

# Pulmonary Tuberculosis Evaluation Admission Pathway

**Pathway Purpose:** To expedite work-up of patients admitted for pulmonary tuberculosis (TB) disease evaluation, increasing the percent of patients with their first specimen obtained by hospital day 2 to  $\geq 85\%$  and decreasing median length of stay by  $\geq 10\%$ .

Inclusion Criteria:	Presenting Symptom*	Epidemiologic risk factors**
Admit for pulmonary TB evaluation if patient: <ul style="list-style-type: none"> <li>Has concerns for pulmonary TB based on presenting symptoms*</li> <li>Has epidemiologic risk factors for TB disease**</li> <li>Needs collection of gastric aspirates or sputa</li> <li>Needs expedited imaging</li> </ul>	<b>Systemic:</b> <ul style="list-style-type: none"> <li>Fever</li> <li>Chills</li> <li>Weakness or fatigue</li> <li>Weight loss</li> <li>Loss of appetite</li> <li>Night sweats</li> </ul> <b>Respiratory:</b> <ul style="list-style-type: none"> <li>Cough &gt; 3 weeks</li> <li>Chest pain</li> <li>Hemoptysis</li> </ul>	<ul style="list-style-type: none"> <li>Close contact with someone with infectious TB disease during lifetime</li> <li>Birth, travel, or residence for at least 1 month, or frequent border crossing, in a country with an elevated TB rate</li> <li>Immunosuppression, current or planned</li> </ul>

For Primary Care and Emergency Department providers with concerns for possible pulmonary TB:

- Consult Infectious Diseases (ID) ASAP to determine appropriate work-up and disposition
- Based on clinical status, imaging needs, and sputum induction feasibility, determine admission location

## Admit to

## Criteria

Packard EL Camino (PEC)	Stable, no imaging needed, no sputum induction
LPCH	Needs sputum induction or imaging, or unstable

## Evaluation

For supplemental information see [“Guide to Infection Prevention and Control Measures for TB Disease Evaluation”](#)

### Admit to acute care

- Initiate **Pulmonary Tuberculosis Evaluation Order Panel**
  - Place in airborne/contact isolation
- Gather pertinent information including:
  - Presence of symptoms consistent with TB\*
  - Epidemiologic risk factors\*\*
  - Caregivers' TB status
    - Discuss with ID and refer to the [Chest X-ray Screening policy](#) if there is need for caregiver x-rays
  - Prior purified protein derivative (PPD) test or interferon- $\gamma$  release assay (IGRA)
- Consult Infection Prevention and Control (IPC) - pager 28199
  - If concern for TB disease is high based on assessment by primary team/ID – IPC will submit hospital discharge planning (GOTCH) form to the Department of Public Health (DoPH)
  - IPC to be liaison between primary team and county DoPH

Continue to next page for additional evaluation

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Associated Order Set: Tuberculosis Rule Out Admission

Associated Policies: Gastric Analysis Specimen Collection (last revised June 2022), Special Procedures: Sputum Induction (last revised August 2020), Isolation: Transmission Based Precautions (last revised May 2023), Tuberculosis Prevention and Control in the Healthcare Setting (last revised August 2022), Aerosol Transmissible Disease (ATD) Exposure Control Plan (last revised August 2022), Chest X-ray Screening for Inpatient's Caregiver(s) Suspected of TB (last revised October 2023)



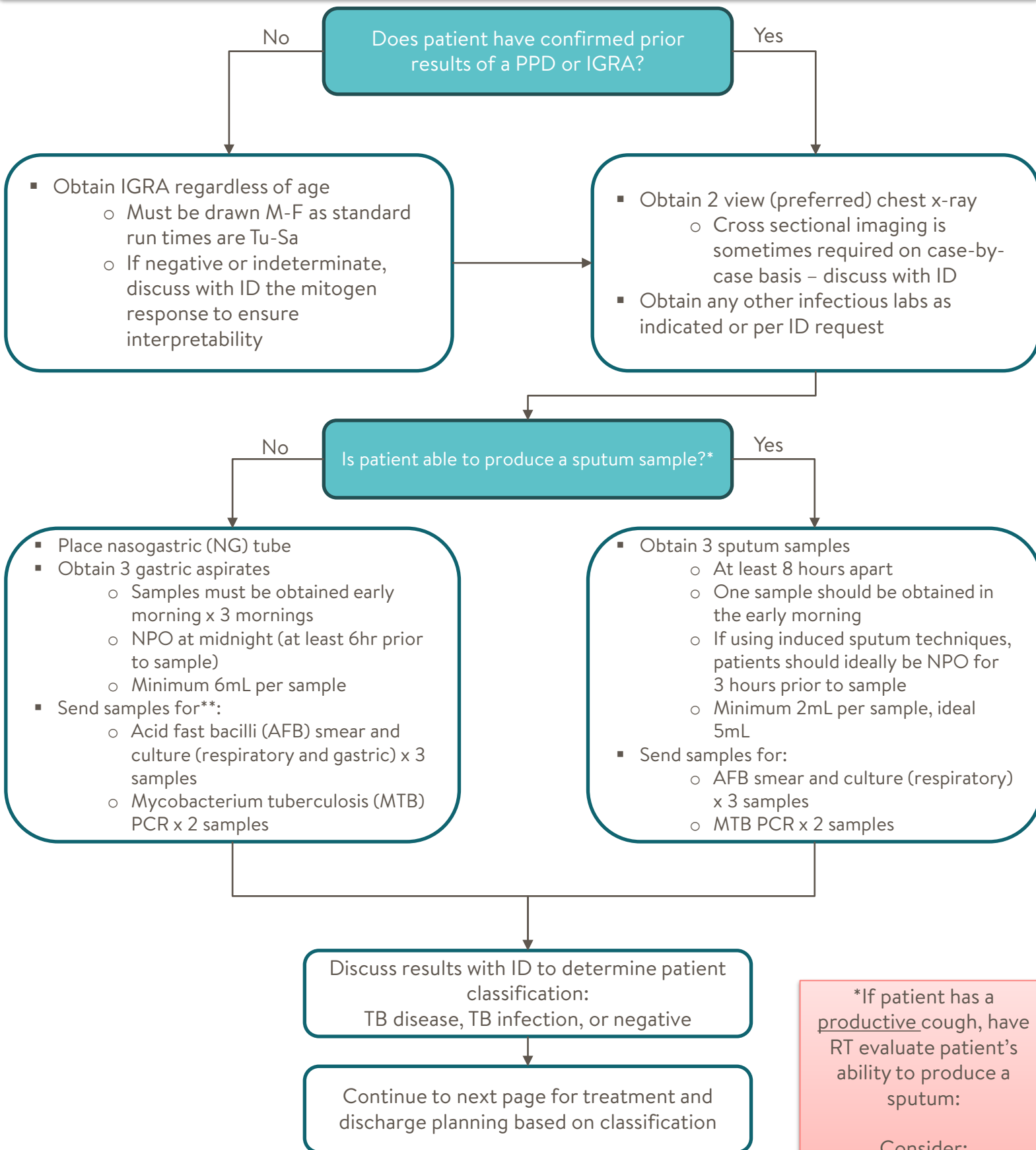
Children's Health



Feedback?

# Pulmonary Tuberculosis Evaluation Admission Pathway

## Evaluation - continued



\*If patient has a productive cough, have RT evaluate patient's ability to produce a sputum:

Consider:

- Hypertonic saline nebs
- Flutter valves (e.g. Acapella, Aerobika)

\*\*DoPH requires 3 AFB smear/cultures, however only 2 MTB PCR samples are needed due to their high negative predictive value in low prevalence settings

For supplemental information see the ["Guide to Infection Prevention and Control Measure for TB Disease Evaluation"](#)

# Pulmonary Tuberculosis Evaluation Admission Pathway

## Treatment and Discharge planning

TB Disease  
Formerly "active TB"

### Treatment

- Medication regimen and duration per ID
- Patient must be able to demonstrate tolerance of entire medication regimen prior to discharge
- Notify outpatient pharmacy about anticipated discharge date and need for 2-week supply of medications (DoPH usually handles prescriptions after discharge)

TB Infection  
Formerly "latent TB"

### Treatment

- Medication regimen and duration per ID
- Medications do not need to be started prior to discharge

Negative

### Treatment

- No TB treatment indicated
- Additional treatment and work-up per clinical discretion

### DoPH/County discharge readiness

- Contact IPC for next steps regarding anticipated discharge date
- IPC to retract GOTCH form (if submitted) prior to clearance from county and subsequent discharge from hospital

### Hospital discharge readiness

- Clinical readiness per primary team
- IPC confirms Santa Clara County DoPH has cleared for discharge
- PCP updated at discharge

### DoPH/County discharge readiness (IPC to liaise with county)

- Public health nurse for patient's residing county has completed home visit and provided clearance for patient to return
- Per county discretion, patient has demonstrated medication tolerance
- Follow-up appointment with outpatient ID scheduled (usually within 2 weeks)

### Hospital discharge readiness

- Improved/stable respiratory symptoms without need for respiratory support beyond baseline requirement
- Adequate oral/enteral fluid intake without need for IV fluids/nutrition beyond baseline requirement
- Family receives education regarding:
  - Treatment plan – number of medications, anticipated duration, counseling on side effects
  - Reasons to seek medical attention
  - Need for ongoing monitoring by the DoPH in the county in which they reside
- Family picks up outpatient medications
- IPC confirms Santa Clara County DoPH has cleared for discharge
- PCP updated at discharge

### Post discharge plan

- Follow-up with ID (usually within 2 weeks)
- Follow-up with PCP as needed
- Follow-up with DoPH next business day
- Return to school and other activities per DoPH

# Pulmonary Tuberculosis Evaluation Admission Pathway

## Centers for Disease Control (CDC) Definition of Tuberculosis (TB) includes:

Tuberculosis is a disease caused by a bacteria called *Mycobacterium tuberculosis*. People with TB can spread it in the air to others when they cough, speak, or sing. You can get sick with TB when you breathe TB bacteria into your lungs. TB bacteria in the lungs can move through the blood to infect other parts of the body, such as kidney, spine, and brain.

## Differential Diagnosis:

- Atypical pneumonia
- Pertussis
- Congenital cystic adenomatoid malformation

## TB disease vs TB infection

TB infection occurs when a person inhales infectious droplet nuclei and fails to clear it from the lungs. The immune response may control the infection but not eliminate it. Persons with TB infection without evidence of disease are not symptomatic and are not considered contagious. When the immune system fails to control the infection, persons with TB infection may develop disease. In adults, this is largely pulmonary disease characterized by chronic cough and weight loss. In children, TB infection can disseminate to other organs, including bone, brain, kidneys, and gastrointestinal tract.

Pathway Measure	Baseline	Target
Length of hospital stay (median)	7 days	6.3 days
% of patients having first specimen obtained by hospital day 2	73%	85%
% of patients with airborne isolation order within 2 hours of admission	80%	90%

## References

1. American Academy of Pediatrics. Tuberculosis. In: Kimberlin DW, Banerjee R, Barnett ED, Lynfield R, Sawyer MH, eds. *Red Book: 2024 - 2027 Report of the Committee on Infectious Diseases*. 33rd ed. Itasca, IL: American Academy of Pediatrics; 2024:888–920.
2. Loeffler A, Gaensbauer J, Dasgupta-Tsinkas S, Wendorf K. Chapter 6: Pediatrics. In: *Drug-Resistant Tuberculosis: A Survival Guide for Clinicians*. 3rd Edition. Curry International Tuberculosis Center and California Department of Public Health; 2022: 1-43.
3. Nolt D, Starke JR. Tuberculosis Infection in Children and Adolescents: Testing and Treatment. *Pediatrics*. 2021 Dec 1;148(6):e2021054663. doi: 10.1542/peds.2021-054663. PMID: 34851422.
4. Saukkonen JJ, Duarte R, Munsiff SS, et al. Updates on the Treatment of Drug-Susceptible and Drug-Resistant Tuberculosis: An Official ATS/CDC/ERS/IDSA Clinical Practice Guideline. *Am J Respir Crit Care Med*. 2025;211(1):15-33. Published 2025 Jan 1. doi:10.1164/rccm.202410-2096ST
5. Centers for Disease Control and Prevention. Treatment for TB disease. CDC. Updated January 8, 2025. Accessed April 8, 2025. <https://www.cdc.gov/tb/topic/treatment/tbdisease.htm>

