Tuberculosis (TB) skin test
- A current negative TB skin test screening.
- TB screening must be current throughout the entire program – TB skin test screenings must be performed annually while in the SON.

All students enrolled in ISU’s School of Nursing must be free of active signs and symptoms of Tuberculosis.

**Students with a previously positive skin test OR have had the BCG immunization:** It is not recommended that the student receive another TB skin test. Student must submit negative chest x-ray interpretation, letter from physician stating completion of antibiotic therapy, and/or letter from physician stating student does not have active TB. These instances will be handled on a case by case basis. Please contact the School of Nursing for further instructions.

**Students with a baseline positive or a newly recognized positive skin test:** It is not recommended that the student receive another TB skin test. Student must complete the following steps:

1. Evaluation by healthcare professional
   - Symptom screen; annual symptom screening is required (see Appendix K in School of Nursing Student Handbook).
   - Chest x-ray
     - Serial follow-up chest x-rays are not recommended for students with a previous positive skin test who have documentation of a previous clear chest x-ray unless they present with symptoms of TB or a clinician recommends it.
     - If applicable, QuantiFERON TB Gold QTF-G® test,
       - If healthcare provider recommends test to be done please submit the results to the SON.
       - Positive QuantiFERON TB Gold QTF-G® test: please contact the SON for further instructions.
       - Negative QuantiFERON TB Gold QTF-G® test: no further action required, please contact the SON.
   - If applicable, collection of sputum specimens.

2. If TB disease is diagnosed
   - Begin anti-tuberculosis treatment and provide documentation to the SON. Please contact the SON for further instructions.

3. If Latent TB Infection (LTBI) is diagnosed
   - Treatment for LTBI – then annual symptom screens, please contact the SON for further instructions.

If treatment has already been completed – submit documentation and contact the SON for further instructions.

### 6. Influenza
- 1 dose of Influenza vaccine annually

**Required:**
- Documentation of annual influenza vaccine OR a signed Declination Statement are due by **October 30th** each year (Appendix I in...
Note:

- **For students starting the Nursing program in the SPRING semester:** All immunization and vaccination records are due by the Admission Submissions Deadline listed in the Applicant Checklist.
- **For students starting the Nursing program in the FALL semester:** All immunization and vaccination records are due by the Admission Submissions Deadline listed in the Applicant Checklist **EXCEPT** the Influenza vaccination. Pay close attention to the specific dates for this item.
- **For students starting the Nursing program in the SUMMER semester:** All immunization and vaccination records are due by the Admission Submissions Deadline listed in the Applicant Checklist **EXCEPT** the Influenza vaccination. Pay close attention to the specific dates for this item.
- **For students in the Nursing program longer than 1 year:** The TB skin test and Influenza vaccination must be updated annually during the Nursing Program.

Maintaining current status with all immunizations listed above is the sole responsibility of the student throughout the duration of their time in the nursing program. *Failure to maintain documentation of current status of these requirements may result in failure to progress and/or dismissal of the student from the nursing program.*

Students may also be required to complete additional health status requirements as required by specific clinical agencies.

*This form is for applicant use only – do not submit with admission materials*
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IMMUNIZATION REQUIREMENTS CHECKLIST
See Healthcare Personnel Vaccination Recommendations – Appendix B

1. Tetanus with Pertussis Booster
   - □ Tdap received _______________date
   - □ Td received _______________date (if Tdap > 10 years ago)

2. Measles, Mumps, Rubella Vaccination
   - □ Documentation of 2 doses of MMR Vaccine
     - #1 _______________date   #2 _______________date
   - OR
   - □ Documentation of positive titers _______________date

3. Hepatitis B Vaccination Series
   - □ Documentation of titer _______________date
   - IF IMMUNE YOU ARE DONE, IF NOT IMMUNE start new series
     - □ If titer NEGATIVE _______________dates of re-vaccination and second titer
       - Re-vaccination # 1 _______________date   # 2 _______________date   # 3 _______________date
       - Documentation of titer _______________date

4. Varicella (Chicken Pox) Vaccination
   - □ Documentation of 2 doses of Varicella vaccine
     - #1 _______________date   #2 _______________date
   - OR
   - □ Documentation of positive titer _______________date

5. Tuberculosis (TB) Skin Test: Skin test screening received
   - □ Negative (0 mm induration) TB skin test (TST) _______________date
   - OR
   - □ Negative TB blood tests (QuantiFERON®–TB Gold OR T-SPOT®) _______________date
   - OR
   - □ Negative TB blood test if student has received the TB vaccine, bacille Calmette–Guérin (BCG) _______________date
   - OR
   - □ Negative TB blood test for anyone not wanting to receive a TST or is at risk of not returning for the second appointment to 'read' the TST _______________date.

   For all other situations and questions, please contact the School of Nursing as soon as possible to address individual circumstances.

6. Influenza Vaccination – Vaccination received and submitted
   - • Vaccination _______________date
Healthcare Personnel Vaccination Recommendations: Appendix B

Healthcare Personnel Vaccination Recommendations

VACCINES AND RECOMMENDATIONS IN BRIEF

Hepatitis B: If previously unvaccinated, give a 2-dose (Heplisav-B) or 3-dose (Engerix-B or Recombivax HB) series. 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 #2 (for Heplisav-B) or dose #3 (for Engerix-B or Recombivax HB).

Influenza: Give 1 dose of influenza vaccine annually. Inactivated injectable vaccine is given IM. 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.

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 or Tdap boosters every 10 years thereafter. Give IM.

Meningococcal: Give both MenACWY and MenB to microbiologists who are routinely exposed to isolates of Neisseria meningitidis. As long as risk continues: boost with MenB after 1 year, then every 2–3 years thereafter; boost with MenACWY every 5 years. Give MenACWY and MenB IM.

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

Hepatitis B

Unvaccinated healthcare personnel (HCP) and/or those who cannot document previous vaccination should receive either a 2-dose series of Hepatitis B vaccine at 0 and 1 month or a 3-dose series of either Engerix-B or Recombivax HB 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 #2 of Hepatitis B vaccine or dose #3 of Engerix-B or Recombivax HB to document immunity.

1. If anti-HBs is less than 10 mIU/mL (positive), the vaccine is immune. No further serologic testing or vaccination is recommended.

2. If anti-HBs is less than 10 mIU/mL (negative), the vaccine is not protected from hepatitis B virus (HBV) infection, and should receive another 2-dose or 3-dose series of Hepatitis B vaccine on the routine schedule, followed by anti-HBs testing 1–2 months later. A vaccine whose anti-HBs remains less than 10 mIU/mL after 2 complete series 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 HEPB prophylaxis for any known or probable percutaneous 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 2-dose (Hepatitis B) or 3-dose (Engerix-B or Recombivax HB) 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.

1. 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.

2. Although birth before 1957 generally is considered acceptable evidence of immunity, it 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.

3. 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 or Tdap 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).


For additional specific ACP recommendations, visit CDC’s website at www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/index.html or visit IAC’s website at www.immunize.org/hcp.
Testing for Tuberculosis (TB)

Tuberculosis (TB) is a disease that is spread through the air from one person to another. When someone who is sick with TB coughs, speaks, laughs, sings, or sneezes, people nearby may breathe TB bacteria into their lungs. TB usually attacks the lungs, but can also attack other parts of the body, such as the brain, spine, or kidneys.

There are two types of TB:
1. Latent TB infection
2. TB disease

TB bacteria can live in the body without making a person sick. This is called latent TB infection. People with latent TB infection do not feel sick, do not have TB symptoms, and cannot spread TB bacteria to others. Some people with latent TB infection go on to develop TB disease. People with TB disease can spread the bacteria to others, feel sick, and can have symptoms including fever, night sweats, cough, and weight loss.

There are two kinds of tests that are used to determine if a person has been infected with TB bacteria: the tuberculin skin test and TB blood tests.

What does a positive TST result mean?
The TST result depends on the size of the raised, hard area or swelling. It also depends on the person’s risk of being infected with TB bacteria and the progression to TB disease if infected.
- Positive TST: This means the person’s body was infected with TB bacteria. Additional tests are needed to determine if the person has latent TB infection or TB disease. A health care worker will then provide treatment as needed.
- Negative TST: This means the person’s body did not react to the test, and that latent TB infection or TB disease is not likely.

Who can receive a TST?
Almost everyone can receive a TST, including infants, children, pregnant women, people living with HIV, and people who have had a BCG shot. People who had a severe reaction to a previous TST should not receive another TST.

How often can a TST be given?
Usually, there is no problem with repeated TSTs unless a person has had a severe reaction to a previous TST.

Testing for TB in People with a BCG
People who have had a previous BCG shot may receive a TST. In some people, the BCG shot may cause a positive TST when they are not infected with TB bacteria. If a TST is positive, additional tests are needed.
# TB Blood Tests

### What is an Interferon Gamma Release Assay (IGRA)?

An IGRA is a blood test that can determine if a person has been infected with TB bacteria. An IGRA measures how strong a person's immune system reacts to TB bacteria by testing the person’s blood in a laboratory. Two IGRA's are approved by the U.S. Food and Drug Administration (FDA) and are available in the United States:

1. Quantiferon®-TB Gold In-Tube test (QFT-GIT)
2. T-SPOT®-TB test (T-Spot)

### How does the IGRA work?

Blood is collected into special tubes using a needle. The blood is delivered to a laboratory as directed by the IGRA test instructions. The laboratory runs the test and reports the results to the health care provider.

### What does a positive IGRA result mean?

- **Positive IGRA:** This means that the person has been infected with TB bacteria. Additional tests are needed to determine if the person has latent TB infection or TB disease. A healthcare provider will then provide treatment as needed.
- **Negative IGRA:** This means that the person's blood did not react to the test and that latent TB infection or TB disease is not likely.

### Who can receive an IGRA?

Anyone can have an IGRA in place of a TST. This can be for any situation where a TST is recommended. In general, a person should have either a TST or an IGRA, but not both. There are rare exceptions when results from both tests may be useful in deciding whether a person has been infected with TB.

IGRAs are the preferred method of TB infection testing for the following:

- People who have received the BCG shot
- People who have a difficult time returning for a second appointment to look at the TST after the test was given

### How often can an IGRA be given?

There is no problem with repeated IGRAs.

# Who Should Get Tested for TB?

TB tests are generally not needed for people with a low risk of infection with TB bacteria.

Certain people should be tested for TB bacteria because they are more likely to get TB disease, including:

- People who have spent time with someone who has TB disease
- People with HIV infection or another medical problem that weakens the immune system
- People who have symptoms of TB disease (fever, night sweats, cough, and weight loss)
- People from a country where TB disease is common (most countries in Latin America, the Caribbean, Africa, Asia, Eastern Europe, and Russia)
- People who live or work somewhere in the United States where TB disease is more common (homeless shelters, prison or jail, or some nursing homes)
- People who use illegal drugs

# Choosing a TB Test

Choosing which TB test to use should be done by the person's health care provider. Factors in selecting which test to use include the reason for testing, test availability, and cost. Generally, it is not recommended to test a person with both a TST and an IGRA.

# Diagnosis of Latent TB Infection or TB Disease

If a person is found to be infected with TB bacteria, other tests are needed to see if the person has TB disease.

TB disease can be diagnosed by medical history, physical examination, chest x-ray, and other laboratory tests. TB disease is treated by taking several drugs as recommended by a health care provider.

If a person does not have TB disease, but has TB bacteria in the body, then latent TB infection is diagnosed. The decision about taking treatment for latent TB infection will be based on a person's chances of developing TB disease.

### Related Links


November 2011