

MANAWA SCHOOL DISTRICT

POLICY AND STANDARD WORK

Title: TST Testing Policy	
Department: Nursing	Number:
File Location:	
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Reviewed/Approved By: Dr. Oppor, District Superintendent / Dr. Goedderz, Medical Advisor	
Date Reviewed/Approved:	

POLICY/PURPOSE:

Tuberculosis is a disease produced by infection with *Mycobacterium tuberculosis*. Tuberculosis continues to be a public health problem in the United States. Persons infected with *M. tuberculosis* are considered to have either an active or latent tuberculosis infection (LTBI). Latent infection means the individual has had a known or unknown prior exposure to TB some time in their past. Individuals with LTBI are infected with TB but have no symptoms and cannot spread the disease to other people. However, they may develop the disease later in life and spread the infection to others if they do not receive appropriate treatment. The morbidity and mortality from tuberculosis can be reduced by early identification and treatment of persons with tuberculosis disease. In addition, early detection and treatment of person with tuberculosis disease reduces the potential that infection will be transmitted to others. ThedaCare Workplace Solutions can provide assistance to companies in the medical screening for TB, education, work restricts, and referrals for further evaluation and/or treatment as clinically indicated for their employees.

There are three methods to test for *Mycobacterium tuberculosis*:

1. **One-Step:** Mantoux tuberculin skin test (TST)
2. **Two-Step:** Mantoux tuberculin skin test (TST)
3. QuantiFERON-TB blood test (QFT-G)

One and Two Step: Mantoux tuberculin skin test (TST):

The **Mantoux tuberculin skin test** with purified protein derivative-tuberculin (PPD) is the standard method of determining whether a person is infected with *Mycobacterium tuberculosis*. The TST does not differentiate between active and latent tuberculosis infection. The technique to administer and interpret the TST result requires standardization of procedures and the proper education, training, and supervision of designated personnel.

- **Two Step:** Use two-step testing. This ensures that any future positive tests can be interpreted as being caused by a new infection, rather than simply a reaction to an old infection.
- **One Step:** Use for *subsequent* skin testing of adults who will be retested periodically (e.g. health care workers, bus drivers, and child care workers).

Procedures:

Indications for Use		
One Step TST	Two Step TST	QFT-G
<ul style="list-style-type: none"> Screening skin testing for general population. Subsequent skin testing for adults who are retested periodically (e.g. health care workers, bus drivers, child care workers). 	<ul style="list-style-type: none"> Initial skin testing of adults who will be retested periodically (e.g. health care workers, bus drivers, child care workers). If last TST was more than one-year ago. If questionable interpretation after One Step TST. 	<ul style="list-style-type: none"> Indeterminate second TST. Employees of companies that prefer the QFT-G over TST. Patients that have had severe adverse reactions to TST. Prior BCG vaccination with a newly positive TST.

TB Skin Test Questionnaire:

The TB Skin Test Questionnaire is a screening tool that is used to identify signs and symptoms that may suggest active TB (i.e. cough greater than three weeks, fever, hemoptysis, night sweats, unintentional weight loss), history of prior exposure, prior Bacille Calmette-Guerin (BCG) vaccination, any adverse reaction to a previous TST, previous or current Isoniazid (INH) therapy. The questionnaire is presented to the patient at the time of registration and is to be completed prior to entering the examination room. A clinical staff member will review the questionnaire with the patient and administer the TST if there are no concerns or positive answers. Of course, the clinic nursing staff will consult with a provider about any concerns. However, the form is designed to allow the nursing staff to proceed in most circumstances. The TST is not to be administered if the patient has had a prior allergic reaction or a positive result to the TST. There is no contraindication to administering the TST to pregnant women, however, if she is pregnant, she should contact her obstetrician to determine if she can proceed with receiving TST.

How is the TST Administered?

The standard recommended tuberculin test is administered by injecting 0.1mL of 5 TU (tuberculin units) PPD into the top layers of skin (intradermally, immediately under the surface of the skin) of the left forearm.

The use of a skin area that is free of lesions, veins, scars, and tattoos is recommended. The injection is typically made using a one-quarter to one-half inch, 27-gauge needle and a tuberculin syringe. The tuberculin PPD is injected just beneath the surface of the skin.

A discrete, pale elevation of the skin (a wheal) 6 to 10 mm in diameter should be produced when the injection is done correctly. The wheal or bleb is generally quickly absorbed.

If it is recognized that the first test was improperly administered, another test can be given at once, selecting a site several centimeters away from the original injection or administer it in the opposite arm.

Record the date and time of TST administration, location of injection site, dose, name of person who administered the test, name and manufacturer of tuberculin product used, lot number, expiration date, and reason for testing.

How Are TST Reactions Interpreted?

Skin test interpretation depends on two factors:

- Measurement in millimeters of the induration
- Person's risk of being infected with TB and of progression to disease if infected

The basis of the reading of the skin test is the presence or absence and the amount of induration (palpable, raised, hardened area). The induration is the positive reaction to the TST. The diameter of the induration should be measured transversely (i.e. perpendicular) to the long axis of the forearm and recorded in millimeters, even if read as negative. Erythema (redness) should not be measured. A tuberculin reaction is classified as positive based on the diameter of the induration in conjunction with certain patient-specific risk factors (refer to chart below).

Classification of the Tuberculin Skin Test Reaction

<p>An induration of 5 or more millimeters is considered positive in</p> <ul style="list-style-type: none"> • HIV-infected persons • A recent contact of a person with TB disease • Persons with fibrotic changes on chest radiograph consistent with prior TB • Patients with organ transplants • Persons who are immunosuppressed for other reasons (e.g., taking the equivalent of >15 mg/day of prednisone for 1 month or longer or taking TNF-α antagonists) 	<p>An induration of 10 or more millimeters is considered positive in</p> <ul style="list-style-type: none"> • Recent immigrants (< 5 years) from high-prevalence countries • Injection drug users • Residents and employees of high-risk congregate settings (i.e. correctional facilities, nursing homes, homeless shelters, hospitals, and other healthcare facilities) • Mycobacteriology laboratory personnel • Persons with clinical conditions that place them at high risk (i.e. diabetes) • Children < 4 years of age • Infants, children, and adolescents exposed to adults in high-risk categories 	<p>An induration of 15 or more millimeters is considered positive in any person, including persons with no known risk factors for TB. Although targeted skin testing programs should only be conducted among high-risk groups, certain individuals may require a TST for employment or school attendance. Diagnosis and treatment should always be tied to risk assessment.</p>
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What Are False-Positive Reactions?

Some persons may react to the TST even though they are not infected with *M. tuberculosis*. The causes of these false-positive reactions may include but are not limited to the following:

- Infection with nontuberculosis mycobacteria
- Previous BCG vaccination
 - BCG vaccination may cause a false-positive reaction to the TST, which may complicate decisions about prescribing treatment. The presence or size of a TST reaction in persons who have been vaccinated with BCG does not predict whether BCG will provide any protection against TB disease. The size of a TST reaction in a BCG-vaccinated person is not a factor in determining whether the reaction is caused by LTBI or the prior BCG vaccination.
 - Evaluation of TST reactions in persons vaccinated with BCG should be interpreted using the same criteria for those non BCG-vaccinated.
- Incorrect method of TST administration
- Incorrect interpretation of reaction
- Incorrect bottle of antigen used

What Are False-Negative Reactions?

Some persons may not react to the TST even though they are infected with *M. tuberculosis*. The reasons for these false-negative reactions may include, but are not limited to, the following:

- Cutaneous anergy (anergy is the inability to react to skin tests because of a weakened immune system)
- Recent TB infection (within 8-10 weeks of exposure)
- Very old TB infection (many years)
- Very young age (less than 6 months old)
- Recent live-virus vaccination (e.g., measles and smallpox)
- Overwhelming TB disease
- Some viral illnesses (e.g., measles and chicken pox)
- Incorrect method of TST administration
- Incorrect interpretation of reac

Who Can Receive a TST?

Most persons can receive a TST. The TST is contraindicated only for persons who have had a severe reaction (e.g., necrosis, blistering, anaphylactic shock, or ulcerations) to a previous TST. It is not contraindicated for any other persons, including infants, children, pregnant women, persons who are HIV-infected, persons who have received an organ(s) transplant, or persons who have been vaccinated with BCG.

Pregnancy and/or lactation (breast feeding).

There is no evidence that the tuberculin skin test has adverse effects on the pregnant mother or fetus (MMWR, June 9, 2000.) It is not contraindicated during lactation. The final decision about treatment lies with the woman and her physician unless there is a risk to the health of the public.

How Often Can a TST Be Repeated?

In general, there is no risk associated with repeated TST administrations. If a person does not return within 48-72 hours for a TST reading, a second test can be placed after 7 days. There is no contraindication to repeating the TST, unless a previous TST was associated with a severe reaction. However, ThedaCare Workplace Solutions recommends waiting for 7 days from the initial TST administration to convert from the One Step to the Two Step method.

Why is Two-Step Testing Conducted?

Two-step testing is useful for the initial skin testing of adults who are going to be retested periodically, such as health care workers or nursing home residents. This two-step approach can reduce the likelihood that a boosted reaction to a subsequent TST will be misinterpreted as a recent infection.

Visit 1, Day 1

Place the 1st TST and have the patient return in 7 days.

Visit 2, Day 7

Observe the first test for any abnormal reactions. If none, proceed to place a 2nd TST. If there are any abnormal reactions, do not proceed with the 2nd test.

Visit 3, Day 9 or 10

Read the 2nd test at 48-72 hours.

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.

Can the TST Be Given To Persons Receiving Vaccinations

Vaccination with live viruses may interfere with TST reactions. Persons scheduled to receive a TST should be done as follows:

- Either on the same day as vaccination with live-virus vaccine (s) or 4-6 weeks after the administration of the live-virus vaccine (s)
- At least one month after smallpox vaccination

QuantiFERON-TB test (QFT-G)

What is it?

The QFT-G is a whole blood test for use as an aid in diagnosing *Mycobacterium tuberculosis* infection, including latent tuberculosis infection (LTBI) and tuberculosis (TB) disease. This test was approved by the U.S. Food and Drug Administration (FDA) in 2005.

How does it work?

Blood samples are mixed with antigens (substances that can produce an immune response) and controls. For QFT-G, the antigens include mixtures of synthetic peptides representing two *M. tuberculosis* proteins, ESAT-6 and CFP-10. After incubation of the blood with antigens for 16 to 25 hours, the amount of interferon-gamma (IFN- γ) is measured. If the patient is infected with the *M. tuberculosis*, their white blood cells will release IFN- γ in response to contact with the TB antigens. The QFT-G results are based on the amount of IFN- γ that is released in response to the antigens.

What are the advantages?

- Requires a single patient visit to draw a blood sample.
- Results can be available within 1 – 2 weeks.
- Does not boost responses measured by subsequent tests, which can happen with tuberculin skin tests (TST).
- Is not subject to reader bias that can occur with TST.
- Is not affected by prior BCG vaccination

What are the disadvantages?

- Blood samples must be processed within 12 hours after collection while white blood cells are still viable.
- There are limited data on the use of QFT-G in children younger than 17 years of age, among persons recently exposed to *M. tuberculosis*, and in immunocompromised persons (e.g. impaired immune function caused by HIV infection or acquired immunodeficiency syndrome (AIDS), current treatment with immunosuppressive drugs, selected hematological disorders, specific malignancies, diabetes, silicosis and chronic renal failure).
- Errors in collecting or transporting blood specimens or in running and interpreting the assay can decrease the accuracy of QFT-G.
- Limited data on the use of QFT-G to determine who is at risk for developing TB disease.

When should you use QFT-G test for Detecting *Mycobacterium tuberculosis*?

- The CDC recommends that the QFT-G be used in all settings in which the TST is currently used, including contact investigations, evaluation of recent immigrants with BCG vaccination, and TB screening of health care personnel.
- The QFT-G can be used in place of (and not in addition to) the TST.
- The QFT-G can be used to confirm indeterminate TST result.
- The QFT-G does not differentiate between LTBI and active TB, therefore, a positive QFT-G result should prompt the same medical interventions as a positive TST result.
- No reason exists to follow a positive QFT-G result with a TST.

ThedaCare Workplace Solutions will use the QFT-G for the following individuals:

1. Indeterminate second TST
2. Employees of companies that prefer the QFT-G over TST.
3. Patients that have had severe adverse reactions to TST.
4. Prior BCG vaccination with a newly positive TST.

What are the steps in administering the test?

- Draw a sample of whole blood from the patient following QFT-G Standard Work.

SCHOOL DISTRICT OF MANAWA

521.1

STAFF PHYSICAL EXAMINATIONS

The Board shall require a physical exam, including a chest x-ray or tuberculin test, of all school employees as a condition of entering employment with the School District of Manawa. This physical examination shall be conducted as required in state law.

An employee may be exempt from the physical examination requirement for religious reasons if an affidavit has been filed with the Board claiming such exemption. The Board may, however, require a physical examination if there is reasonable cause to believe that such an employee is suffering from an illness detrimental to the health of students. No employee shall be discriminated against by reason of his/her filing of an affidavit.

The Board shall pay up to an amount established by the Board to assist in covering the cost of chest x-ray for non-instructional personnel, and as specified in the collective bargaining agreement for instructional personnel.

Staff physical examination forms shall be maintained in a separate file from other personnel records, and shall be made available only to those individuals specifically authorized by law.

LEGAL REF.: Sections 103.15 Wisconsin Statutes
118.25
121.52(3)
Americans with Disabilities Act of 1990

CROSS REF.: MEA Agreement

APPROVED: March 1987

REVISED: July 31, 2000
December 17, 2001

Health Examinations for School District Employees

Section 118.25 of the Wisconsin Statutes states as a condition of employment, school boards, except Milwaukee, shall require a physical examination, including a chest X-ray, or tuberculin test, of every school employee of the school district. The employing school district or agency shall pay the cost of such examinations. Freedom from tuberculosis in a communicable form is a condition of employment.

In the case of a new school employee, the school board may permit the school employee to submit proof of an examination, chest X-ray, or tuberculin test complying with this section, which was taken within the past 90 days in lieu of requiring such examination, X-ray, or test. If the reaction to the tuberculin test is positive, a chest X-ray shall be required. Additional physical examinations shall be required thereafter at intervals determined by the school board.

The school employee shall be examined by a physician in the employ of or under contract with the school district, but if a physician is not employed or under contract, the examination shall be made by a physician selected by the school employee.

If a physical exam, tuberculin test, or chest X-ray is contrary to the religious and/or spiritual beliefs of the employee, the employee may sign an affidavit stating to the best of their knowledge and belief they are in good health.

As a condition of employment, special teachers, school psychologists, school social workers, cooperative educational service agency personnel, and other personnel working in public schools must have physical examinations.

THE DA CARE™

AT WORK TB Screening Test

First Name:	Last Name:	Date:
Employer Name:		
Date of Birth:	Age:	Gender:

☐ Annual ☐ Pre-Placement ☐ Other _____

☐ **STEP ONE OF ONE** Site: ☐ Right Arm ☐ Left Arm PPD Type: ☐ Aplisol ☐ Tubersol
Lot #: _____ Expiration Date: _____ Signature: _____ Date Given: _____ Time: _____

****Read after(48 Hrs) Date: _____ Time: _____ Read before(72 Hrs) Date: _____ Time: _____****

Description of Results:

☐ Negative ☐ Doubtful ☐ Positive Induration _____ mm Erythema _____ mm
☐ No adverse reaction Description of adverse reaction: _____

Signature: _____ Date Read: _____ Time Read: _____

☐ STEP ONE OF TWO

☐ Visit 1, Day 1: Placement of first TST.

Site: ☐ Right Arm ☐ Left Arm PPD Type: ☐ Aplisol ☐ Tubersol Lot #: _____ Expiration Date: _____
Signature: _____ Date Given: _____ Time: _____

☐ Instructed to return for Step 2 on: Date: _____ or ☐ Instructed to return to have Step 1 read*

*Company requests Step 1 be read

ThedaCare At Work's standard is to not read Step 1 due to increased risk of a false negative result. This section is only used when company requires documentation of Step 1 reading.

Read after Date: _____ Time: _____ 48 hours Read before Date: _____ Time: _____ 72 hours

Description of Results:

☐ Negative ☐ Doubtful ☐ Positive Induration _____ mm Erythema _____ mm
☐ No adverse reaction Description of adverse reaction: _____

Signature: _____ Date Read: _____ Time Read: _____

☐ STEP TWO OF TWO

☐ Visit 2, Day 7: Observe the first TST for Abnormal Reactions. If none, place second TST.

Description of first TST Site:

☐ No adverse reaction Description of adverse reaction: _____
☐ Positive Induration _____ mm Erythema _____ mm

Placement of second TST: Site: ☐ Right Arm ☐ Left Arm PPD Type: ☐ Aplisol ☐ Tubersol

Lot #: _____ Expiration Date: _____ Signature: _____ Date Given: _____ Time: _____

☐ Visit 3, Day 9 or 10: Read second TST 48-72 hours after.

****Read after(48 Hrs) Date: _____ Time: _____ Read before (72 Hrs) Date: _____ Time: _____****

Description of Results:

☐ Negative ☐ Doubtful ☐ Positive Induration _____ mm Erythema _____ mm
☐ No adverse reaction Description of adverse reaction: _____

Signature: _____ Date Read: _____ Time Read: _____

Guidelines: (1) Must be read within 48-72 hours. (2) Measure Palpable induration (not erythema): Negative: 0-4mm, Doubtful: 5-9mm, Positive: >10mm

RECORD OF SCHOOL EMPLOYEE EXAMINATION

ss. 118.25(2)(a)(b)(c), 4, 5, and 6—Full text printed on reverse—as amended

*As a condition of employment, the school board shall require a physical examination, including a chest X-ray or tuberculin test, of every school employee of the school district. Freedom from tuberculosis in a communicable form is a condition of employment.

(Section 118.25(2)(a) of the Wisconsin Statutes)

GENERAL INFORMATION	
Employee Name	Birthday (Mo./Day/Yr.)
Address Street, City, State, Zip	

I. RESULTS OF SCREENING AND DIAGNOSTIC PROCEDURES FOR TUBERCULOSIS

A negative tuberculin skin test (less than 10 mm, induration) or a negative chest x-ray will satisfy state requirements. If the tuberculin test is positive (10 mm or greater induration) a 14x17 chest x-ray must be taken. If a chest x-ray is suspicious for tuberculosis, then additional studies should be performed to determine a diagnosis.

A. Mantoux Tuberculin Test / TB Gold		B. Chest X-ray	
Date Applied / Drawn	Date Read / Approved	Date of X-ray	Place Taken
Result		Interpretation	
_____ mm of induration		<input type="checkbox"/> Normal <input type="checkbox"/> Abnormal <input type="checkbox"/> Abnormal, recommend additional studies to rule out active disease	

C. Are there any significant findings which may influence this individual's effectiveness as a school employee?
☐ No ☐ Yes If yes, Please Indicate Result(s) of Findings and Recommended Follow-Up.

II. PHYSICIAN'S RECOMMENDATIONS AND CERTIFICATE OF SCHOOL EMPLOYEE EXAMINATION

THIS WILL CERTIFY THAT I, the examining physician; licensed to practice medicine in the State of Wisconsin, have examined the above named school employee as required by statute on, _____ (Date) and find the above named individual

☐ to be free ☐ not to be free from tuberculosis in a communicable form at the time of examination. On the basis of the examination
☐ I do ☐ I do not recommend this person as physically suitable for employment. The individual named herein has been informed of these recommendations.

Name of Examining Physician

Signature

Date

Return this form to the school district.

SECTION 118.25(1) - (6) of the WISCONSIN STATUTES, as amended

118.25 Health examinations. (1) In this section "school employee" means a person employed by a school board who comes in contact with children or who handles or prepares food for children while they are under the supervision of school authorities.

(2) (a) As a condition of employment, the school board, except in 1st class cities, shall require a physical examination, including chest X-ray or tuberculin test, of every school employee of the school district. Freedom from tuberculosis in a communicable form is a condition of employment. In the case of a new school employee, the school board may permit the school employee to submit proof of an examination, chest X-ray or tuberculin test complying with this section which was taken within the past 90 days in lieu of requiring such examination, X-ray or test. If the reaction to the tuberculin tests is positive, a chest X-ray shall be required. Additional physical examinations shall be required thereafter at intervals determined by the school board. The school employee shall be examined by a physician in the employ of or under contract with the school district, but if a physician is not employed or under contract, the examination shall be made by a physician selected by the school employee.

(b) Such physical examinations, chest X-rays or tuberculin tests shall not be required of any school employee who files with the school board an affidavit setting forth that the employee depends exclusively upon prayer or spiritual means for healing in accordance with the teachings of a bona fide religious sect, denomination or organization and that the employee is to the best of the employee's knowledge and belief in good health and that the employee claims exemption from health examination on these grounds. Notwithstanding the filing of such affidavit, if there is reasonable cause to believe that such employee is suffering from an illness detrimental to the health of the pupils, the school board may require a health examination of such school employee sufficient to indicate whether or not such school employee is suffering from such an illness. No school employee may be discriminated against by reason of the employee filing such affidavit.

(c) The physician making a physical examination shall prepare a report of the examination upon a standard form prepared by the department of health and family services and the department. Such report shall be retained in the physician's files and the physician shall make confidential recommendations therefrom to the school board and to the school employee on a form prepared by the department of health and family services and the department. The recommendation form shall contain space for a certificate that the person is free from tuberculosis in a communicable form. The cost of such examinations, including X-rays and tuberculin tests, shall be paid out of school district funds.

(3) In counties having a population of less than 500,000, the school board may require periodic health examinations of pupils by physicians, under the supervision of local health departments and the department of health and family services, and may pay the cost of the examinations out of school district funds.

(4) If a health or physical examination made under this section includes the testing of vision, such test may be made by an optometrist. Forms used for reporting such vision tests shall so indicate.

(5) As a condition of employment, special teachers, school psychologists, school social workers, co-operative educational service agency personnel and other personnel working in public schools shall have physical examinations under sub. (2). The employing school district or agency shall pay the cost of such examinations.

(6) As a condition of employment, employees of the state superintendent whose work brings them into contact with school children or with school employees shall have physical examinations under sub. (2).



**BD
Tuberculin Syringe with
Detachable Needle**

Features a Luer Slip tip. Sterile.

Regular Bevel

ITEM#	SPECS	PKG	REG	SALE
08799	25G x 5/8", 1cc	Box/100	23.89	17.99
08788	27G x 1/2", 1cc	Box/100	23.89	17.99

Intradermal Bevel

08805	26G x 3/8", 1cc	Box/100	23.89	18.29
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**BD
3cc Luer-Lok™ Syringe with
PrecisionGlide™ Needle
Combination**

With LUER-LOK® Tip Sterile.

ITEM#	SPECS	COLOR	PKG	REG	SALE
08789	18G x 1-1/2"	Pink	Box/100	19.69	14.99
08786	20G x 1"	Yellow	Box/100	19.69	14.99
08787	20G x 1-1/2"	Yellow	Box/100	19.69	14.99
08782	21G x 1"	Green	Box/100	19.89	14.99
08785	21G x 1-1/2"	Green	Box/100	19.89	14.99
04573	22G x 3/4"	Black	Box/100	19.89	14.99
06016	22G x 1"	Black	Box/100	19.89	14.99
08780	22G x 1-1/2"	Black	Box/100	19.89	14.99
08778	23G x 1"	Blue	Box/100	19.89	14.99
08777	25G x 5/8"	Blue	Box/100	19.89	14.99
08784	25G x 1"	Blue	Box/100	19.89	14.99
08781	25G x 1-1/2"	Blue	Box/100	19.89	14.99

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Account Manager
to sign up today!

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**BD
Syringe Only**

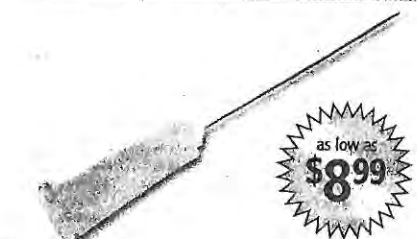
Sterile, single use.

LUER-LOK® Tip

ITEM#	SPECS	PKG	REG	SALE
96297	3cc	Box/200	27.89	18.89
08821	10cc	Box/100	25.39	15.99
12813	20cc	Box/48	29.29	18.29
13974	30cc	Box/56	36.39	23.49
65510	60cc	Box/40	51.69	37.29

Tuberculin Syringe - Luer Slip Tip

96300	1cc	Box/200	35.49	27.59
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**BD
PrecisionGlide™ Hypodermic
Needle**

Stainless steel cannula and a polypropylene hub. Strong construction, superior sharpness and lubrication to reduce pain from injection. Sterile.

Regular Wall, Regular Bevel

ITEM#	SPECS	PKG	REG	SALE
62842	16G x 1-1/2"	Box/100	30.59	23.29
38588	18G x 1"	Box/100	12.39	8.99
08825	18G x 1-1/2"	Box/100	12.39	8.99
08826	20G x 1"	Box/100	12.39	8.99
08827	20G x 1-1/2"	Box/100	12.39	8.99
08828	21G x 1"	Box/100	13.19	9.99
08830	21G x 1-1/2"	Box/100	13.19	9.99
79343	21G x 2"	Box/100	33.79	25.99
08831	22G x 1"	Box/100	13.19	9.99
08832	22G x 1-1/2"	Box/100	13.19	9.99
08834	23G x 1"	Box/100	13.19	9.99
08835	25G x 5/8"	Box/100	13.19	9.99
28099	25G x 1"	Box/100	13.19	9.99
08836	25G x 1-1/2"	Box/100	13.19	9.99
08839	26G x 1/2"	Box/100	13.19	9.99
08838	27G x 1/2"	Box/100	13.19	9.99
37807	27G x 1-3/4"	Box/100	17.09	13.99
11157	30G x 1/2"	Box/100	43.09	31.99
51944	30G x 1"	Box/100	43.09	31.99

Thin Wall, Regular Bevel

13973	19G x 1-1/2"	Box/100	12.39	8.99
65544	23G x 1-1/2"	Box/100	13.19	9.99

Regular Wall, Intradermal Bevel

08837	26G x 3/8"	Box/100	13.19	9.99
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EXEL INTERNATIONAL

**Hypodermic Disposable
Needle**

Regular Bevel. Latex free. Sterile, non-toxic, pyrogen free. 18/8 stainless steel. Needles and boxes are color-coded for easy identification. Each needle is individually packaged, sterilized and ready for use.

Needle Only

ITEM#	SPECS	PKG	REG	SALE
79583	18G x 1"	Box/100	7.39	5.79
79584	18G x 1-1/2"	Box/100	7.39	5.79
79586	19G x 1-1/2"	Box/100	7.39	5.79
79581	20G x 1"	Box/100	7.39	5.79
79582	20G x 1-1/2"	Box/100	7.39	5.79
79579	21G x 1"	Box/100	7.39	5.79
79580	21G x 1-1/2"	Box/100	7.39	5.79
79577	22G x 1"	Box/100	7.39	5.79
79578	22G x 1-1/2"	Box/100	7.39	5.79
79576	23G x 1"	Box/100	7.39	5.79
79573	25G x 5/8"	Box/100	7.39	5.79
79574	25G x 1"	Box/100	7.39	5.79
79575	25G x 1-1/2"	Box/100	7.39	5.79
79572	26G x 1/2"	Box/100	7.39	5.79
79571	27G x 1/2"	Box/100	7.39	5.79
79585	27G x 1-1/4"	Box/100	7.39	5.79
79587	30G x 1/2"	Box/100	7.59	5.79



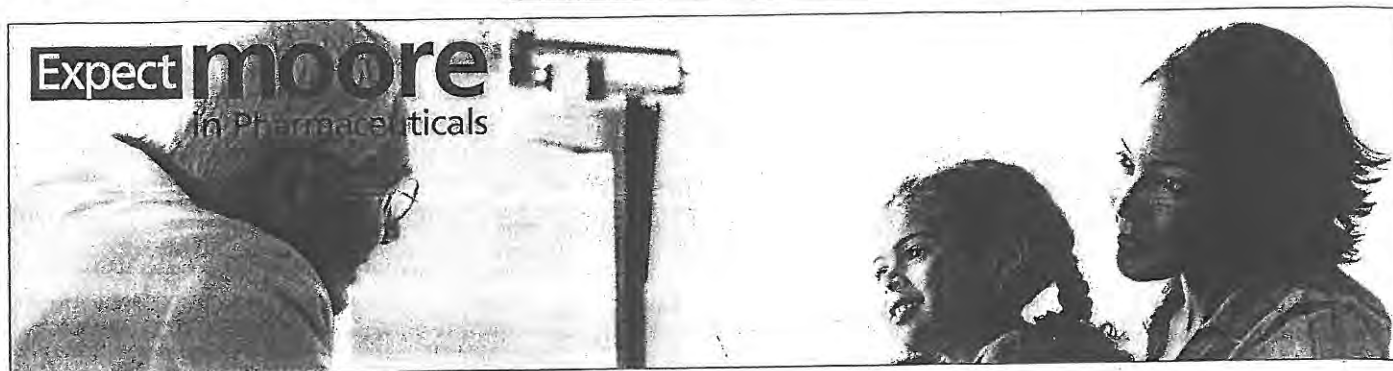
EXEL INTERNATIONAL

Syringe with Needle 3cc

3cc Syringe with needle. Luer Lock tip. Latex free, sterile, non-toxic, pyrogen free. Positive plunger to prevent spillage when drawing with smooth plunger motion. Polypropylene construction.

ITEM#	SPECS	PKG	REG	SALE
79550	25G x 5/8"	Box/100	12.69	9.69
79551	23G x 1"	Box/100	12.69	9.69
79552	22G x 1"	Box/100	12.69	9.69
79553	22G x 1-1/2"	Box/100	12.69	9.69
79554	21G x 1"	Box/100	12.69	9.69
79555	21G x 1-1/2"	Box/100	12.69	9.69
79556	20G x 1"	Box/100	12.69	9.69
79557	20G x 1-1/2"	Box/100	12.69	9.69
79558	18G x 1-1/2"	Box/100	12.69	9.69
79559	25G x 1"	Box/100	12.69	9.69
79560	25G x 1-1/2"	Box/100	12.69	9.69

You can also FAX your order to 800-944-6667; or, go to www.mooremedical.com/newcustomer



ITEM#	SPECS	PKG	MFR	REG	SALE
RABIES VACCINE					
65652	IMOVAX® Rabies Vaccine - 1mL SDVial - ㊟	Each	Sanofi Pasteur	388.00	300.00
22504	RABAVERT® Rabies Vaccine - 1mL Single Dose Kit - ㊟	Each	Novartis	413.00	351.00
ROTAVIRUS VACCINE					
97731	ROTARIX® Oral Vaccine - 1mL SDTube - ㊟	Pck/10	GlaxoSmithKline	1505.00	1250.00
81615	ROTATEQ® Oral Vaccine - 2mL SDTube - ㊟	Pck/10	Merck Human Health	1130.00	915.00
TETANUS AND DIPHTHERIA TOXOIDS (Td)					
99433	TENIVAC™ - 0.5mL SDVial Adult - ㊟	Pck/10	Sanofi Pasteur	339.00	275.00
99434	TENIVAC™ - Pre-filled Luer-Lok Syringe 0.5mL (Age 7 and Up) - ㊟	Pck/10	Sanofi Pasteur	339.00	275.00
84756	TETANUS AND DIPHTHERIA TOXOIDS ADSORBED, PRESERVATIVE FREE - 0.5mL SDVial Adult - ㊟	Pck/10	AKorn	317.00	269.00
TETANUS, DIPHTHERIA, AND ACCELLULAR PERTUSSIS (Tdap)					
83864	ADACEL™ - 0.5mL SDVial - ㊟	Pck/10	Sanofi Pasteur	540.00	475.00
86756	ADACEL™ - 0.5mL SDSyringe without Needle - ㊟	Pck/5	Sanofi Pasteur	281.00	235.00
77979	BOOSTRIX® - 0.5mL SDVial - ㊟	Pck/10	GlaxoSmithKline	575.00	425.00
97654	BOOSTRIX® - 0.5mL Tip-Lok® Pre-filled Syringe - ㊟	Pck/10	GlaxoSmithKline	575.00	425.00
TUBERCULOSIS					
85059	APLISOL® Tuberculin Purified Protein Derivative, Diluted - 10-Test, 1mL Vial - ㊟	Each	JHP Pharmaceuticals	77.59	57.09
85060	APLISOL® Tuberculin Purified Protein Derivative, Diluted - 50-Test, 5mL Vial - ㊟	Each	JHP Pharmaceuticals	231.00	180.00
10733	TUBERSOL® Tuberculin Purified Protein Derivative (Mantoux) - 10-Test, 1mL Vial - ㊟	Each	Sanofi Pasteur	76.69	59.99
10734	TUBERSOL® Tuberculin Purified Protein Derivative (Mantoux) - 50-Test, 5mL Vial - ㊟	Each	Sanofi Pasteur	278.00	205.00
TYPHOID					
50889	TYPHIM VI®, Typhoid Vi Polysaccharide Vaccine - 0.5mL Pre-filled Luer-Lok® Syringe without Needle - ㊟	Each	Sanofi Pasteur	98.99	84.99
86734	TYPHIM VI®, Typhoid Vi Polysaccharide Vaccine - 20 Dose MDVial - ㊟	Each	Sanofi Pasteur	1355.00	1250.00
45309	VIVOTIF® Typhoid Live Oral Ty21a Capsules - ㊟	Pck/4	Berna Products	53.89	45.99
VARICELLA VACCINE (CHICKEN POX)					
51176	VARIVAX® Varicella Virus Vaccine, Live - 0.5mL SDVial Lyophilized w/Diluent - ㊟	Pck/10	Merck Human Health	1205.00	1040.00

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