



TB Laboratory

Stacy DeHart April 16, 2026

Accreditation Statement



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In support of improving patient care, Mayo Clinic College of Medicine and Science is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

Credit Statement(s):

ANCC

Mayo Clinic College of Medicine and Science designates this activity for a maximum of 14.00 ANCC contact hours. Nurses should claim only the credit commensurate with the extent of their participation in the activity.



This activity was planned by and for the healthcare team, and learners will receive 14.0 Interprofessional Continuing Education (IPCE) credit for learning and change.

For disclosure information regarding Mayo Clinic School of Continuous Professional Development accreditation review committee member(s) and staff, please go [here](#) to the course accreditation page.

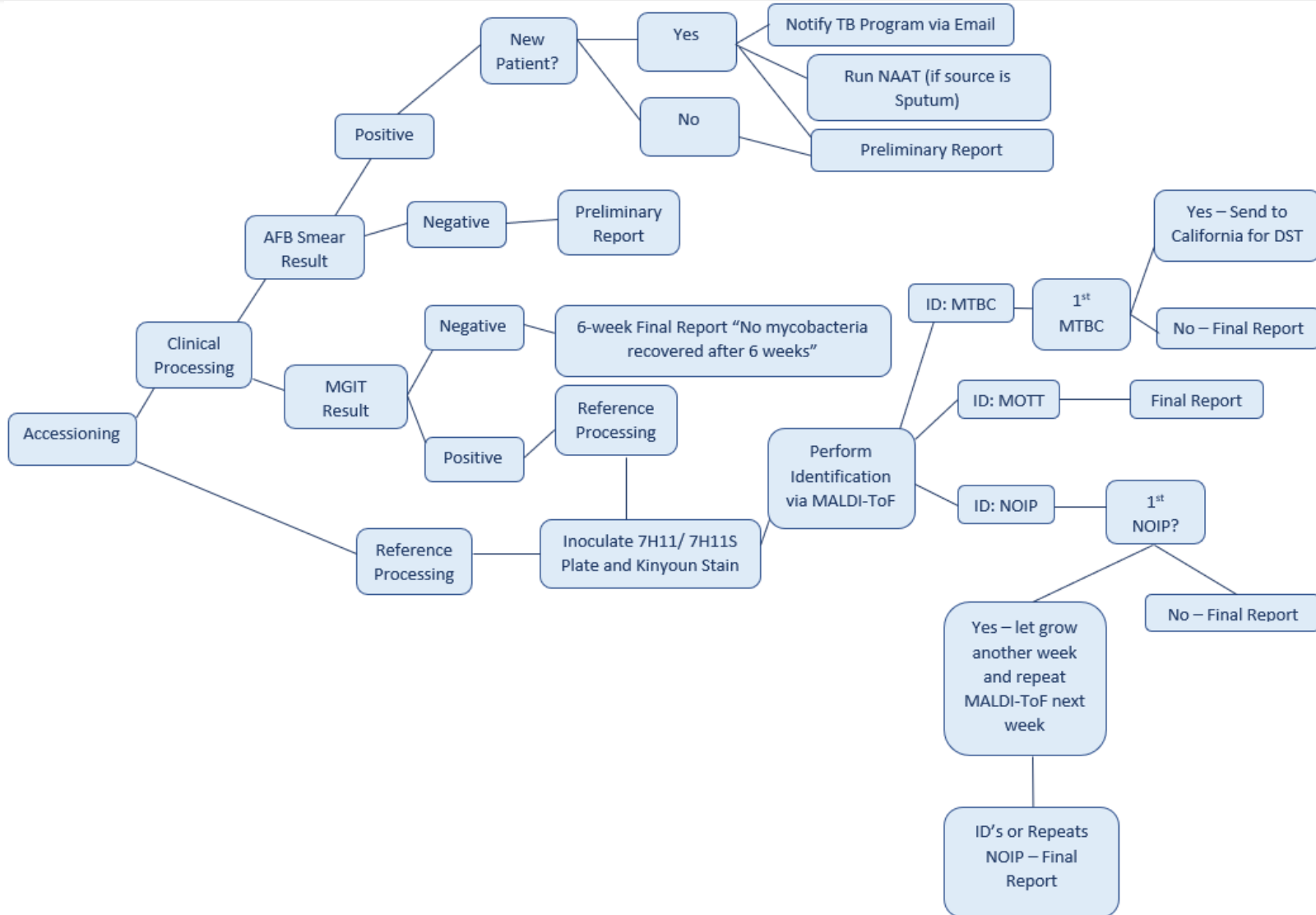
Available Credit

- 14.00 ANCC
- 14.00 Attendance
- 14.00 IPCE

Disclosures

No relevant financial disclosures

Workflow



Blood collection

Able to detect early or
latent stages of MTBC



<https://www.qiagen.com/us/products/diagnostics-and-clinical-research/tb-management/quantiferon-tb-gold-plus-us>

Sample Decontamination

NaOH and NALC solution in-house

Phosphate buffer

Mycoprep and Nac-Pac



<https://www.alphatecsystems.com/evaluation-of-alpha-tec-nac-pactm-mycobacteria-digestion-and-decontamination-system-on-pulmonary-samples/>

MGIT tubes and PANTA

Incubator for Mycobacteria



https://www.bd.com/content/dam/bd-assets/bd-com/en-us/images/product-family/integrated-diagnostic-solutions/bd-bactec-mgit-automated-mycobacterial-detection-system/MGIT_960_Right_Open_wShadow.jpg

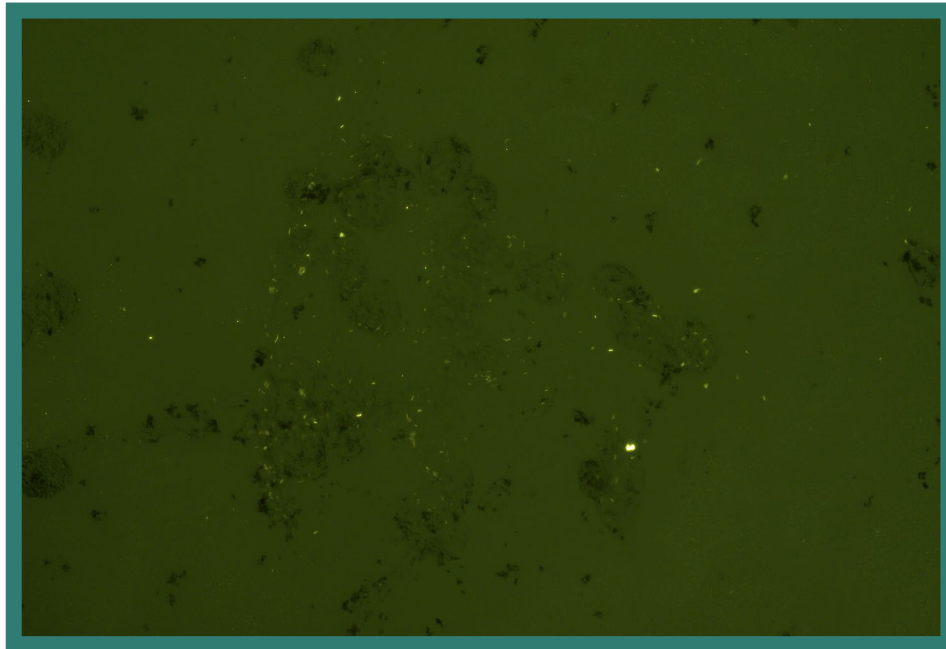
Checks the
fluorescence to
determine growth



https://upload.wikimedia.org/wikipedia/commons/thumb/3/3c/Mycobacteria_Growth_Indicator_Tube_%28MGIT%29_samples_in_ultraviolet_light.jpg/250px-Mycobacteria_Growth_Indicator_Tube_%28MGIT%29_samples_in_ultraviolet_light.jpg

AFB Smears

Auromine-rhodamine or Auromine-O



Nucleic Acid Amplification Test

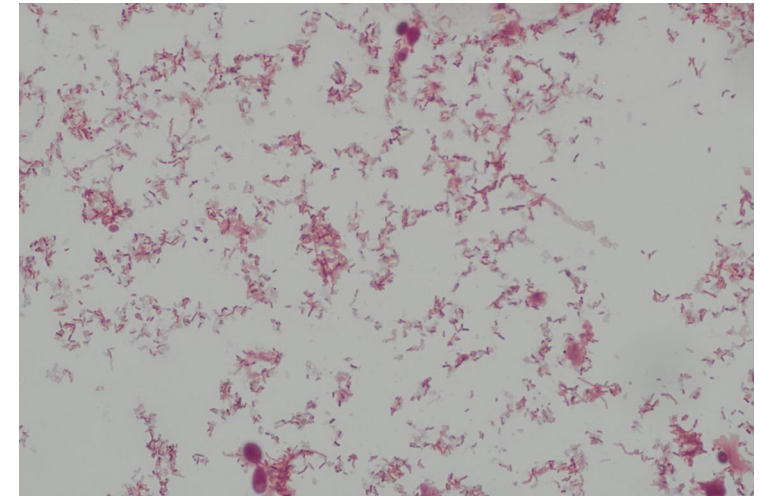
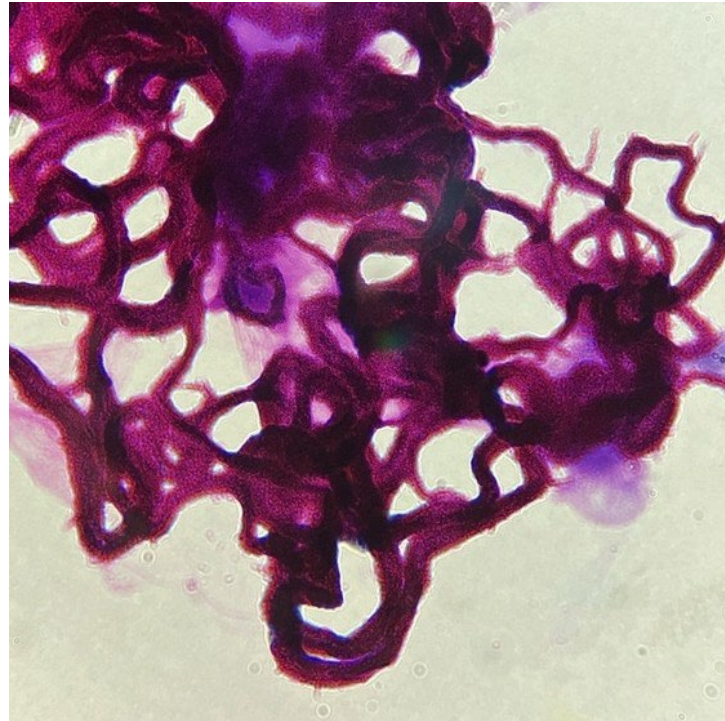
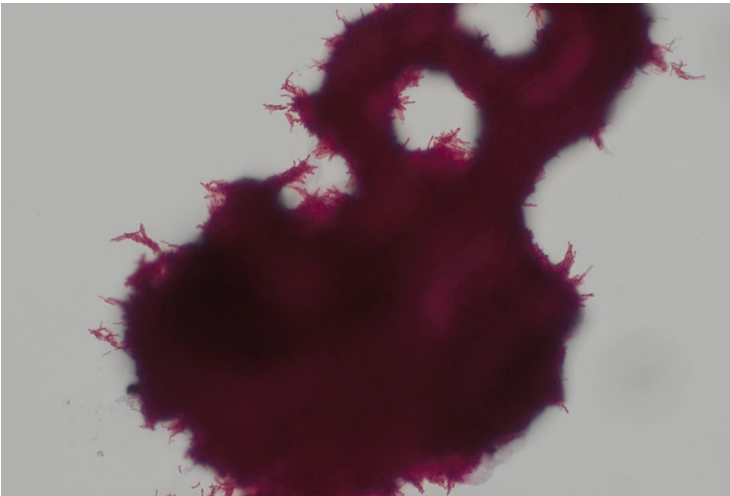
GeneXpert(Cepheid) or PCR

MTB/Rif-resistance 2-hour test



<https://www.mercedesscientific.com/medline-xpert-rif-mtb-test-cartridge-10-tests>

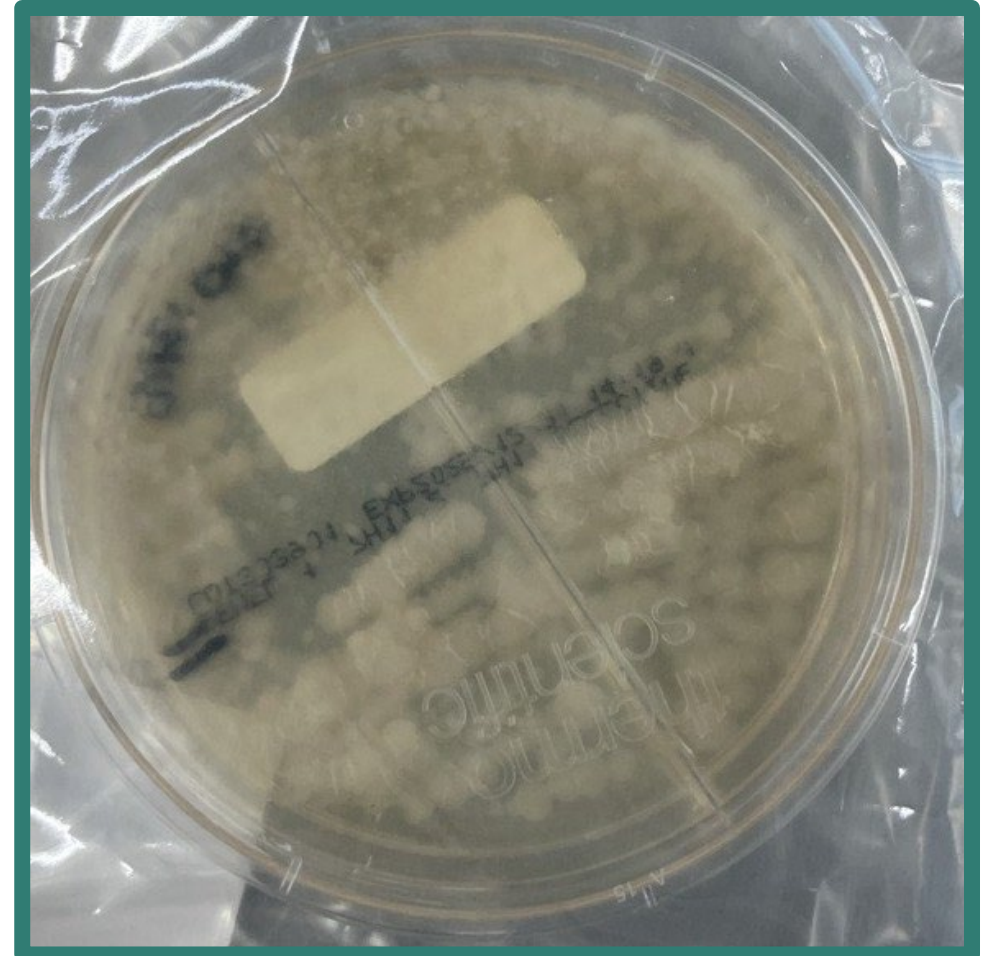
Kinyoun Stain or Ziehl-Neelsen



Colony Morphology



M. chimaera



M. tuberculosis complex

MALDI-tof

Matrix assisted laser desorption
ionization-time of flight

Identification of Mycobacterium

Liquid or solid media



<https://www.biomerieux.com/corp/en/our-offer/clinical-products/vitek-ms-prime.html>



<https://www.bruker.com/en/products-and-solutions/mass-spectrometry/maldi-tof.html>

Drug Susceptibility Testing

Phenotypic testing on the
BACTEC

WGS DSTs



<https://www.bd.com/en-menat/products-and-solutions/products/product-families/bd-bactec-mgit-susceptibility-testing-reagents>

TB Public Health Laboratory Roles



Testing

Act as the reference lab for all private and public labs within jurisdiction



Education and Training

Provide training for specimen handling, testing methods, and safety



Partnership

Support the TB program, health labs, other public health labs

- Becton, Dickinson and Company. *BD BACTEC MGIT Instrument User's Manual*. 2024
- Cepheid. *Xpert MTB/RIF Instructions of Use*. 2024
- Clinical and Laboratory Standards of Institute. *M48-Ed2: Laboratory Detection and Identification of Mycobacteria*. 2018
- APHL TB Steering Committee. *Core TB Laboratory Services for Public Health Laboratories*. 2009

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Thank You/Questions



Providing timely and accurate analytical information for public benefit in Kansas and ensuring the quality of statewide laboratory services through certification and improvement programs.