

APPENDIX H

TIPS FOR ADMINISTERING TB MEDICATIONS

Taking TB medications can be difficult, particularly for young children and other clients that find pills or capsules hard to swallow. Other factors, such as taste or smell, can also make taking TB medications unpleasant. Over time, aversions to some or all of the medications, and to the liquids or foods they are taken with, can develop. This appendix provides general information on options for taking TB medications, and some suggestions on how to avoid or manage common difficulties.

The information provided in this appendix has been adapted from Appendix E of the Alberta Health and Wellness Tuberculosis Prevention and Control Guidelines (2010) and the Directly Observed Therapy Manual for DOT Programs in British Columbia (2011), and reviewed by Vaccine and Pharmacy Services at the BC Centre for Disease Control.

Health care providers are encouraged to consult YCDC TB Control whenever difficulties arise during treatment for active TB disease or LTBI, particularly those that are not addressed in this document or not adequately resolved by the options and suggestions provided here.

General Information and Recommendations

A. Crushing, Fragmenting, or Dissolving Tablets, and Opening Capsules

- Isoniazid, ethambutol, and pyrazinamide tablets can be crushed or broken into smaller pieces. Crushed pills have a stronger flavour than pills cut in half or pills taken as small pieces.
- Rifampin and rifabutin capsules can be pulled apart and emptied into small amounts of food or liquid.
- Crushed tablets or opened capsules, administered with a small amount of food is preferable to using liquid forms of TB medications, especially isoniazid. The syrup form of isoniazid is unlikely to be tolerated in amounts greater than 10 mL to 15 mL (i.e., doses in excess of 100–150 mg) because sorbitol used in

the preparation of the liquid form of isoniazid can cause abdominal pain, cramping, and/or diarrhea.

- Crushed or opened medication should be mixed with food or liquid *immediately* before administration. If the medication is not administered **within 30 minutes** after mixing, it should be discarded and a new dose prepared.
- Crushed ethambutol tablets will dissolve in liquid, usually within 10 minutes.

B. Taking with Food

- Isoniazid should be taken on an empty stomach (i.e., 1 hour before meals or 2 hours after eating). If taking isoniazid on an empty stomach causes stomach upset, it can be taken with small amount of low-fat, sugar-free food. **Fats slow the absorption of isoniazid and sugars inactivate isoniazid. When choosing foods or liquids to take with isoniazid or to give in the hour after isoniazid is taken it is important to avoid those that contain fats or sugars.**
- It is better to hide bitter or unpleasant medicines in a food that a child has never eaten before. If a food they have had before is used, they are more likely to notice something has been added to it and may refuse it or spit it out.
- When mixing medications with a food or liquid, use the smallest quantity/volume possible. Medicated food or liquid should be followed by ingestion of food or liquid without medications.
- Tablets should be crushed and mixed (or layered) with one or two spoonfuls of liquid or food. Some options for using with clients taking isoniazid include non-fat and artificially sweetened puddings or yogurt, mashed bananas, and unsweetened applesauce or baby food.
- Applesauce works well for administering rifampin or rifabutin that has been removed from its capsule.

- Isoniazid, rifampin, pyrazinamide and ethambutol can be given together, i.e., mixed together in the same small amount of food. However, this amount of medication mixed into a small amount of food may not be well accepted by the client. It may be necessary to mix each medicine with a small amount of food and to then administer each medicine individually, one after another.

C. Tips for Those with Difficulty Swallowing: Tablets SINK, Capsules FLOAT

- Tablets tend to sink; tilting the head backward slightly can make them easier to swallow.
- Capsules tend to float; tilting the head down slightly can make them easier to swallow.

D. Recommendations for Administering TB Medications to Infants

- If possible, schedule medications for when the infant is hungry.
- The syrup form of isoniazid might be better tolerated by infants than older children.
- Liquid medications should be measured and given to an infant using a medicine dropper with a large tip, an oral medical syringe, or the nipple of a baby's bottle if appropriate. The hole may need to be enlarged if a pacifier or bottle nipple is used.
- Medication can be mixed with a small amount (less than 30 mL) of water, or sugar-free juice or other liquid and administered in a baby's bottle. Care must be taken to ensure that contents of the bottle are consumed within 30 minutes of preparation. The medication should be administered as soon as it is mixed with food or liquid otherwise it may become unstable. If the medication is not administered within 30 minutes after mixing, it should be discarded and a new dose prepared.
- Use a bib to prevent clothing stains from rifampin and rifabutin.

E. Recommendations for Administering TB Medications to Children and Adolescents

- Use praise and incentives to encourage adherence. Younger children might respond well to a small incentive with each dose.
- Allow some negotiation around method for taking the medicine (e.g., crushed or whole, mixed with food or not).
- Providers who encounter difficulties obtaining cooperation with DOT in a child or adolescent should request assistance from an alternate provider if possible and contact YCDC TB Control.

Vomiting

If the client vomits more than 30 minutes of taking the TB medicine, presume that medication has been absorbed. **DO NOT REPEAT THE DOSE.**

If the client vomits within 30 minutes of taking the TB medicine, this should be noted on the medication administration record. An additional dose should be added to the number of doses needed to complete treatment (as it would be if the dose were missed for any other reason). **DO NOT REPEAT THE DOSE.**

If a client misses two doses in a week due to vomiting (i.e., s/he vomited within 30 minutes of ingestion of the TB medication twice in 1 week), consult with YCDC TB Control to report the missed doses and to obtain guidance on how to proceed.

TB Treatment during Other Illnesses

Treatment should continue even if the client has a minor illness such as a cold, ear or throat infection. If the client has a moderate to severe gastrointestinal virus (e.g., nausea, vomiting, and/or diarrhea), consult with YCDC TB Control as it may be necessary to interrupt the treatment, and resume as soon as the client is able to tolerate the medication.

SOURCES

Alberta Health and Wellness Tuberculosis Prevention and Control Guidelines (2010).
Available at: www.health.alberta.ca/documents/TB-Prevention-Control.pdf

Directly Observed Therapy Manual for DOT Programs in British Columbia, June 2011.
Available at: www.bccdc.ca/.../0/TB_DOTManual_June2011_Compressed.pdf