

Tuberculosis Information

For Health Care Providers and Schools*

County of Yuba Public Health Department

5730 Packard Ave., Suite 100 Marysville, CA., 95901 (530) 749-6755



DATE: June 1, 2023

TO: District Superintendents

School Nurses

Health Care Providers

FROM: Phuong Luu, MD

Health Officer

RE: Tuberculosis Testing in Schools: Change from Universal Testing to

Universal Risk Assessment and Targeted Testing

As tuberculosis (TB) rates have declined in the US and California, the Centers for Disease Control and Prevention (CDC), the American Academy of Pediatrics (AAP) and the California Tuberculosis Controller's Association (CTCA) have revised their recommendations. In place of universal TB testing, these bodies now recommend that healthcare providers ask a series of questions to assess a child's risk of exposure to TB and target TB testing for children at increased risk for TB exposure or developing TB disease.

The best public health and medical evidence suggests that universal TB testing is neither necessary nor cost-effective. The number of pediatric cases is low, and universal testing results in a number of false positives. California Health and Safety Code, Section 121485 allowed universal testing mandates for school children only if "persons seeking first admission to school are reasonably suspected of having tuberculosis" and if "the examination of the persons for tuberculosis is necessary for the prevention and protection of the public health." This is no longer the case for the population of children entering the majority of schools in California, including in Yuba County. Therefore, effective immediately, all Yuba County schools should replace the universal TB testing of kindergarteners and for all transfer students new to the school district, with a TB risk assessment questionnaire, and conducting TB testing based on the results of the TB risk assessment. TB testing can be completed through a TB skin test (PPD) or a TB blood test (interferon-gamma release assay). If a student is out of the United States for more than one (1) year, they will need a new TB risk assessment when they re-enroll in school.

Change in the TB School Mandate Page Two June 1, 2023

The Yuba County Public Health Department Risk Assessment for School Entry form will be required for school registration effective June 1, 2023 for all children enrolling in kindergarten, or transferring, at any grade level, from outside of Yuba County. If a student is out of the United States for more than one (1) year, they will need a new TB risk assessment when they re-enroll in school.

Please discard all prior references to the TB School Mandate and replace with the following documents:

- TB Risk Assessment for School Entry form (to be completed by healthcare providers)
- Guidelines to the School Mandate and Requirements
- Frequently Asked Questions
- Yuba County School TB Evaluation Flow Chart
- IGRA Fact Sheet

Please reproduce this entire packet for each school in your district as well as any location where centralized registration is done for new and transfer students. Please also feel free to post on District or School websites.

If you have questions about these changes, please contact the Yuba County Public Health Department (530) 749-6755.

Thank you for helping us protect the health of children in Yuba County.

Child's Name: Last,	Birthdate:Birthdate:			Male/Female School:		
Address	Street	City	Phone: Zip	Grade	:	
		•	ıblic Health			
	Tuberculosis (TB)	Risk Asses	ssment for Schoo	l Entry		
This form must be comp	oleted by a licensed he	alth profess	sional in the U.S. and	returned to the chi	ld's school.	
Was your child born i with an elevated rate	try	Yes □ No				
2. Has your child been in	close contact to anyone	with TB dise	ease in their lifetime?	П.	Yes □ No	
3. Is your child immunosu transplant, treatment with prednisone ≥ 15 mg/day	organ	Yes □ No				
*Most countries other than This does not include touri significant contact with the	st travel for <1 month (i.e					
If YES, to any of the above tuberculin skin test (TST) since last documented new All children with a current of (CXR; posterior-anterior are documented prior treatment children who have a position normal, the child should be	unless there is either 1) gative IGRA (performed or prior positive IGRA/TS and lateral for children <5 on TB disease, documer TST and negative IGF	a documento l at age ≥2 ye ST result mus years old is nented prior t RA. If there a	ed prior positive IGRA ears in US or TST performs thave a medical evaluate recommended). CXR is treatment for latent TB are no symptoms or signers.	or TST or 2) no new ormed at age ≥ 6 mo uation, including a clis not required for chinfection, or BCG-vains of TB disease an	r risk factors onths in U.S.) hest x-ray hildren with accinated	
Enter test results for all c			, , ,			
Date of (IGRA)	mai on with a poolitio		Result: Negative	☐ Positive ☐ Inc	determinate	
Tuberculin Skin Test (TS	T/Mantoux/PPD)		Indurationmm			
Date placed:	Date read:		Result: Negative	☐ Positive		
Chest X-Ray Date: _	Impression	: Normal	Abnormal			
☐ Isoniazid dai	ly - 4 months apentine - weekly X 12	weeks		atment (Rx & durational contraindicated medical advice	on): 	
Please check one of the Child has no TB sym Child has a risk facto Child has no new risk	pooxes below and sign: ptoms, no risk factors for, has been evaluated for factors since last negative ptoms. Appointment for	or TB and is f tive IGRA/TS	ree of active TB diseas ST and has no symptor	se. ns.		
		Health Care	Provider Signature, Title		Date	
Name/Title of Health Pro Facility/Address: Phone number:	vider:		<u> </u>			

County of Yuba

Public Health Department

5730 Packard Ave., Suite 100 Marysville, CA., 95901 530.749.6755



Testing Methods

An Interferon Gamma Release Assay (IGRA, i.e., QuantiFERON or T-SPOT.TB) or Mantoux tuberculin skin test (TST) should be used to test those at increased risk. An IGRA can be used in all children ≥ 2 years old and is preferred in BCG-vaccinated children to avoid a false positive TST result. A TST of ≥10mm induration is considered positive. If a child has had contact with someone with active TB disease (yes to question 2 on reverse), or the child is immunosuppressed, then TST ≥5 mm is considered positive. If a BCG-vaccinated child has a positive TST, and an IGRA is subsequently performed and is negative, testing is considered negative unless the child was exposed to someone with TB disease or is immunosuppressed. For immunosuppressed children, screening should be performed by CXR in addition to a TST/IGRA (consider doing both) and symptom review. TB screening can be falsely negative within 8 weeks after exposure, so are best obtained 8 weeks after last exposure.

Evaluation of Children with Positive TB Tests

- All children with a positive IGRA/TST result must have a medical evaluation, including a CXR (posterior-anterior
 and lateral is recommended for children <5 years old). A CXR is not required for a positive TST with negative
 IGRA in a BCG-vaccinated child, or if the child has documentation of prior treatment for TB disease or treatment
 for latent TB infection.
- For children with TB symptoms (e.g., cough for >2-3 weeks, shortness of breath, hemoptysis, fever, weight loss, night sweats) or an abnormal CXR consistent with active TB disease, report to Yuba County Public Health within one day. The child will need to be evaluated for TB disease with sputum AFB smears/cultures and nucleic acid amplification testing. A negative TST or IGRA does not rule out active TB disease in a patient with symptoms or signs of TB disease. The child cannot enter school unless active TB disease has been excluded or treatment has been initiated.
- If there are no symptoms or signs of TB disease and the CXR is normal, the child should be treated for latent TB infection (LTBI). Do not treat for LTBI until active TB disease has been excluded.
- Short-course regimens are preferred (except in persons for whom there is a contraindication, such as a drug interaction or contact to a person with drug-resistant TB) due to similar efficacy and higher treatment completion rates as compared with 9 months of daily isoniazid.

Treatment Regimens for Latent TB Infection

- Rifampin 15 20 mg/kg (max. 600 mg) daily for 4 months
- 12-dose Weekly Isoniazid/Rifapentine (3HP) Regimen:
 - Isoniazid
 - 2-11 years old: 25 mg/kg rounded up to nearest 50 or 100 mg (max. 900 mg) ≥ 12 years old: 15 mg/kg rounded up to nearest 50 or 100 mg (max. 900 mg)
 - Rifapentine

10.0-14.0 kg: 300 mg

14.1-25.0 kg: 450 mg

25.1-32.0 kg: 600 mg

32.1-50.0 kg: 750 mg

>50 kg: 900 mg

- Vitamin B6 50 mg weekly
- Isoniazid 10 mg/kg (range, 10-15 mg/kg; max. 300 mg) daily for 9 months. Recommended pyridoxine dosage is 25 mg for school-aged children (or 1-2 mg/kg/day).
- Isoniazid and Rifampin daily for 3 months: Children: Isoniazid 10-20 mg/kg (300 mg maximum) Rifampin 15-20 mg/kg; (600 mg maximum)

Guidelines to Revisions to the School Mandate and Requirements

1) What are the tuberculosis (TB) screening requirements for school entrance in Yuba County?

Students must undergo a TB risk assessment prior to entering kindergarten, upon transfer to Yuba County schools, or re-enrollment to a Yuba County school after they have been out of the country for one year or longer. Each student must be evaluated by a primary care provider who will: 1) complete the *Yuba County Public Health Department TB Risk Assessment for School Entry* or 2) provide an After Visit Summary or similar print out from visit stating results of risk assessment, need for testing and appropriate test results as indicated.

TB risk assessment and test results (if indicated) must be submitted prior to in person school entry; documented TB risk assessment up to twelve months prior to registration for school is considered valid.

Students who have a positive risk assessment should have a TB test (PPD or IGRA). All children with a positive TB test should undergo medical evaluation, including a chest x-ray. The results of the chest x-ray should be included on the form. If the chest x-ray is normal and the child has no TB symptoms, they may start school. If the child has symptoms or an abnormal chest x-ray consistent with active TB disease, the child must undergo further evaluation and cannot enter school unless active TB disease has been excluded or treatment has been initiated.

Please fax any forms reporting an abnormal chest x-ray to Yuba County Public Health (530)749-6397.

2) How were the risk assessment questions chosen?

The questions on the TB Risk Assessment for School Entry form were adapted from the American Academy of Pediatrics Guidelines and the California Department of Public Health recommendations.

3) Who needs to satisfy the requirements of the Yuba County TB Mandate?

The requirement applies to the following students entering a public or private school in Yuba County beginning June 1, 2023 and later:

- 1. All students entering into kindergarten for the first time.
- 2. All students transferring to Yuba County schools into kindergarten through twelfth grade from a school outside of Yuba County.
- 3. All students re-enrolling to a Yuba County school after being out of the country for one year or longer

4) Who is exempt from these requirements?

- 1. All students who have previously met the TB screening requirements of Yuba County AND who have not been residing outside the county greater than 12 months; this includes students with prior completion of the Yuba County Public Health Department TB Risk Assessment for School Entry form for Transitional Kindergarten (TK) or other school based early learning program in Yuba County (school programs begin after age 3).
- 2. Students transferring from one school to another within Yuba County AND have previously met the TB screening requirements.

5) Who can enroll/register in a Yuba County school before TB screening requirements are complete?

- 1. A student who falls under the provisions of the McKinney-Vento Homeless Assistance Act, Students with an IEP, and/or a student who is in Foster Care is not required to complete TB screening before school registration and may be immediately enrolled into school. TB screening is still required for these students and should be completed in a timely manner, e.g., within 20 calendar days of enrollment. Note: School district may extend time to complete screening for up to 45 calendar days.
- 2. A TB blood test (IGRA) or a tuberculin skin test (TST) is recommended 8-10 weeks after their return because it can take this long to develop an immune response. Consequently, for these students, if they have no symptoms of TB disease, the IGRA or TST can be deferred until then, but must be completed within 10 weeks of return to the U.S.
- 3. A student with a positive risk assessment may conditionally enroll before completing the school mandate if they have a scheduled appointment with their provider after the school start date. Results of test may not be available for 20 calendar days after their appointment.

6) What are acceptable TB tests?

- 1. Interferon Gamma Release Assay (IGRA) blood test, which must be done in the U.S., US Territories or US Military Base Medical Facility (recommended for children who are at least 2 years old).
- 2. Mantoux Tuberculin Skin Test (TST), which must be done in the U.S., US Territories or US Military Base Medical Facility. (If testing was performed at < 6 months of age it should be repeated).
- 3. Exception to above: A positive IGRA or TST shall be accepted from any country.

7) What is the definition of a positive TB test?

- 1. A positive IGRA result interpretation is included in the laboratory report
- 2. A positive TST is 10 millimeters (mm) or more of induration (swelling). Redness alone at the skin test site is not considered a positive reaction.
- 3. If an individual has had recent contact to a person with active infectious TB or if they are immunosuppressed, they are considered to have a positive TST if there is 5 mm or more of induration.

8) What does a positive TB test mean?

A positive TB screening test suggests that the student has been infected with the bacteria that causes TB. Occasionally, a positive TB screening test identifies students with active infectious TB disease. It is important for students with a positive TB screening test to undergo medical evaluation to determine that there are no symptoms or signs of TB disease or whether their CXR has any findings consistent with active TB disease. If active TB disease has been excluded, the child should be treated for latent TB infection (LTBI). LTBI treatment is not mandated for school enrollment as LTBI is not infectious (cannot be transmitted to others), but treatment is advised to prevent the child from developing TB disease in the future.

9) What is the next step for a student with a positive IGRA or positive TST result? *Note: positive means past positive or current positive result*

- 1. Students with a positive IGRA, positive TST, or symptoms or signs of TB disease (not required for a positive TST with negative IGRA in a BCG-vaccinated) must submit evidence that they are free of pulmonary TB disease. This includes one of the following:
 - a. Result of chest x-ray done in the United States, US Territories or US Military Base Medical Facility up to 12 months prior to school registration that does not show evidence of active pulmonary tuberculosis.
 - b. Written documentation of prior treatment for latent TB infection. See Table on p. 8.
 - c. Written documentation of ongoing treatment for latent TB infection.
 - d. Written documentation of prior treatment for active TB disease.
 - e. Written documentation of current treatment for active TB disease.
- 2. If the student does not have any of the above and does not have signs or symptoms of active TB (as documented by a medical provider), he/she may be conditionally enrolled, pending the results of the chest x-ray in accordance with school policy. It is recommended that conditional enrollment and admittance be extended for no more than 20 calendar days. However, school districts may extend the time before excluding the student for up to 45 days.

10) What is the next step for a student with an indeterminate IGRA test?

Students who have a positive TB risk assessment, an indeterminate IGRA test result, and a negative symptom review by a primary care provider may enter school.

Note to providers: If result is indeterminate, consider repeating the IGRA or placing a TST.

11) What should schools do if a student does not have a primary care provider?

If a student does not have a source of regular care, refer to the Child Health and Disability Prevention (CHDP) program at 1 (800) 689-6669 or provide our list of community clinics that offer IGRA or TST testing.

12) What records must students provide to meet the requirements of the TB Mandate?

- 1. The *Yuba County Public Health Department TB Risk Assessment for School Entry* form completed by a primary care provider in the U.S., U.S Territory or U.S. Military Facility
- 2. Students who are currently being treated or have completed treatment for TB or latent tuberculosis infection (LTBI) must provide written documentation from their health care provider. This should include medication name, dosage, date started, and date completed. This student does NOT require an additional chest x-ray.
- 3. Students who have a positive TB test results can present a visit summary stating a risk assessment was performed and follow up testing and evaluation completed by a primary care provider in the U.S., U.S Territory or U.S. Military Facility the *Yuba County Public Health Department TB Risk Assessment for School Entry*
- 4. Students who present a Risk Assessment which includes 1) no risk factors 2) no symptoms of TB and 3) no test required can present this Risk Assessment completed by a primary care provider in the U.S., U.S Territory or U.S. Military Facility lieu of the *Yuba County Public Health Department TB Risk Assessment for School Entry*.

13) Who can sign the TB Mandate Form?

- 1. If the Risk Assessment is negative an LVN, RN, PA, NP, or physician can sign form.
- 2. If the Risk Assessment is positive, but the TB test is negative an LVN, RN, PA, NP, or physician can sign form.
- 3. If the Risk Assessment and TB test are positive and requires a physical exam and chest x-ray, a PA, NP or physician needs to sign the form.

14) What is the process for obtaining a waiver that exempts a student with a positive risk assessment from the TB test?

- 1. To initiate the process for an exemption for a TB test, a student who has a positive TB risk assessment must have the medical provider write a note on the Yuba County TB Risk Assessment for School Entry form. The provider should document that TB testing was deferred due to personal beliefs and that the child has no TB symptoms.
- 2. Fax this form to the Yuba County Public Health Department (530) 749-6397.

15) Is there a process for obtaining a waiver that exempts a student from the TB Risk Assessment?

No, there is no waiver for the TB Risk Assessment.

Frequently Asked Questions

Can I have a TB test on the same day as a COVID-19 Vaccine?

Testing for TB infection with one of the immune-based methods, either an interferon release assay (IGRA) tuberculin skin test (TST), can be done before or during the same encounter as COVID-19 vaccination. When testing with TST or IGRA cannot be done at the same time as COVID-19 vaccination, these tests should be delayed ≥4 weeks after the completion of COVID-19 vaccination. COVID-19 vaccination should not be delayed because of testing for TB infection.

Should a child who has history of BCG vaccination have a TST or IGRA?

Because Interferon Gamma Release Assays (IGRAs) have increased specificity for TB infection in children vaccinated with BCG, IGRAs are preferred over the tuberculin skin test (TST) for children \geq 2 years of age who have a history of BCG vaccination. If an IGRA is not done, the TST results can be utilized.

Medi-Cal does not have an age restriction for IGRA reimbursement.

Are there ever indications for doing both a TST AND an IGRA?

In general, a provider should choose the appropriate test and avoid doing both tests.

If a BCG-vaccinated child has a positive TST, an IGRA can be used to help determine if this is a false-positive test due to BCG vaccination or latent TB infection.

For children who are immunocompromised, consider performing both tests AND obtain a chest x-ray. If either the TST or IGRA is positive, and TB disease has been excluded, the child should be treated for latent TB infection.

What if the student has documentation of a previous positive TST/IGRA from outside the U.S. US Territories or US Military Base Medical Facility?

The student with documentation of a positive TST/IGRA will need to have a medical evaluation, including a chest x-ray in the United States, US Territories or US Military Base Medical Facility.

If someone does not want to submit to a risk assessment, can they get a TB test?

Yes, a TB test (either IGRA or TST), performed up to twelve months prior to registration for school, may be completed instead of a TB risk assessment. If the test is positive, the child must have a medical evaluation by a licensed primary care provider in the U.S., US Territories or US Military Base Medical Facility, including a chest x-ray, with documentation of these results on the risk assessment form and provided to the child's school.

Frequently Asked Questions

This student left the county for an extended vacation. Do they still need a TB screening test?

If the student has extended travel (e.g., > 1 month) to a country other than the U.S., Canada, Australia, New Zealand, or a country in western or northern Europe with an elevated TB rate they should be evaluated for TB infection 8-10 weeks after they return but this will not be required for school re-entry. If the child has been residing outside of Yuba County for >12 months, the risk assessment must be completed again.

What is considered an adequate regimen for latent TB Infection?

Recommended treatment for latent TB infection is listed in the following table. Short-course regimens (rifampin daily for four months,12-dose weekly isoniazid/rifapentine and Isoniazid and Rifampin for 3 months) are preferred (except in persons for whom there is a contraindication, such as a drug interaction or contact to a person with drug-resistant TB) due to similar efficacy and higher treatment completion rates as compared with 9 months of daily isoniazid. If a student was previously treated with 6 months of isoniazid for LTBI, this is also considered adequate treatment.

For additional information:

Yuba County Public Health (530) 749-6755.

Table. Latent Tuberculosis Infection Treatment Regimens for Children

Drug(s)	Duration	Dose	Frequency	Total Doses
Rifampin (RIF)	4 months	Children: 15-20 mg/kg Maximum dose: 600 mg	Daily	120
Isoniazid (INH) and Rifapentine (RPT)		• Isoniazid 2-11 years old: 25 mg/kg rounded up to nearest 50 or 100 mg (max. 900 mg) ≥ 12 years old: 15 mg/kg rounded up to nearest 50 or 100 mg (max. 900 mg) • Rifapentine 10.0-14.0 kg: 300 mg 14.1-25.0 kg: 450 mg 25.1-32.0 kg: 600 mg 32.1-50.0 kg: 750 mg >50 kg: 900 mg • Vitamin B6 50 mg weekly	Once weekly	12
Isoniazid (INH) and Rifampin (RIF)	3 months	Children: INH: 10-20 mg/kg; 300 mg maximum RIF: 15-20 mg/kg; 600 mg maximum	Daily	90
Isoniazid (INH)	9 months	10 mg/kg (range, 10-15 mg/kg) Maximum dose: 300 mg Recommended pyridoxine dosage: 25 mg for school-aged children (or 1-2 mg/kg/day)	Daily	270

^{*}Short-course regimens (rifampin daily for four months or 12-dose weekly isoniazid/rifapentine or Isoniazid and Rifampin daily for 3 months) are preferred (except in persons for whom there is a contraindication, such as a drug interaction or contact to a person with drug-resistant TB) due to similar efficacy and higher treatment completion rates as compared with 9 months of daily isoniazid.

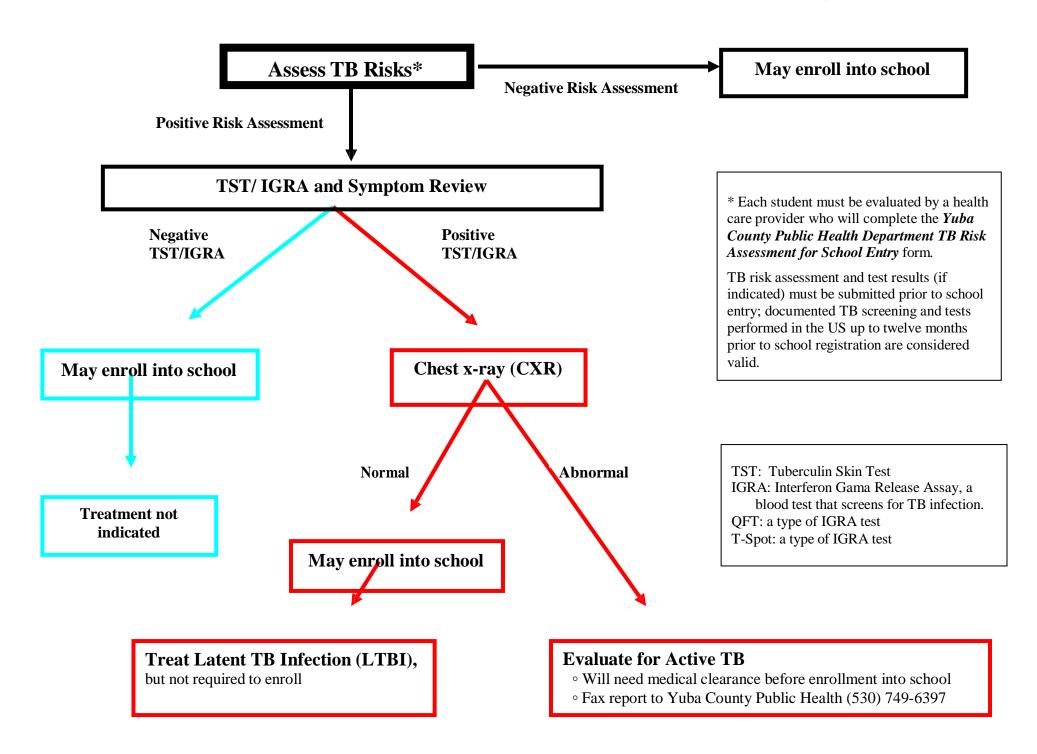
References

American Academy of Pediatrics. Tuberculosis. In Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. Red Book: 2018 Report of the Committee on Infectious Diseases. 31st ed. Itasca, IL: American Academy of Pediatrics; 2018: 829-853.

Pang J, Teeter LD, Katz DJ, et al. Epidemiology of Tuberculosis in Young Children in the United States. Pediatrics. 2014;133:494-504.

California Pediatric TB Risk Assessment and User Guide (September 2018) (https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/TB-Risk-Assessment.aspx)

^{**}Rifampin (RIF) is formulated as 150 mg and 300 mg capsules. Rifapentine (RPT) is formulated as 150 mg tablets in blister packs that should be kept sealed until usage. Isoniazid (INH) is formulated as 100 mg and 300 mg tablets.



Interferon Gamma Release Assay (IGRA) Provider Information and Guidelines for Interpretation

What is it?

Interferon Gamma Release Assays (IGRAs) are blood tests for detecting *M. tuberculosis* infection by measuring a person's immune response. White blood cells that recognize *M. tuberculosis* release interferon-gamma (IFN-γ) when mixed with peptide antigens that simulate *M.tb* proteins, including ESAT-6 and CFP-10. These proteins are not found in BCG strains and most non-tuberculous mycobacteria. IGRAs include the QuantiFERON and T-SPOT.TB tests.

A positive test can occur due to active tuberculosis (TB) disease or latent tuberculosis TB infection (LTBI). If not detected and treated, LTBI may later develop into TB disease.

What are the advantages of IGRA?

Prior BCG (Bacille Calmette-Guérin) vaccination does not cause a false-positive IGRA result.

Requires a single patient visit to conduct the test.

Does not boost responses for subsequent tests.

Less subject to reader bias and error when compared with the TST.

What are the disadvantages?

Errors in collecting or transporting the specimens or in running and interpreting the assay can decrease the accuracy of IGRAs.

Not recommended for children < 2 years old.

May be more expensive than a TST.

When should I use IGRA?

IGRAs are the preferred TB screening test in the following situations:

- Patients ≥ 2 years old who have received a BCG vaccine.
- Patients unlikely to return for the TST reading.

When should I use both a TST and IGRA?

For immunocompromised patients consider performing both tests and utilizing any positive result as evidence of infection.

Is IGRA covered by Medi-Cal?

YES! As of March 1, 2014, Medi-Cal removed the age restriction on Medi-Cal reimbursement of IGRA tests for children under 5 years old.

How do you interpret IGRA test results?

Negative: Same interpretation as a negative TST. A negative TST or IGRA does not rule out active TB disease in a patient with symptoms or signs of TB disease; they should be evaluated with a CXR and sputum AFB smears/cultures/nucleic acid amplification testing.

Positive: Same interpretation as positive TST. Medical evaluation, including a chest x-ray, is needed to evaluate for TB disease. If there are no symptoms or signs of TB disease and the CXR is normal, treatment for latent TB infection should be provided.

Indeterminate: Uninterpretable. Repeat IGRA or place TST per patient and provider preference.

Can IGRAs be done at the same time as receiving vaccinations?

Similar to TST, live virus vaccines (e.g., MMR, varicella) might affect IGRA test results. CDC recommends that both TST and IGRA testing in the context of live vaccine administration be done as follows:

- Either on the same day as vaccination with the live virus vaccine, OR
- At least 4 weeks after administration of the live virus vaccine.

Additional Information

CDC. Updated Guidelines for Using Interferon Gamma Release Assays to Detect *Mycobacterium tuberculosis* Infection - United States, 2010. *MMWR*. 2010; 59 (No.RR-5).

Yuba County Public Health Phone: 530-749-6755