What is meningococcal disease?
Meningococcal disease is caused by infection with bacteria called *Neisseria meningitidis*. These bacteria can infect the tissue (the “meninges”) that surrounds the brain and spinal cord and cause meningitis, or they may infect the blood or other body organs. In the US, about 1,000-3,000 people per year get meningococcal disease and 10-15% die despite receiving antibiotic treatment. Of those who survive, 11-19% may lose limbs, become deaf, have problems with their nervous system, become mentally retarded, or have seizures or strokes.

What are *Neisseria meningitidis*?
*Neisseria meningitidis* are bacteria that may be found normally in people’s throats and noses. About 5 to 15% of people carry these bacteria and do not get sick from them. These people may be called “carriers.” Carriers only have bacteria for a short time. Usually, the bacteria go away and these people may have increased resistance to infection in the future. In rare cases, the bacteria may get into the blood and go to the tissue surrounding the spinal cord and brain, causing severe illness.

What are the symptoms of meningococcal disease?
Signs and symptoms of meningococcal disease include a sudden onset of fever, stiff neck, headache, nausea, vomiting, and/or mental confusion. Changes in behavior such as confusion, sleepiness, and unresponsiveness are important symptoms of illness. A rash may also be present. Anyone who has these symptoms should be seen by a healthcare provider immediately.

How are the bacteria spread?
These bacteria are passed from person-to-person through saliva (spit). You must be in close contact with an infected person’s saliva in order for the bacteria to spread. Close contact includes activities such as kissing, sharing water bottles, sharing eating/drinking utensils or sharing cigarettes with someone who is infected; or being within 3-6 feet of an infected person who is coughing or sneezing.

Who is at most risk for meningococcal disease?
High-risk groups include anyone with a damaged spleen or whose spleen has been removed, those with persistent complement component deficiency (an inherited immune disorder), HIV infection, those traveling to countries where meningococcal disease is very common, microbiologists and people who may have been exposed to meningococcal disease during an outbreak. People who live in certain settings such as college freshmen living in dormitories and military recruits are also at greater risk of disease.

Are students in college at risk for meningococcal disease?
College freshmen and other newly enrolled college students, living in dormitories and other congregate living situations (such as fraternities and sororities), are at an increased risk for meningococcal disease as compared to individuals of the same age not attending college. The closed setting, combined with certain behaviors (such as alcohol consumption, exposure to cigarette smoke, sharing food or beverages, and activities involving the exchange of saliva), may put college students at a greater risk for infection. The risk of meningococcal disease for other college students, in particular older students and students who do not live in congregate housing, is not increased.
Is there a vaccine against meningococcal disease?

Yes, there are currently 2 types of vaccines available that protect against 4 of the most common of the 13 serogroups (subgroups) of N. meningitidis that cause serious disease. Meningococcal polysaccharide vaccine is approved for use in those 2 years of age and older. There are 2 licensed meningococcal conjugate vaccines. Menactra® is approved for use in those 9 months – 55 years of age. Menveo® is proved for use in those 2 to 55 years of age. Meningococcal vaccines are thought to provide protection for approximately 5 years. Either of these vaccines is acceptable for college students.

How complete is the protection with the vaccine?

Currently available vaccines provide protection against serogroups A, C, Y and W-135. These 4 serogroups account for approximately two-thirds of the cases that occur in the US each year. Most of the remaining one-third of the cases are caused by serogroup B, not represented in the vaccines.

Is the meningococcal vaccine safe?

A vaccine, like any medicine, is capable of causing allergic reactions. The risks associated with receiving the vaccine are much less than the risk of meningococcal disease. Some people who get this vaccine have mild side effects, such as redness or pain where the shot was given. Local reactions are more common in those receiving meningococcal conjugate vaccine. These symptoms usually last for 1-2 days. A small percentage of people who receive the vaccine develop fever. Anyone who has ever had Guillain-Barré Syndrome should talk with their provider before getting meningococcal conjugate vaccine. The vaccine can be given to pregnant women.

Are students required to get meningococcal vaccine before entering college?

Massachusetts law requires newly enrolled full-time students attending colleges and schools with grades 9-12, who will be living in a dormitory or other congregate housing, licensed or approved by the school or college, to receive meningococcal vaccine. All students covered by the regulations must provide documentation of having received a dose of meningococcal polysaccharide vaccine within the last 5 years (or a dose of meningococcal conjugate vaccine at any time in the past). Immunizations should be obtained prior to enrollment or registration; however, students may be enrolled or registered provided that the required immunizations are obtained within 30 days of registration.

The law contains exemptions. Students may begin classes without a certificate of immunization against meningococcal disease if: 1) the student has a letter from a physician stating that there is a medical reason why he/she can’t receive the vaccine; 2) the student (or the student’s parent or legal guardian, if the student is a minor) presents a statement in writing that such vaccination is against his/her sincere religious belief; or 3) the student (or the student’s parent or legal guardian, if the student is a minor) signs a waiver stating that the student has received information about the dangers of meningococcal disease, reviewed the information provided and elected to decline the vaccine.

More information about this requirement may be found in the MDPH document entitled “Information about Meningococcal Disease and Vaccination and Waiver for Students at Residential Schools and Colleges”.

While not required, as of October 2010, the Advisory Committee on Immunization Practices (ACIP) recommends anyone up to 21 years of age who is entering college receive a dose of meningococcal conjugate vaccine within 5 years of enrollment. College students who do not live in campus-related housing and want to reduce their risk for meningococcal disease may also choose to be vaccinated, though it is not required.

Where can a college student get vaccinated?

Students and their parents should discuss meningococcal disease, the benefits and risks of vaccination, and the availability of vaccine with their healthcare provider.

Where can I get more information?

- Your healthcare provider, your local health department (listed in the phone book under government)
- The Massachusetts Department of Public Health, Division of Epidemiology and Immunization at (617) 983-6800 or toll-free at (888) 658-2850 or on the MDPH website at http://www.mass.gov/dph

August 2011
**BOSTON COLLEGE UNIVERSITY HEALTH SERVICES**

**TUBERCULOSIS (TB) SCREENING/TESTING FORM**

Date: ____________________  Name: ____________________

Eagle ID#: _________________  Date of Birth: ____________________

Cell Phone: ____________________  Email: ____________________

Please refer to this list of countries below when responding to questions #4 and #5

<table>
<thead>
<tr>
<th>Afghanistan</th>
<th>Côte d'Ivoire</th>
<th>Japan</th>
<th>Nicaragua</th>
<th>Sudan</th>
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<tbody>
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<td>Croatia</td>
<td>Kazakhstan</td>
<td>Niger</td>
<td>Suriname</td>
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<td>Kenya</td>
<td>Nigeria</td>
<td>Swaziland</td>
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<td>Papua New Guinea</td>
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<td>Equatorial Guinea</td>
<td>Nepal</td>
<td>Tuvalu</td>
<td>Tanzania</td>
</tr>
</tbody>
</table>

Source: World Health Organization Global Health Observatory, Tuberculosis Incidence 2010. Countries with incidence rates of ≥ 20 cases per 100,000 population. For future updates, refer to [http://apps.who.int/ghodata](http://apps.who.int/ghodata)

| 1. Have you ever had close contact with persons known or suspected to have active TB disease? | Yes | No |
| 2. Have you ever had a history of a positive PPD skin test? | Yes | No |
| 3. Did you ever receive a BCG vaccine as a child? | Yes | No |
| 4. Were you born in one of the countries listed above that have a high incidence of active TB disease? | Yes | No |
| 5. Have you had frequent or prolonged visits (for more than one month) to one or more of the countries listed above with a high prevalence of TB disease? (If yes, please CIRCLE the country) | Yes | No |
| 6. Have you been a resident and/or employee of high-risk congregate settings (e.g., correctional facilities, long-term care facilities, and homeless shelters)? | Yes | No |
| 7. Have you been a volunteer or health-care worker who served clients who are at increased risk for active TB disease? | Yes | No |
| 8. Have you ever been a member of any of the following groups that may have an increased incidence of latent *M. tuberculosis* infection or active TB disease – medically underserved or abusing drugs or alcohol? | Yes | No |

If the answer is YES to any of the above questions, Boston College requires that your physician complete and return the Tuberculosis (TB) Risk Assessment on pages 2 and 3 with additional testing and/or documentation as needed.

If the answer to all of the above questions is NO, no further testing is required (no need to complete page 2 & 3). Return form to: Boston College University Health Services, Cushing Hall Rm. 117, 140 Commonwealth Ave, Chestnut Hill, MA 02467)
Date: ___________________ Name: ____________________________

Last                                                                  First

Eagle ID#: __________________________ Date of Birth: __________________________

Cell Phone: __________________________ Email: __________________________

TUBERCULOSIS (TB) RISK ASSESSMENT (to be completed by health care provider)
Clinicians should review and verify information on the TB Screening Form. Persons answering YES to any of the questions are candidates for either Mantoux tuberculin skin test (TST) or Interferon Gamma Release Assay (IGRA), unless a previous positive test is documented.

History of a positive TB skin test or IGRA blood test?  No _____ Yes _____ (if Yes, and received previous treatment complete the TB Symptom Check and the Medication Section)

History of BCG vaccination?  (If yes, consider IGRA if possible.)  Yes _____ No _____

1. TB Symptom Check
Does the student have signs or symptoms of active pulmonary tuberculosis disease?  Yes _____ No _____

If No, proceed to 2 or 3
If yes, check below:

☐ Cough (especially if lasting for 3 weeks or longer) with or without sputum production
☐ Coughing up blood (hemoptysis)
☐ Chest pain
☐ Loss of appetite
☐ Unexplained weight loss
☐ Night sweats
☐ Fever

Proceed with additional evaluation to exclude active tuberculosis disease including tuberculin skin testing, chest x-ray, and sputum evaluation as indicated.

2. Tuberculin Skin Test (TST)
(TST result should be recorded as actual millimeters (mm) of induration, transverse diameter; if no induration, write “0”. The TST interpretation should be based on mm of induration as well as risk factors.)**

Date Given: __/____/____  Date Read: __/____/____

M     D       Y        M     D      Y

Result: ________ mm of induration   **Interpretation (please refer to interpretation guidelines):  positive____ negative____

(If positive Chest X-Ray Required see pg 3 of 3)

**Interpretation guidelines

>5 mm is positive:
☐ Recent close contacts of an individual with infectious TB
☐ persons with fibrotic changes on a prior chest x-ray, consistent with past TB disease
☐ organ transplant recipients and other immunosuppressed persons (including receiving equivalent of >15 mg/d of prednisone for >1 month.)
☐ HIV-infected persons

>10 mm is positive:
☐ recent arrivals to the U.S. (<5 years) from high prevalence areas or who resided in one for a significant* amount of time
☐ injection drug users
☐ mycobacteriology laboratory personnel
☐ residents, employees, or volunteers in high-risk congregate settings
☐ persons with medical conditions that increase the risk of progression to TB disease including silicosis, diabetes mellitus, chronic renal failure, certain types of cancer (leukemias and lymphomas, cancers of the head, neck, or lung), gastrectomy or jejunoileal bypass and weight loss of at least 10% below ideal body weight.

>15 mm is positive:
☐ persons with no known risk factors for TB who, except for certain testing programs required by law or regulation, would otherwise not be tested.

* The significance of the travel exposure should be discussed with a health care provider and evaluated.
Date: ___________________________
Name: ___________________________

Last                                                                  First

Eagle ID#: ___________________________ Date of Birth: ___________________________

Cell Phone: ___________________________ Email: ___________________________

3. Interferon Gamma Release Assay (IGRA)

Date Obtained: ____/____/____ (specify method) QFT-GIT T-Spot other_____

M       D      Y

Result: negative___ positive___ indeterminate___ borderline___ (T-Spot only)

4. Chest x-ray: (Required if TST or IGRA is POSITIVE)

Date of chest x-ray: ____/____/____ Result: normal____ abnormal____

M       D      Y

TUBERCULOSIS (TB) RISK ASSESSMENT Management of Positive TST or IGRA

All students with a positive TST or IGRA with no signs of active disease on chest x-ray should receive a recommendation to be treated for latent TB with appropriate medication. However, students in the following groups are at increased risk of progression from LTBI to TB disease and should be prioritized to begin treatment as soon as possible.

- Infected with HIV
- Recently infected with M. tuberculosis (within the past 2 years)
- History of untreated or inadequately treated TB disease, including persons with fibrotic changes on chest radiograph consistent with prior TB disease
- Receiving immunosuppressive therapy such as tumor necrosis factor-alpha (TNF) antagonists, systemic corticosteroids equivalent to/greater than 15 mg of prednisone per day, or immunosuppressive drug therapy following organ transplantation
- Diagnosed with silicosis, diabetes mellitus, chronic renal failure, leukemia, or cancer of the head, neck, or lung
- Have had a gastrectomy or jejunooileal bypass
- Weigh less than 90% of their ideal body weight
- Cigarette smokers and persons who abuse drugs and/or alcohol

**Populations defined locally as having an increased incidence of disease due to M. tuberculosis, including medically underserved

MEDICATION SECTION:

Were they advised to take medication because of the positive results?  No _____ Yes _____
If yes, did they accept medication? No _____ Yes _____
If yes, what medication(s) was prescribed? ___________________________ Date Started: ___/___/____ Date Ended: ___/___/____

HEALTH CARE PROVIDER

Name ___________________________________________ Signature ________________________________________________

Address ________________________________________________________________________________________________
______________________________________________________________________________________________
______________________________________________________________________________________________

Phone(_____) ________________________________

Please Return Form(s) to:  BOSTON COLLEGE UNIVERSITY HEALTH SERVICES
CUSHING HALL RM 117
140 COMMONWEALTH AVE
CHESTNUT HILL, MA  02467