

Chapter XIII: Chest X-rays, Lab, and Pharmacy Guidelines

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A. Chest X-rays

1. How to upload chest x-rays into the PACS system

Any chest x-ray taken at a participating healthcare facility (see below) is available upon request to be uploaded into the PACS system for review at Denver Health's Denver Metro TB Clinic. It should be noted that the State TB Program does not have access to PACS. After a request has been made there is a form that needs to be filled out and faxed to the State TB Program. This will serve as a notification and the State TB Program can verify with Denver Health if the image available in PACS for review.

2. How to send CXRs via CDPHE's FedEx Account

The TB Program tracks the shipment of all x-rays to know when they will be arriving or to more easily find a lost shipment. This ensures that recommendations are being made in a timely manner and reduces the risk of films being lost. CXRs can be sent physically via FedEx or electronically via the PACS system.

When sending via FedEx:

- a. The TB Program's FedEx account number will be provided by CDPHE TB Program staff so CXRs can be sent via FedEx. This will ensure each x-ray shipment receives a tracking number.
- b. Once the CXRs are mailed, please fax your copy of the FedEx form that includes the tracking number to the TB Program at 303-759-5538.
- c. Also, there is a CXR form (see link below) that can be filled out with the tracking number and faxed to the TB Program if the FedEx form is not available.

If you are requesting a CXR from another facility:

- a. Please fill out the CXR form and fax it to 303-759-5538 with the CXR report (if available). This will alert the State TB Program that a CXR is coming and we can follow-up with the facility if it has not been received when expected.

Here is the link to our TB forms where you can find the CXR confirmation form:

[Chest X-ray Confirmation Form](#)

Denver Health PACS System List

The following facilities are on the PACS system and have the capability to send their images directly into Denver Health's PACS:

The Children's Hospital-Aurora
Good Samaritan-Lafayette
Longmont United Hospital-Longmont
Lutheran Hospital-Wheatridge
Memorial Hospital-Colorado Springs
Mercy Regional Medical-Durango
Montrose Memorial-Montrose
North Colorado Medical Center-Greeley
Parkview Medical Center-Pueblo
Platte Valley Hospital-Brighton
Premier Diagnostic Center-Colorado Springs
St. Joseph Hospital-Denver
St. Mary's Hospital-Grand Junction
Sterling Medical Center-Sterling
University Hospital-Aurora
Vail Valley Hospital-Vail
Valley View-Glenwood Springs
Yampa Valley-Steamboat Springs
Yuma Hospital-Yuma

Outside of Colorado:

Cheyenne Regional-Wyoming
Great Plains-North Platte, Nebraska
Regional West-Scottsbluff, Nebraska
St. Vincent-Santa Fe, New Mexico

3. Overseas Chest X-rays

When requesting recommendations for treatment, overseas chest x-rays need to be sent in for comparison (when applicable). The overseas chest x-ray will be sent back via certified mail to the mailing facility after recommendations are complete.

4. Recommendations for treatment

In order to receive recommendation for treatment, several pieces of information are required. A TB17 and/or a case in TBdb must be created and every section/tab needs to be completed. This includes all pertinent information that is required to give recommendations. If there is not enough information to complete the TB17, or case in TBdb, at a minimum, these specific pieces of information are required:

- Name, DOB
- Reason for testing
- Country of birth
- Medical risk factors
- Exposure risk factors
- Symptoms
- Weight (needed for medication dosages)
- Diagnostic information (PPD, IGRAs, CXR, etc.)
- Current drug allergies and medications (for ordering TB medications)

B. Specimen Collection and Shipment Supplies

The diagnosis of tuberculosis (TB), management of patients with the disease, and public health TB control services rely on accurate laboratory tests. Laboratory services are an essential component of effective TB control, providing key information to clinicians (for patient care) and public health agencies (for control services).

The Colorado Department of Public Health and Environment Laboratory Services Division provides specimen collection supplies at no cost. For guidelines on proper specimen collection, submission of specimens, and ordering of supplies please click this link:

[TB Specimen Submission and Supply Ordering](#)

For an instruction sheet on collecting sputum that can be given to patients, click the following link:

[TB Specimen Collection Guidelines](#)

C. Pharmacy

1. Purified Protein Derivative (PPD) Ordering and Storage

The Tuberculin Skin Testing Material (PPD) Order form should be used to order additional PPD solution. The CDPHE Program staff must approve the order. PPD distributed by the TB Program is reserved for use by Public Health agencies and should only be used for testing of suspected or known active TB cases and their contacts. The solution can also be used for Class B's and other high risk individuals. The link to PPD ordering form can be found here: [TST Supplies/PPD Ordering Form](#)

2. TB Infection (LTBI) Medication Ordering

- a. What should you get the prescriptions written for?
 - i. 9 month prescription for INH daily.
 - ii. 9 month prescription for B6 if indicated.
 - iii. 4 month prescription for RIF for adults daily.
 - iv. 6 month prescription for RIF for children daily.
 - v. For adults and children on DOPT, the prescription should be written for twice weekly dosing.
 - vi. Verify that the correct dose and duration is written on the prescription
- b. How do I order drugs from CDPHE?
 - i. Complete an Anti-Tuberculosis Medication Order form [Anti-TB Medication Ordering Form](#) and fax along with prescription to the CDPHE TB Program **or** Enter drug order into TBdb and fax prescription to CDPHE TB Program.
- c. How do I order drug refills?
 - i. Add refill order date to previously completed Anti-Tuberculosis Medication Order form and fax to CDPHE TB Program **or** Enter drug order into TBdb.
- d. Suggested schedule for ordering
 - i. For INH and B-6 refills, order on the day that the last bottle of the 3-month supply is given to the patient.
 - ii. For RIF and those on DOPT, refills should be ordered by the beginning of the third week.
 - iii. Drug orders need to be faxed or entered into TBdb the night before the scheduled shipping date.
 - iv. Tuesday shipping- Weld County
 - v. Wednesday shipping- all other counties

3. Active TB Medication Ordering and Helpful Hints

- a. A standard active drug order prescription should include (but may vary depending on circumstances):
 - i. Obtain prescriptions for initial daily phase
 - 10 doses for 2 weeks of daily

- 15 doses for 3 weeks of daily
- ii. Obtain prescriptions for continuation phase.
 - 6 to 9 months of recommended medications
- iii. Obtain one prescription for B6 daily for 6 or 9 months, depending on recommended length of therapy
- b. How do I order drugs from CDPHE?
 - i. Complete an Anti-Tuberculosis Medication Order form and fax along with prescription to CDPHE TB Program **or** Enter drug order into TBdb and fax prescription to CDPHE TB Program.
- c. How do I order drug refills?
 - i. Add refill order date to previously completed Anti-Tuberculosis Medication Order form and fax to CDPHE TB Program **or** Enter drug order into TBdb

**** Helpful Hints and Things to Remember*****

- Active medication orders are shipped daily (except Fridays).
- Orders need to be faxed or entered into TBdb by 2:00 pm in order for the CDPHE TB Program and the Apothecary to have time to process for UPS delivery on that day.
- Order twice weekly medications at the beginning of the week for which you are dispensing the last daily medications.
- Refills during the continuation phase should be ordered by the beginning of the third week of a four-week shipment.
- No drug orders are shipped on Fridays.
- Medications not ordered frequently such as Rifabutin are not kept in stock at the Apothecary so please order in advance.
- If you do submit a drug order after 2:00 PM, please give the TB Program a call to alert us and we will do our best to accommodate you.

4. Storage and Record Keeping

The case manager should ensure that medications and dosages are prescribed according to current American Thoracic Society (ATS)/Centers for Disease Control and Prevention (CDC) guidelines. Medications will be distributed by patient only, and only with the proper prescription. NO bulk meds will be sent unless a formal agreement is in place with a pharmacist within your agency.

Refer to medication package inserts for medication storing criteria. Medications must be stored in a locked cabinet and only accessible to nursing and outreach staff.

You should maintain a log of the medications received for each patient, and also maintain a log of medication administration records for each patient. You will be asked to provide these logs to the TB Program staff on a regular basis.

If you have medications that need to be destroyed, please contact the TB program.