Tuberculosis Screening & Follow-Up (for Peritoneal Dialysis)

Created: January 2016
Updated: October 2016
Approved by the BCPRA Peritoneal Dialysis Committee
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## IMPORTANT INFORMATION
This BCPRA guideline/resource was developed to support equitable, best practice care for patients with chronic kidney disease living in BC. The guideline/resource promotes standardized practices and is intended to assist renal programs in providing care that is reflected in quality patient outcome measurements. Based on the best information available at the time of publication, this guideline/resource relies on evidence and avoids opinion-based statements where possible; refer to www.bcrenalagency.ca for the most recent version.

1.0 Scope

This guideline provides tuberculosis (TB) screening and follow-up recommendations and procedures for incident (new to dialysis) adult peritoneal dialysis patients.

The guideline is applicable to all new Peritoneal Dialysis (PD) patients attending training at the regional PD outpatient units.

2.0 Summary of the Literature & Internet

Tuberculosis (TB) is a disease caused by the bacteria Mycobacterium tuberculosis that is spread from person to person through droplets in the air. TB usually affects the lungs, but it can also affect other parts of the body, such as lymph nodes, the brain, kidneys, or the spine.

M. tuberculosis can exist in an active or latent state in the human body:

1. Active TB, also called TB disease, is usually symptomatic and often transmissible. With active TB, tests for TB bacteria are usually positive and radiologic tests may be abnormal.

2. Latent TB infection (LTBI), also called TB infection, is the presence of latent or dormant TB bacteria in the body but no evidence of active TB. This means the person does not have TB symptoms, there is no evidence of radiographic changes consistent with active TB and microbiologic tests are negative. LTBI is not infectious; however, if left untreated, healthy persons diagnosed with LTBI have a 5-10% lifetime risk of progressing to active TB. This percentage increases significantly when additional risk factors exist, such as end-stage kidney disease, with cited relative risks ranging from 7 - 50 times the background incidence (Canadian TB Standards, 7th Edition, 2014).

This guideline provides recommendations aimed at reducing the incidence of active TB in the chronic kidney disease (CKD) population in BC through incident screening and identification and treatment of dialysis patients with LTBI. Treatment of patients with LTBI will reduce the number of active TB cases in the dialysis population, avoiding time and labour intensive contact follow-up. Fewer active cases will, in turn, reduce transmission of TB within the larger CKD population.

The TB screening program recommended for dialysis patients in this guideline includes three components:

1. TB screening questionnaire
2. Chest radiography (x-ray)
3. Interferon Gamma Release Assays (IGRA)

- IGRA are a new blood immune assay test that demonstrates high sensitivity and specificity for detecting LTBI (sensitivity and specificity rates of 75-83% and >95% respectively in the general population). [BC Centre for Disease Control (BCCDC) website, 2015].

- IGRA are particularly useful in some immunocompromised populations (including those on dialysis) as the traditional tuberculin skin test (TST) has a high false negative rate (because of a high prevalence of anergy in dialysis patients). The IGRA is reported to be a more sensitive test than the TST in the dialysis population, while offering a comparable level of specificity. ( Ferguson, 2014). Further, compared to the TST, the IGRA was associated more strongly with
risk factors for LTBI in end-stage kidney disease. (Rogerson, 2013).

- There are two types of IGRA tests available in BC: (1) QuantiFERON®-TB Gold In-Tube Test (QFT-GIT); and (2) T-SPOT® TB test (T-Spot). These tests appear to have similar sensitivity and specificity, however, QFT-GIT is easier to use and less expensive. As a result, QFT-GIT has been used more often in TB screening of dialysis patients in BC.

### 3.0 Recommendations

**Recommendation #1:**
Screen all incident (new) peritoneal dialysis patients for TB during the initial week of training. The only exceptions are patients who previously had:

- A previous reactive IGRA test with documented LTBI treatment; or
- Documented previous active TB disease or LTBI which has been treated; or
- TB screening when they started peritoneal dialysis (PD) following the same protocol as recommended in this guideline.

In general, repeat or serial IGRA testing is not recommended. However, in certain circumstances, it may be appropriate - most commonly with TB exposure as a part of contact investigation or with high-risk travel. Consultation with TB Services on case by case basis is recommended.

Please ensure that CORR data elements are up to date in PROMIS (within the past 30 days).

**Recommendation #2:**
Utilize a three-component protocol to screen for TB:

1. TB screening (risk assessment) questionnaire.
2. IGRA blood test - see notes below.
3. Chest x-ray within the past 3 months.

**See Appendix 1 for an overview of the TB screening workflow.**

**TB screening (risk assessment) questionnaire**
(see Appendix 2 for example of screening questionnaire & Appendix 3 for samples of PROMIS screen shots). This questionnaire is available as a fillable form in PROMIS. Print the questionnaire from PROMIS (demographics will auto populate), discuss the questions with the patient and enter the responses into PROMIS. BC Centre for Disease Control (BCCDC) will have access to the completed questionnaire, along with the results of the IGRA test and chest x-ray, in PROMIS for analysis.

**IGRA testing (see Appendix 4 for example of IGRA lab requisition)**
The IGRA lab requisition is available in PROMIS (demographics will auto populate). Print the requisition from PROMIS and place with the blood sample prior to sending to the laboratory. BE SURE TO USE THE IGRA LAB REQUISITION IN PROMIS and not the standard lab requisition. Please refer to “Section 4.0 Procedures” for details.

IGRA blood samples may be drawn in any hospital with an in-centre PD unit that has been designated (trained and set up) as an IGRA collection site by the BCCDC Provincial Health Laboratory.¹ Please note that IGRA blood samples may be drawn on certain days of the week in your hospital lab. Pre-analytical processing of samples is performed in any hospital that has been designated (trained and set up) as an IGRA processing site. Accurate results rely on specific collection methods and care of samples after the blood draw.

- If the receiving laboratory is a designated
IGRA processing site:
- Samples are incubated for 16-24 hours.
- Samples are centrifuged and the plasma portion pipetted off into new vials.
- Plasma samples are transported to the BCCDC Public Health Laboratory for analysis.
- If the receiving laboratory is NOT a designated IGRA processing site:
  - The receiving laboratory packages the samples (insulated so that the samples are maintained at room temperature).
  - The receiving laboratory transports the samples to a designated IGRA processing site within the HA for processing (Note: samples must be incubated with 16 hours of collection at the designated IGRA processing site).

BCCDC will have access to the results of the IGRA test, along with the completed questionnaire and chest x-ray report, in PROMIS for analysis. The results of the IGRA tests are usually available within 1 week of the sample being drawn.

Chest x-ray (see Appendix 5 for example of chest x-ray requisition)
The chest x-ray requisition is available in PROMIS (demographics will auto populate). Print the requisition and give to the patient. BE SURE TO USE THE CHEST X-RAY REQUISITION IN PROMIS and not the standard radiology requisition.

The patient may have his/her chest x-ray at any hospital medical imaging department. Once the report is available, a copy will be sent by the medical imaging department to the PD unit and to the BCCDC (copy to the BCCDC is noted on the PROMIS requisition). BCCDC will manually upload the report into PROMIS.

If the patient has had a chest x-ray within the past 3 months, a repeat chest-ray is not required. Enter the date and location the x-ray was completed into PROMIS. BCCDC will manually upload the x-ray report into PROMIS. Refer to “Section 4.0 Procedures” for details. If this report/image is inconclusive, BCCDC will advise the PD unit to provide the patient with a chest x-ray requisition specific for ruling out TB.

BCCDC will have access in PROMIS to all three components of TB screening for analysis - the completed TB screening questionnaire, IGRA test results and the chest x-ray report.

Recommendation #3:
The renal unit staff advises BCCDC by clicking on the “Alert BCCDC” button in PROMIS when the following three screening activities have been completed for a new PD patient:
1. Responses to the TB screening questionnaire have been entered into PROMIS.
2. IGRA lab requisition has been given to the PD patient to complete at the hospital lab.
3. Chest x-ray requisition has been given to the patient or the date and location of a chest x-ray completed within the past 3 months has been entered into PROMIS. Refer to “Section 4.0 Procedures” for details.

Once BCCDC receives the “ALERT” from the PD unit, they will check PROMIS for the completed TB screening questionnaire, the IGRA blood test result and the chest x-ray report. If any of these components are missing two weeks after the “ALERT” was sent, BCCDC will notify the patient’s PD unit. The PD unit will be responsible for

1All hospitals with PD units are IGRA collection sites.
following-up with the patient.

Recommendation #4:
After analysis of the results, BCCDC TB Services will issue a specific report/letter outlining recommendations.

*For Island Health: BCCDC will fax copies of the TB screening questionnaire, IGRA blood test results and the chest x-ray report to the Island Health TB program (BCCDC will also upload a copy of the chest x-ray report into PROMIS). The Island Health TB program will analyze the results and issue a report, including recommendations and will fax copies as above. In addition, they will fax a copy to BCCDC TB services. BCCDC TB Services will upload the report in PROMIS. The Island Health TB Clinic will follow up on the results with the patient/appropriate care providers.

BCCDC TB services will manually upload the report, including recommendations, into PROMIS. Reports will be available within 1 month of the three tests being received by the BCCDC. To review the report in PROMIS, go to “Document History-TB Services Recommendations”.

There are 5 types of reports/letters based on results:
1. Non-reactive IGRA
2. Reactive IGRA (Latent TB infection)
3. Inconclusive IGRA
4. Active TB
5. Incidental Findings (chest x-ray finding unrelated to TB)

Distribution of the report and follow up of results will depend upon the outcome of testing. See Appendix 6 for an overview of report/letter distribution and follow-up for each type of result.

See Appendix 7 for sample copies of each result type report/letters.

Recommendation #5:
If, through screening, BCCDC TB Services (or Island Health TB program) determines that the patient has active TB or requires urgent investigation/follow-up, TB Services (or Island Health TB program) will contact the patient’s nephrologist and family physician to discuss next steps.

Recommendation #6:
BCCDC will follow-up directly or make alternative arrangements for patients requiring (a) treatment for LTBI; or (b) additional non-urgent investigations/follow-up. Treatment/investigation plans will be noted on the BCCDC TB Services TB screening report.

*For Island Health, Island Health TB clinic will follow up directly with the patient if treatment is recommended and communicate with Island Health renal programs.

If the patient lives in Vancouver Coastal Health Authority (VCHA) or Fraser Health Authority (FHA), he/she will be contacted directly by BCCDC TB Services. Treatment and follow-up will occur at:
• BCCDC Vancouver TB Services Clinic (655 West 12th Avenue); or
• BCCDC New Westminster TB Services Clinic (across from Royal Columbian Hospital)

If the patient lives in Island Health Authority, he/she will be contacted by Island Health TB program. Treatment and follow-up will occur at:
• Island Health TB program (Royal Jubilee Hospital, Victoria) or a Health Unit within the
Tuberculosis Screening & Follow-Up

For details of location, hours, services, etc, go to: http://www.bccdc.ca/dis-cond/a-z/ t/Tuberculosis/ clinprog/default.htm

Provincial TB Services is responsible for treating and monitoring the patients diagnosed with active and LTBI. They will communicate whether any new medications are required and will issue periodic updates on the patient’s status to all health care practitioners involved in the patient’s current care.

Recommendation #7:
Implement appropriate TB precautions within the dialysis unit as per follow-up protocols.
LTBI is not infectious, therefore, there are no specific infection control procedures required for patients diagnosed with LTBI. If active TB is identified, local facility infection control procedures should be implemented and reported to BCCDC.

4.0 Procedure

PD unit responsibilities:
1. Designate a person(s) responsible for maintaining TB screening processes and to ensure the process is completed for every new PD patient (e.g., PD nurse, Patient Care Coordinator, unit clerk).

2. Establish method to track new PD patients and status of TB screening components (e.g., excel worksheet which indicates PD training start date, completion of TB questionnaire, confirmation that PROMIS lab and xray requisitions were given to the patient and confirmation the BCCDC was alerted via PROMIS). In the long term, this tracking will be supported by a report developed and available in PROMIS.

3. On admission ensure the following orders are included for new PD patients:
   a. Complete TB screening questionnaire
   b. IGRA blood test (QFT-GIT) *(VGH : IGRA blood test (T-SPOT)
   c. Chest x-ray (within past three months)

4. Once patient is registered in PROMIS, print the following documents from PROMIS and add to chart:
   a. Auto-populated TB screening questionnaire
   b. Auto-populated Laboratory requisition for IGRA (QFT-GIT) blood test
   c. Auto-populated Chest x-ray requisition (unless a chest x-ray was completed within the previous three months)

*It is important to use the forms in PROMIS that are auto-populated. DO NOT USE STANDARD LAB REQUISITIONS/CHEST X-RAY FORMS.

If the patient lives in Interior Health Authority (IHA) or Northern Health Authority (NHA), the BCCDC TB Services report, including recommendations, will be faxed to the applicable Public Health Program/Unit in addition to the above mentioned health care providers. The patient will be contacted by the Public Health Program/Unit or their family physician. Treatment and follow-up will occur at:
- Health Unit within patient’s geographic area of residence.

For details of location, hours, services, etc, go to: http://www.bccdc.ca/dis-cond/a-z/ t/Tuberculosis/ clinprog/default.htm
## Tuberculosis Screening & Follow-Up

### Procedure:

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<th>Component</th>
<th>Action</th>
<th>Responsibility</th>
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| 1 Preparation | • Enter name of patient on TB tracking spreadsheet.  
                   • Ensure PROMIS CORR data elements are up-to-date (within the past 30 days). | RN/Unit Clerk RN |
| 2 TB screening questionnaire | After patient is registered in PROMIS, print questionnaire from PROMIS (see Appendix 2 for sample of questionnaire & Appendix 3 for PROMIS screen shots).  
                   • Go to the Monitoring Menu  
                   • Select the TB Screening Questionnaire form  
                   • Select Patient  
                   • Enter assessment date, check the box next to “population at risk” and identify “renal TB screening” in the drop-down box  
                   • In Risk Factors section, check “chronic renal disease/dialysis”  
                   • Save  
                   • Go to Reports Menu  
                   • Select TB Services  
                   • Select TB Screening Questionnaire  
                   • Select Run Report button to print out TB Screening Questionnaire with Assessment  
                   Fill out form with patient. | Unit Clerk |

Enter information on form into PROMIS.  
• Select Monitoring Menu  
• Select Assessment and Questionnaire  
• Select TB Services  
• Select Patient Name  
• Enter information  
• Select “Save”  
Discard hard copy form once entered into PROMIS.  

Note that TB screening questionnaire has been entered into PROMIS on TB tracking spreadsheet.  

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<th>Component</th>
<th>Action</th>
<th>Responsibility</th>
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| 3 IGRA (QFT-GIT) blood test | Please Note: Print lab requisition from PROMIS (auto-populates with demographics & name of test- see Appendix 4 for an example).  
- Select Patient  
- Go to Reports Menu  
- Select TB Services  
- Select IGRA QFT Requisition  
- Select Ordering Physician — Dr Victoria Cook (BCCDC TB physician)  
  *Island Health - select Ordering Physician - Dr Alasdair Polson (Island Health TB Clinic Physician)  
- Select Clinic  
- Select Location (PD Unit)  
- Select Run Report to print IGRA QFT requisition.  
  *Vancouver General Hospital: Cross out “QFT Gold in Tube” on the pre-populated requisition. Check off “T-Spot.”  
- Provide requisition to RN.  

Send patient to lab with requisition or request lab staff to come to PD unit to draw blood.  
If lab staff coming to PD unit, call to inform them of IGRA test needed. Special blood collection and handling techniques are required.  

Note that blood sample and requisition were sent to the local laboratory on TB tracking spreadsheet.  
- Enter into PROMIS that blood sample was ordered (see Appendix 3, form C).  
- “Nurse Completes - II” Tab: QFT & Date Ordered in PROMIS.  
  *Vancouver General Hospital: Enter T-Spot (not QFT). | Unit Clerk  

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<th>RN/Unit Clerk</th>
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## Tuberculosis Screening & Follow-Up

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<th>Component</th>
<th>Action</th>
<th>Responsibility</th>
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<tr>
<td>4 Chest x-ray</td>
<td>If no chest x-ray performed in the past 3 months, print chest x-ray requisition from PROMIS (see Appendix 5 for example) &amp; give to patient • Go to Reports • Select TB Screening Chest Xray Requisition • Select patient • Select ordering physician: Dr. Victoria Cook (BCCDC) *Island Health Please select ordering physician: Dr. Alasdair Polson • Select Clinic • Select Location- Peritoneal Dialysis unit • Run report • Print out chest x-ray requisition &amp; give to patient. • Instruct patient to have chest x-ray done at hospital medical imaging department during the PD training week. If chest x-ray done in past 3 months, do not repeat: • Go to the monitoring section • Select TB services • Go to “Nurse complete II tab” • Enter the date the CXR was completed and the location in the comments section. • BCCDC will review results</td>
<td>Unit Clerk</td>
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<td>Documentation</td>
<td>• Note that chest x-ray requisition was given to patient or chest x-ray report completed in the past 3 months on TB tracking spreadsheet. • If no chest-xray done in the past 3 months, enter Chest X-ray ordered and the date on the “ Nurse Completes II” tab in PROMIS • If chest x-ray done in the past 3 months, document in PROMIS as per the previous section</td>
<td>Unit Clerk</td>
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<td>5 Advise BCCDC that all 3 activities are complete.</td>
<td>Once all 3 activities have been completed: • Go to Monitoring • Go to Patient Information tab • Click the “Alert button” at the bottom left of the screen (Appendix 3, Form A). Note: Both the Date Chest X-Ray Ordered and the Date IGRA Ordered must be completed for the Alert button to be active to then be able to press and send the alert to BCCDC.</td>
<td>RN/Unit Clerk</td>
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<tr>
<td>6 Close out</td>
<td>Note that BCCDC has been “alerted” that all activities have been completed on TB tracking spreadsheet.</td>
<td>RN/Unit Clerk</td>
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</table>

**BCCDC contact for questions:** TB Nurse Consultant, 604-707-5678 or tbnurseconsultants@bccdc.ca
5.0 References


6.0 Sponsors

This BCPRA guideline/resource was developed to support equitable, best practice care for patients with chronic kidney disease living in BC. The guideline/resource promotes standardized practices and is intended to assist renal programs in providing care that is reflected in quality patient outcome measurements. Based on the best information available at the time of publication, this guideline/resource relies on evidence and avoid opinion-based statements where possible; refer to www.bcrenalagency.ca for the most recent version.

Developed by:
• A working group of representative groups of renal clinicians and directors/managers, BC laboratories, BCCDC TB Services, Island TB Clinic and the BC Provincial Renal Agency

Approved by:
• BCPRA Peritoneal Dialysis Committee
• BCPRA Medical Advisory Committee
• Provincial Committee for Implementation of TB Screening for Dialysis Patients (BCPRA/ BCCDC, BC Public Health Microbiology and Reference Lab)

7.0 Appendices

Appendix 1: BC Provincial TB Screening Workflow for Patients Initiated on Dialysis

Appendix 2: Printed Report of TB Screening Questionnaire

Appendix 3: TB Questionnaire Snapshot- PROMIS

Appendix 4: IGRA Lab Requisition in PROMIS

Appendix 5: Chest X-ray Requisition in PROMIS

Appendix 6: Distribution of Reports/Letters & Follow up of Results

Appendix 7: Samples of Follow-up Reports/Letters for Different Results:
• 7a: Non-reactive IGRA: Letter 1
• 7b: Reactive IGRA (Latent TB infection): Letters 2a, 2b, 3, 4, 5, and 6
• 7c: Inconclusive IGRA: Letter 7
Appendix 1: BC Provincial TB Screening Workflow for Patients Initiated on Dialysis
Appendix 2: Printed Report of TB Screening Questionnaire

Monitoring -> Assessments and Questionnaires -> TB Services -> Patient Information tab

Please note: 1) Only fill in highlighted areas and enter data into PROMIS
2) Reason for screening: Provincial Renal TB screening

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<td>ID NUMBER</td>
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### PART 1: CLIENT COMPLETION (see tab and bold change)

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<th>GIVEN NAMES</th>
<th>MIDDLE NAME (IF APPLICABLE)</th>
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<th>ZIP/POSTAL CODE</th>
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<th>DATE ENTERED CANADA</th>
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<th>MEDICATION ALERTS</th>
<th>ROCKY MOUNTAIN SPOTTED FEVER</th>
<th>HIV ALERTS</th>
<th>PERTUSSIS ALERTS</th>
<th>NIGHT Shift URGENT</th>
<th>PERTUSSIS ALERTS</th>
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<th>PART 3: TB SERVICES COMPLETES</th>
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<td>RADIOLOGY NUMBER</td>
<td>XRAY DATE</td>
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The information collected on this form is used for the purpose of tracking TB control and is conducted under the authority of British Columbia’s Health Act. Personal information is protected from unauthorized use and disclosure in accordance with the Freedom of Information and Protection of Privacy Act and may be disclosed only as provided for by that Act.
Appendix 3: TB Questionnaire Snapshot- PROMIS

Form A: TB Screening Questionnaire
Appendix 3: TB Questionnaire Snapshot- PROMIS

Nurse Completes - I Tab

Nurse Completes - II Tab
Appendix 4: IGRA Lab Requisition in PROMIS

Please note: "TB IGRA TESTING CRITERIA" — Please cross out "hemodialysis patient" and replace with "PD patient".

---

**PHSA Laboratories**

Public Health Microbiology & Reference Laboratory

Zoonotics Diseases & Emerging Pathogens Requisition

FOR TB CONTROL USE ONLY

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## Section 1 - Patient Information

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<tr>
<th>PERSONAL HEALTH NUMBER (or out-of-province Health Number and province)</th>
<th>DOB (DD/MM/YYYY)</th>
<th>GENDER</th>
<th>DATE RECEIVED</th>
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</table>

**PATIENT SURNAME**

JANE

**PATIENT FIRST AND MIDDLE NAME**

JANE

**ADDRESS**

123 MAIN

**CITY**

VANCOUVER

**POSTAL CODE**

V0Z1Y0

---

## Section 2 - Healthcare Provider Information

**ORDERING PHYSICIAN**

Name and address of report delivery

PROV00001, 123 Main, Vancouver, BC, V6Z1Y0

**CLINIC OR HOSPITAL**

Name and address of report delivery

Vancouver Hospital and H.S.C., 655 12TH Ave West, Vancouver, V6Z 1MS

**PHSA CLIENT NO.**

---

## Section 3 - Test(s) Requested

### VIRUSES

- Arbovirus Panel
- Eastern Equine Encephalitis, Western Equine Encephalitis, Powassan, St. Louis Encephalitis
- Dengue Virus Antibody
- Hanta Virus Antibody
- West Nile Virus Antibody
- Other, specify:

**Travel / Clinical History Required for Above Tests:**

### BACTERIA

- Anti-Streptolysin O (ASO)
- Bartonella henselae
- Antibody
- PCR*
- Borrelia burgdorferi (Lyme disease) Antibody
- Borrelia henselai Antibody
- Brucella abortus Antibody
- Coxiella burnetti (Q-fever) Antibody
- Diptheria Antitoxin
- Francisella tularensis Antibody
- Helicobacter pylori Antigen (Feces)
- Legionella sp. Ure Aigen
- Leptospira spp.
- Antibody
- PCR*
- Rickettsia rickettsii Antibody (Rocky Mountain Spotted Fever)
- TB interferon Gamma Release Assay
- QFT Gold in Tube
- T spot

### PARASITES

- Echinococcus spp. Antibody
- Entamoeba histolytica (Amoebiasis) Antibody
- Schistosoma spp. Antibody
- Strongyloides sp. Antibody

**Travel History Required for Above Tests:**

- Travel within past 12 months, specify:

### SYphilis

- VDRL (CSF sample only)
- Submit 1 mL CSF in sterile leak-proof tube
- Treponema pallidum Nontreponemal Acid Testing
- Submit antrum, tissue or body fluid
- Direct Fluorescent Assay (DFA) Microscopy
- Source of sample:
- Other, specify:

**Signs / Symptoms:**

- Asymptomatic
- Rash

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**Fungi**

- Blastomyces dermatitidis Antibody
- Coccioides sp. Antibody
- Cryptococcus neoformans Antigen
- Histoplasma sp. Antibody
- Other, specify:

**Travel History Required for Above Tests:**

- Travel within past 12 months, specify:

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* TB IGRA TESTING CRITERIA

1. TST negative, immunocompromised
2. TST positive, BCG positive
3. TST positive, Aboriginal / Foreign born
4. Hemodialysis patient

For additional tests and additional information, consult the Public Health Microbiology & Reference Laboratory's Guide to Programs and Services at [www.phsa.ca/bodpublalhealth](http://www.phsa.ca/bodpublalhealth)

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*Form DCZP_190_0001F Version 2.0* 2015
Appendix 5: Example of Chest X-Ray Requisition in PROMIS

Requisition For Chest X-Ray

Name: ADEMO00001, JANE  DOB: 31-JUL-1946  PHN:

Address: 123 MAIN, VANCOUVER, BC, V6Z1Y6

Phone:  

Ordering Physician: COOK, VICTORIA J
Ordering Physician's MSP #: 27172

Exam Requested: CHEST PA and LATERAL
Exam Reason: Rule Out TB - Renal TB Screening

Requisition For Chest X-Ray

Hospital of Radiology Service performing x-ray:

X-ray Date ___________________________  X-ray Number: ___________________________

X-ray instructions: Please return x-ray (unread) with this requisition to the office serving your Health Authority

Copy to Ordering Physician: COOK, VICTORIA J
Location: Hemodialysis Unit
Clinic: Abbotsford Rgnl. Hosp. & C.C.
Address: 32900 Marshall Road, Abbotsford, V2S 0C2
Fax:

Billing instructions: Please send packing slip to

Copy to: BCCDC TB SERVICES
655 WEST 12TH AVE
VANCOUVER BC
V5Z 4R4

BCCDC TUBERCULOSIS SERVICES
655 WEST 12TH AVE
VANCOUVER BC
V5Z 4R4
Appendix 6: BC Provincial TB Screening Workflow for Patients Initiated on Dialysis

Process Flowchart_v3 August 26, 2016

Note: Island Health faxes copies of all letters to BCCDC and uploads into PROMIS

BCCDC mailed letter to nephrologist, renal unit, GP, and uploads report into

**LETTER 1**

Reactive IGRA (Latent TB Infection)

BCCDC follows up recommendations report to GP/PH

BCCDC faxes IGRA result to nephrologist and renal unit with notification to next steps, uploaded in PROMIS (no action required)

**LETTER 3a**

If patient does not complete within 3 months, documentation in BCCDC chart

**LETTER 7**

Active TB

BCCDC/Island Health mailed letter and requisition to patient, and uploaded into PROMIS

Renal unit notified if treatment completed or not

**LETTER 5**

Inconclusive IGRA

BCCDC/Island Health mailed letter and requisition to patient, and uploaded into PROMIS

**LETTER 9**

Incidental Findings

A copy of the chest x-ray report will be forwarded to the nephrologist with note for him/her to follow up based on clinical context

LATENT TUBERCULOSIS INFECTED PATIENTS— latex test.

**LETTER 2a**

Island Health: contacts patient directly with appointment and faxes appointment information to dialysis unit

**LETTER 2b**

BCCDC/Island Health mails letter and requisition to patient, and uploaded into PROMIS

LEAD PATIENT: BCCDC TB Services contacts patient directly with appointment and faxes appointment information to dialysis unit

BCCDC mails follow up recommendations report to GP/PH

LM Patient: BCCDC TB Services contacts patient directly with appointment and faxes appointment information to dialysis unit

PM Patient: GP/PH contacts patient for follow up

BCCDC/Island Health mails letter and requisition to patient, and uploaded into PROMIS

BCCDC faxes nephrologist and renal unit with result and information about next steps, uploaded in PROMIS (no action required)

BCCDC/Island Health follows up with patient

Nephrologist, GP, PH, renal unit notified of end of treatment (completed or not)

**LETTER 4**

**LETTER 6 (TREATMENT COMPLETED)**

Nephrologist, GP, PH, renal unit notified of end of treatment (completed or not) and document uploaded into PROMIS

**Physician Narrative**

- Reactive IGRA pathway
- Inconclusive IGRA pathway
- Non-reactive IGRA pathway

TB Screening process
- Questionnaire
- CXR
- IGRA
Appendix 7: Samples of Follow-Up Reports/Letters for Different Results

7a: Letter Associated with Non-Reactive IGRA Results

LETTER 1

August 30, 2016

Dr.

Re: Patient Name DOB:

The Provincial Tuberculosis [TB] Services has received a TB screening form regarding the above dialysis patient. There is no evidence of TB infection or disease. This patient is cleared for TB screening purposes. Further testing is not recommended at this time.

Follow up is recommended in accordance with disease specific protocols. Contact TB Services if symptoms develop or at the discretion of a physician.

If you have any further questions, please contact a TB Services Nurse Consultant at 604-707-5678.

Sincerely,

TB Services

Provincial TB Services, Clinical Prevention Services
BC Centre for Disease Control
Letter 2a

August 30, 2016

Dr.

Re: Patient Name, IGRA Result: DOB:

Reason screened:

Provincial Tuberculosis (TB) Services has received a TB screening form for this dialysis patient and there is evidence for latent TB infection (LTBI). Patients on dialysis are at a higher risk for developing active TB compared to the general population, so treatment is indicated barring significant contraindications. First line treatment of LTBI consists of isoniazid 300mg and vitamin B6 25mg daily for a period of 9 months. The diagnosis, treatment, side effects of the medication (including hepatitis, rash and GI upset) and need for clinical follow-up/blood work should be discussed with the patient prior to starting LTBI treatment. Alcohol and/or pregnancy should be avoided while on treatment. An exit chest film is not required at the completion of therapy if the baseline film was normal. TB medication can be obtained free of charge from the local public health office.

An appointment has been made for this patient on at the Choose an item located at: Choose an item.

If the patient is unable to make this appointment, please contact us at 604-707-2692 to discuss other appointment times.

Sincerely,

TB Services

Provincial TB Services, Clinical Prevention Services
BC Centre for Disease Control
Letter 7b

August 30, 2016

Dr.

Re: Patient Name. IGRA Result: DOB:

Reason screened:

Provincial Tuberculosis (TB) Services has received a TB screening form for this dialysis patient and there is evidence for latent TB infection (LTBI). Patients on dialysis are at a higher risk for developing active TB compared to the general population, so treatment is indicated barring significant contraindications. First line treatment of LTBI consists of isoniazid 300mg and vitamin B6 25mg daily for a period of 9 months. The diagnosis, treatment, side effects of the medication (including hepatitis, rash and GI upset) and need for clinical follow-up/blood work should be discussed with the patient prior to starting LTBI treatment. Alcohol and/or pregnancy should be avoided while on treatment. An exit chest film is not required at the completion of therapy if the baseline film was normal. TB medication can be obtained free of charge from the local public health office.

We encourage you to review with the patient the LTBI brochure at www.bccdc.ca/LTBIfacts and the 4.5-minute video explaining LTBI in a number of languages at www.bccdc.ca/TBVideos.

If the decision is to start LTBI treatment, please arrange an appointment with public health.

If you require further information, please contact a TB Services Nurse Consultant at (604) 707-5578.

Sincerely,

TB Services

Provincial TB Services. Clinical Prevention Services
BC Centre for Disease Control

A research and teaching centre affiliated with UBC
Appendix 7: Samples of Follow-Up Reports/Letters for Different Results

7b: Letter Associated with Reactive IGRA (Latent TB) Results

Letter 3

August 30, 2016

Dr.

Re: Patient Name DOB:

Reason screened:

TB Services has received TB screening results for the above dialysis patient and there is evidence for latent TB infection (LTBI). Treatment for LTBI is recommended.

We have notified this patient’s General Practitioner and their local Public Health Office to review LTBI treatment options with the patient. We will inform you of the patient’s decision regarding treatment.

If you require further information, please contact a TB Services Nurse Consultant at (604) 707-5678.

Sincerely,

TB Services

Provincial TB Services, Clinical Prevention Services
BC Centre for Disease Control

BC Provincial Renal Agency • Suite 700-1380 Burrard St. • Vancouver, BC • V6Z 2H3 • 604.875.7340 • BCRenalAgency.ca
Appendix 7: Samples of Follow-Up Reports/Letters for Different Results

7b: Letter Associated with Reactive IGRA (Latent TB) Results

Letter 4

August 30, 2016

To: Patient Name  DOB:

This patient has initiated treatment for latent TB infection. The patient has been prescribed:
Choose an item.

Your office will be notified when treatment ends. TB Services would be happy to provide additional advice upon request. If you require further information, please contact TB Services at the number above.

Sincerely,

TB Services

Provincial TB Services, Clinical Prevention Services
BC Centre for Disease Control

BC Provincial Renal Agency • Suite 700-1380 Burrard St. • Vancouver, BC • V6Z 2H3 • 604.875.7340 • BCRenalAgency.ca October 2016 21
Appendix 7: Samples of Follow-Up Reports/Letters for Different Results

7b: Letter Associated with Reactive IGRA (Latent TB) Results

Letter 5

August 30, 2016

To: Patient Name  DOB:

This patient has refused treatment for latent TB infection.

If this patient develops symptoms suggestive of active TB such as cough lasting longer than three weeks’ duration, hemoptysis or unexplained weight loss or fever, please send the patient for a chest x-ray, collect 3 sputum samples for AFB smear and culture, and contact TB Services.

If you require further information, please contact TB Services at the number above.

Sincerely,
TB Services

Provincial TB Services, Clinical Prevention Services
BC Centre for Disease Control
Appendix 7: Samples of Follow-Up Reports/Letters for Different Results

7b: Letter Associated with Reactive IGRA (Latent TB) Results

Letter 6

August 30, 2016

To: Patient Name          DOB:

This patient has completed treatment for latent TB infection. No further follow up is necessary. If this patient develops symptoms suggestive of active TB such as cough lasting longer than three weeks’ duration, haemoptysis or unexplained weight loss or fever, please send the patient for a chest x-ray, collect 3 sputum samples for AFB smear and culture, and contact TB Services.

If you require further information, please contact TB Services at the number above.

Sincerely,

TB Services

Provincial TB Services, Clinical Prevention Services
BC Centre for Disease Control
Appendix 7: Samples of Follow-Up Reports/Letters for Different Results

7c: Letter Associated with Inconclusive IGRA (Latent TB) Results

Letter 7

August 30, 2016

To: Patient Name

DOB:

You recently had a blood test for Tuberculosis (TB) at your dialysis unit, which needs to be repeated.

This blood test will show if you have “sleeping” TB infection. Treatment for “sleeping” TB is available and can prevent active TB in the future.

The TB blood test can be drawn at various locations. This information has been included with this letter along with another blood test requisition.

Please contact us if you have any questions or concerns at the number above.

Sincerely,

TB Services

Provincial TB Services, Clinical Prevention Services
BC Centre for Disease Control