ECHO Case Presentation (Part 2)

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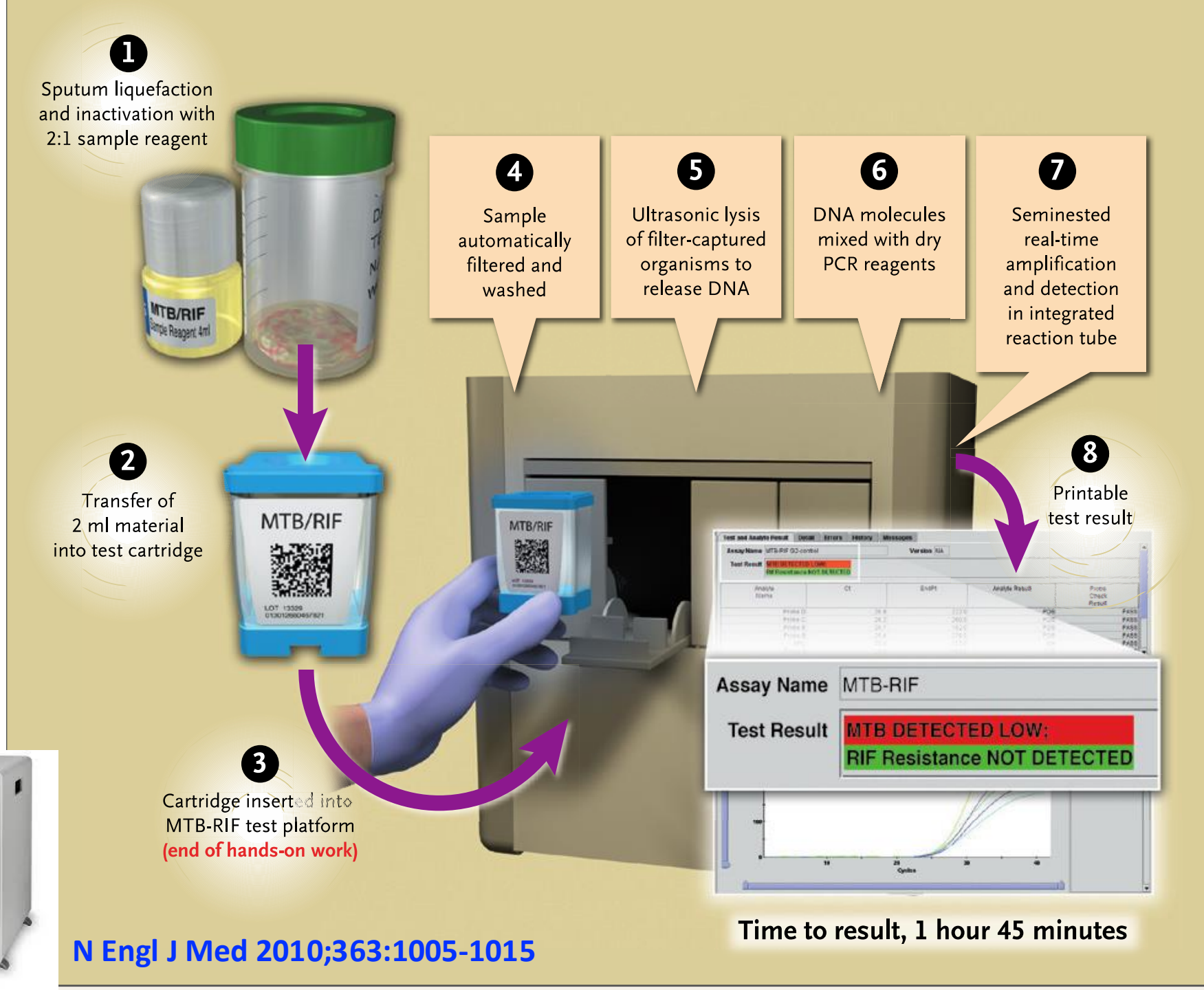
Georgia CTSA
Georgia Clinical & Translational Science Alliance

Xpert MTB/RIF assay

- Real-time TB PCR
- Sensitivity 97-99% on AFB smear+ sputum specimen in the U.S.
- Sensitivity 60-75% for AFB smear neg (culture +) specimens
- Specificity 98-99%



N Engl J Med 2010;363:1005-1015

Treatment

- Started on “RIPE” plus pyridoxine (Vitamin B_6) at Grady
  - Rifampin
  - Isoniazid
  - Pyrazinamide
  - Ethambutol
- When stable, discharged from the hospital to the “TB Motel” – housing program supported by Georgia DPH through the American Lung Association of Georgia
- DOT provided by the patient’s local health department

AFB Culture Sputum # 1

Status: Final result Next appt: None

Test Result Released: Yes (not seen)

Specimen Information: SPUTUM

0 Result Notes

CULTURE REPORT Mycobacterium tuberculosis complex !

Referred to State Lab **(9/12/2023)**

FLUOROCHROME STAIN, FS !!

"Numerous 4+: >10 AFB/field (200x)" Acid fast bacilli seen

Corrected result: Previously reported as "Numerous 4+: >10 AFB/field (200x)" on 8/29/2023 at 1918 EDT.

Resulting Agency: MICRO

Susceptibility (Received 11/13/2023)

	Mycobacterium tuberculosis complex Not Specified		
Ethambutol	5.0 mcg/mL	Sensitive	
Isoniazid	0.1 mcg/mL	Resistant	**Isoniazid RESISTANT**
Pyrazinamide	100 mcg/mL	Sensitive	
RIFAMPIN	1.0 mcg/mL	Sensitive	

Linear View

Susceptibility Comments

Mycobacterium tuberculosis complex

0.4 micrograms/ml Isoniazid Susceptible

Treatment Updated

- Regimen changed based on susceptibility test results
- RIPE (Rifampin, Isoniazid, Pyrazinamide, Ethambutol) changed to:
  - Rifampin
  - **Levofloxacin (in place of Isoniazid)**
  - Pyrazinamide
  - Ethambutol (discontinued after 2 months)
- Received 6 months of new regimen – cured (follow up AFB smears and cultures became negative by 2 months of therapy)

Georgia TB Reference Guide

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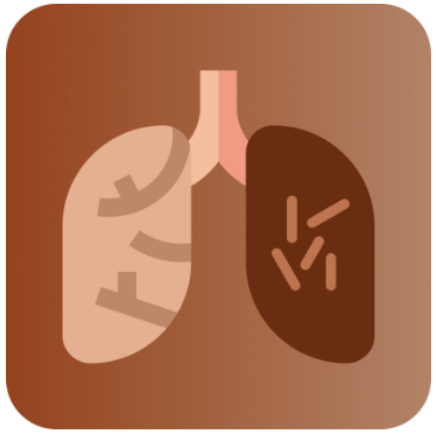

This app responds to clinicians' questions about tuberculosis infection, disease, and control. The standards and guidelines are based on the work and experience of the American Thoracic Society (ATS), the Centers for Disease Control and Prevention (CDC), the Infectious Disease Society of America (IDSA), Emory University, and the World Health Organization (WHO). This edition contains updated recommendations on the treatment of latent tuberculosis infection (LTBI) and treatment of active tuberculosis disease.

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AMERICAN THORACIC SOCIETY DOCUMENTS

Updates on the Treatment of Drug-Susceptible and Drug-Resistant Tuberculosis

An Official ATS/CDC/ERS/IDSA Clinical Practice Guideline

Jussi J. Saukkonen*, Raquel Duarte*, Sonal S. Munsiff*, Carla A. Winston*, Manoj J. Mammen, Ibrahim Abubakar, Carlos Acuña-Villaorduña, Pennan M. Barry, Mayara L. Bastos, Wendy Carr, Hassan Chami, Lisa L. Chen, Terence Chorba, Charles L. Daley, Anthony J. Garcia-Prats, Kelly Holland, Ioannis Konstantinidis, Marc Lipman, Giovanni Battista Migliori, Farah M. Parvez, Adrienne E. Shapiro, Giovanni Sotgiu, Jeffrey R. Starke, Angela M. Starks, Sanket Thakore, Shu-Hua Wang, Jonathan M. Wortham, and Payam Nahid; on behalf of the American Thoracic Society, U.S. Centers for Disease Control and Prevention, European Respiratory Society, and Infectious Diseases Society of America

This official clinical practice guideline was approved by the American Thoracic Society (ATS) and the Infectious Diseases Society of America (IDSA) September 2024, was cleared by the U.S. Centers for Disease Control and Prevention (CDC) September 2024, and was approved by the European Respiratory Society (ERS) October 2024

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Key Takeaways

- TB is the leading cause of death due to an infectious disease globally (10.8 million new cases in 2023, 1.25 million deaths)
- High clinical index of suspicion is needed, esp in the U.S.
- In the hospital: AII (Airborne Infection Isolation) Precautions; initiateTB therapy if high index of suspicion! Also based on diagnostic tests.
- Diagnostic tests: AFB smear, culture & DST, TB PCR (Xpert MTB/RIF)
- Social Services Support available for unstably housed persons with TB
- Ensure follow up with local county health department for directly observed therapy (DOT)