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# guidelines

for initiating a
school-based directly observed
therapy program

New Jersey
Medical School
National
Tuberculosis
Center

*A Founding Component of the International Center for Public Health*

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The New Jersey Medical School National Tuberculosis Center is a joint project of the UMDNJ-New Jersey Medical School and the New Jersey Department of Health and Senior Services. Funding is provided in part by a cooperative agreement from the Centers for Disease Control and Prevention, Division of Tuberculosis Elimination.



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## ADVANTAGES OF SCHOOL-BASED DIRECTLY OBSERVED THERAPY

The standard of care for tuberculosis (TB) disease is directly observed therapy (DOT) for the entire treatment period. While DOT for treatment of latent TB infection is also recommended, it is strongly suggested for individuals at high risk for progression to active TB disease. In both cases, this principle especially applies to treatment for children. The school setting is an ideal place for a child to receive medication for tuberculosis infection and disease. A child attends school five days a week where a school nurse is available to observe, document, and assess the child for effects of medication on a consistent basis. Directly observed therapy for anti-TB medication can be administered daily or intermittently in the school setting, depending upon the child's medication regimen.

DOT varies dependent upon local laws, available resources, staff, and the structure of practice settings. These guidelines will assist the health department in developing a school-based DOT program and policies to enable the success of this program. You should customize these guidelines specifically to your area. These guidelines make specific reference to the "Tuberculosis School Nurse Handbook." We suggest that you become familiar with the Handbook's contents before you continue.[1]

1. *The "Tuberculosis School Nurse Handbook" can be found on the NJMS National TB Center's website at http://www.umdnj.edu/ntbcweb or by calling (973) 972-0979.*

## ESTABLISHING SCHOOL-BASED DOT

The 'referral source' for DOT can be a health department, physician, ambulatory care setting, chest clinic, or a combination of providers who treat children with TB infection or disease. For example, a physician in a private setting may be treating a case of TB or latent TB infection (LTBI), but utilize a local TB program to manage the DOT aspects of the case.

While ideal to provide universal DOT, in areas where resources are limited, patients for whom DOT is provided should be prioritized. High priority DOT patients include children:

- 4 years of age and under
- Co-infected with HIV and/or having other immunocompromising conditions such as diabetes and prolonged corticosteroid use
- With evidence of recent skin test conversion
- Recently exposed to an infectious case of TB and/or being treated for LTBI. This priority is increased for children exposed to drug-resistant TB cases
- At high risk for non-adherence

The referral source must assign a registered nurse (RN) to be the coordinator for the school-based DOT program. In turn, the coordinator can then delegate outreach staff to work with nurses after the initiation of the DOT program. Outreach staff can consist of

field nurses or other health care workers who are specifically trained to provide DOT. Outreach staff should be familiar with protocols and prearranged plans for school-based DOT, if the program coordinator is absent or unavailable.

To set up a DOT program, the DOT program coordinator must do the following:

1. If necessary, obtain consent from the supervisor of the nurse to administer DOT. Cooperation can then be elicited from the participating school nurse. It is important that the school nurse understand the responsibilities regarding the provision of DOT and the responsibilities of the referral source. The DOT program coordinator should also become familiar with the school district's policies on medication administration in school.
2. Telephone the school nurse to tell him/her that the child has been placed on DOT and explain why it is in the child's best interest that the school nurse administers the medications.
3. Make an appointment to visit the school to set up the program. Bring the following to the school nurse during the first visit:
   - Parental consent form (See Appendix A)
   - Clinician orders for each medication (See Appendix A)
   - DOT log to be signed each time the child receives DOT or for each unsuccessful attempt of DOT with reason, such as absence or refusal of medications (See Appendix B)
   - An information packet which contains the following:
     - Fact sheet with written information about the referral source such as name of child's clinician and case manager, phone/fax number for consultation, hours of operation, and services available
     - New Jersey Medical School National Tuberculosis Center's "Tuberculosis School Nurse Handbook"
4. Give bottle(s) of medication as prescribed by the clinician. All bottles should be labeled with the name of patient, name and dose of medication(s) and time taken. Medication may need to be administered daily, however, intermittent therapy (dosing 2-3x, Monday - Friday) for TB infection and disease is convenient for both the child and school nurse.
5. Discuss the following with the school nurse:
   - Method for supplying medication from chest clinic or local health department
   - Plans for DOT during the school day including time and place. Schedules for dosing should be consistent each week to avoid confusion. However, if medications are missed or school closings occur, other medication patterns can be employed

- Method for pill/capsule swallowing including crushing and, if necessary, taking pills with food
- Procedure for completing the DOT log, documenting each day the medication was observed or missed (See Appendix B)
- Absentee and school closing procedure (See p. 4 and p. 5)
- Documentation and assessment of the child for side effects, adverse reactions to medication(s), and other barriers to successful DOT (See Appendix B)
- Assessment of behavioral concerns, e.g., difficulty swallowing medications, non-adherence, not appearing for medications, etc.
- Provision of available incentives and enablers to enhance adherence

**6.** If wide scale school-based DOT is being implemented, it may be helpful to do an educational program on TB and DOT for a number of school nurses. The information contained in the Handbook, along with local epidemiology of TB, can form the basis of such an educational program.[1]

1. *Information on TB education for school nurses can be found on the NJMS National TB Center's website at http://www.umdnj.edu/ntbcweb or by calling (973) 972-0979.*

## FOLLOW-UP DURING THE COURSE OF TREATMENT

**Latent TB Infection:**

At the end of each month the school nurse should fax/mail the completed DOT log to the chest clinic or local health department. At the initiation of treatment, the school nurse can be provided with blank DOT logs for the course of treatment. An alternative would be to send a new form monthly for the school nurse. Medication should be delivered to the nurse. This delivery schedule may be modified based upon the child's medical status, available resources, and relationship with the school nurse. The outreach worker should question the school nurse regarding any problems encountered. If needed,

the DOT program coordinator can visit the school to discuss any issues and assist with problem solving.

**TB Disease:**

As with TB infection, medications for TB disease should be delivered monthly, along with a new DOT log and assessment form. Due to possible complications involved in treatment for TB disease, the DOT program coordinator should either visit or phone the school nurse on a monthly basis to discuss any observed problems or successes. The coordinator should let the school nurse know about any pending clinician appointments so that reminders can be provided by the school nurse to the student.

The clinician should determine the schedule for regular visits to monitor the child's progress in treating TB infection and disease. It would be beneficial for the DOT coordinator to inform the school nurse of the medical management and any issues that may arise during the clinic visit. Regardless of the frequency of these visits, the school nurse's monthly completion of the assessment form, outreach worker visits to the school, and ongoing communication between the DOT program coordinator and school nurse are crucial to the follow-up process.

## SCHOOL ABSENTEEISM

An absentee procedure must be implemented at the onset of DOT. Issues related to school absenteeism are very different for treatment of TB disease and latent TB infection.

**TB Disease:**

If a child with TB disease is receiving DOT and is absent from school, the school nurse should inform the DOT coordinator in the morning or as soon as possible. Then arrangements can be made for outreach staff to provide DOT at the child's home or alternative location on a given day.

**Latent TB Infection:**

For latent TB infection, missed doses will result in an extension of treatment.

Completion for treatment for LTBI is 76 doses over 12 months. To determine treatment completion, the DOT coordinator should count the doses per month, not the percentage adherence per month. For example, there may be only 3 opportunities in a certain month for DOT in school. If a child received these 3 doses, this will be calculated as 100% adherence. However, these are only 3 of a total of 76 doses required to complete treatment.

For children who are non-adherent, the parent or guardian should be contacted along with the DOT coordinator. An alternative plan may need to be established for such children.

Various circumstances may alter the way in which medications are administered. A proactive approach must be taken for dealing with holidays and weather-related or emergency school closings. Plans for school closings of one day to several days should be initiated at the start of DOT. To begin with, it is important that the DOT coordinator obtain a copy of the school holiday calendar in advance. He/she should also be aware of methods for finding out about emergency school closings. In this way, the DOT coordinator can be prepared to deal with treatment at home for TB disease or an extension of treatment for TB infection.

**DOT for TB Disease:**

It is the standard of care for children that DOT for TB disease continues for all patients during school closings, student absences, and for the entire duration of treatment.

Arrangements should be made for DOT at home during holidays and unplanned school closings due to inclement weather or other emergencies. Emergency packs of medications can be provided in advance to be used if DOT cannot be administered by neither the school nurse nor the health department. However, the school nurse should not be responsible for advising the family to use an emergency pack. The DOT coordinator should contact the child's parent/guardian during unplanned school closings and instruct him/her on the use of emergency medication packs. *Under no circumstances should a school nurse give a child a bottle of medications to take home.*

**DOT for Latent TB Infection:**

For children receiving twice-weekly DOT in school for LTBI, no medication is given during planned or unplanned school closings. The treatment period is extended to allow for 76 doses in the course of 12 months. In some cases, a child may start treatment in the middle of a school year and is unable to complete treatment by the end of the school year. Under this circumstance, the regimen can be changed from directly observed to self-administered. Alternatively, the health department can take over the DOT responsibility during summer months or other school closings.

**Gaps in treatment -** Emphasis is placed upon the number of doses received under treatment for LTBI. As 76 doses are required for treatment completion, limited, short gaps in treatment are not a major concern. *However, this only applies to treatment for LTBI and not for TB disease, for which there should be no gaps in treatment.*

The question often arises concerning restarting treatment for LTBI when there have been extended gaps in treatment. The treating clinician should make the determination concerning restarting or continuing treatment.

## COLLABORATION AND COMMUNICATION

The clinician should communicate frequently during the beginning stages of school-based DOT. The clinician has an obligation to elicit solutions to barriers and solve problems as necessary.

Two-way feedback between the nurse and the clinician is essential throughout DOT. Any concerns occurring from either side must be relayed with the best interests of the child in mind. The relations between the school nurse and the referral source must be kept strong for the sake of the child and for future DOT opportunities that may result from this newly established relationship.

## QUALITY ASSURANCE

At the end of treatment, the DOT coordinator should interview the school nurse regarding the school-based DOT experience. If an interview cannot be done, a written evaluation can be completed by the nurse. The evaluation and/or interview should include reports of successes and barriers to DOT related to the patient, patient's family, school environment, referral source, and the DOT procedure itself (See Appendix C). These reports should be maintained and reviewed by management for quality assurance purposes. This information is valuable in setting or revising standards of practice, policies, and procedures.

## CONCLUSION

In your role as a health care provider, you recognize the importance of providing DOT in the most beneficial manner. This includes tailoring services to the population you serve. School-based DOT is one way of assuring valuable health promotion and building coalitions within your community. Most importantly, it improves treatment outcomes in children.

**Request for Medication Administration by a School Nurse**

## Parental Request

Student _____ DOB _____ Grade _____ RM# _____

I, the parent/guardian of the above named, request that medication prescribed by a physician be administered to the above named by the School Nurse. I agree to arrange for the supply of medications to be given to the School Nurse.

_____

Signature Address

_____

Date Phone

## Physician's Statement

In order to protect the health of the above named, it is necessary for her/him to have the following medication during school hours.

Medication _____

Dosage _____

Time to be administered _____

Any possible side effects that might be expected _____

Purpose of Medication _____

Length of time medication is to be given prior to reevaluation _____

_____

DIAGNOSIS _____

I authorize the School Nurse to administer the above medication.

_____

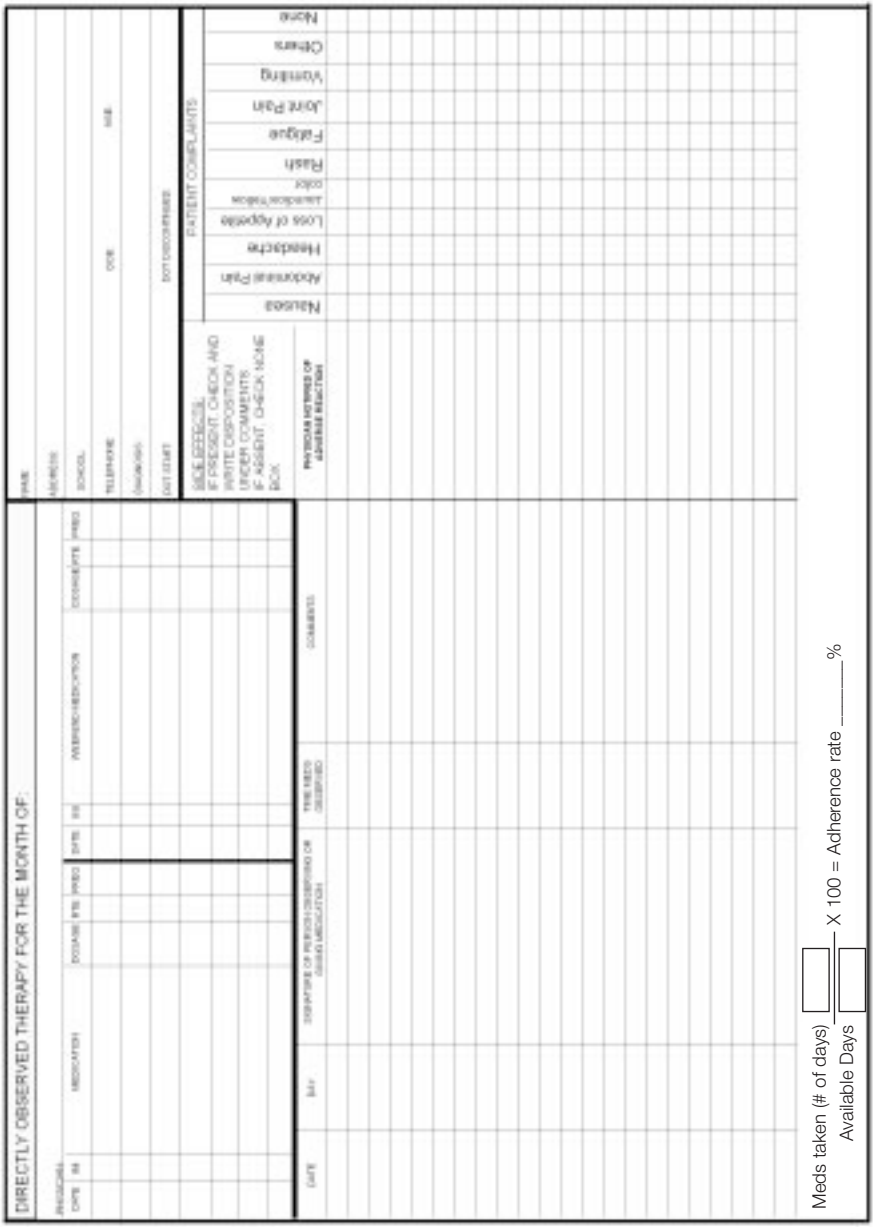
Signature Address

_____

Date Phone

*Adapted from Jersey City School Districts, Jersey City, New Jersey.*

*Available in PDF format at: http://www.umdnj.edu/ntbcweb/guide.html*




*Available in PDF format at: http://www.umdnj.edu/ntbcweb/nurse.html*

**School Nurse Evaluation of School-Based Directly Observed (DOT) Program**

The school-based DOT has had a direct impact on improving completion of treatment rates for children with latent TB infection and TB disease. The effort and collaboration of school nurses has made this program so successful. Your evaluation of this program is very important to us for future planning. Please complete the following questions. Your comments and suggestions will be greatly appreciated.

1. At the initiation of DOT at your school, were you given adequate information to implement DOT without difficulty?
   YES NO (Circle one)
   If no, what additional information would have been helpful?

_____

_____

2. Did you encounter any barriers?
   YES NO (Circle one)
   If yes, what types of problems occurred? Please address communication with health department and/or patient/patient's family, and the environment in which DOT was provided.

_____

_____

_____

_____

3. Was the required documentation easy to complete?
   YES NO (Circle one)
   If no, what could have made the documentation easier to complete?

_____

_____

_____

_____

4. What aspects of the program would you change?

_____

_____

_____

5. Any other comments?

_____

_____

_____

*Thank you for your feedback and commitment to the DOT program!*

*Available in PDF format at: http://www.umdnj.edu/ntbcweb/guide.html*

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