Children's MINNESOTA

Acid-Fast Bacilli Resulting and Susceptibility Add-On

Purpose

The purpose of this procedure is to provide instructions on documentation on positive smears and positive preliminary results for acid-fast bacilli (AFBB & MYCOB) cultures in Sunquest/Cerner and instructions for adding on Susceptibility testing.

Principal and Clinical Significance

Positive preliminary results will help providers see an up-to-date result with required documentation. The procedure also explains how to utilize MayoACCESS and the Mayo Clinic Laboratories website so that updated culture reports can be easily obtained and susceptibility requests are able to be added on.

Acid-fast bacilli smears and cultures are performed by Mayo Clinic Laboratories (MCL).

Policy Statements

This policy documents and provides instructions for Microbiology critical result notification. Positive AFB smears and cultures are considered critical values and are required to be verbally reported to patient providers as soon as the results are available (Refer to MCVI 4.0 Critical Results).
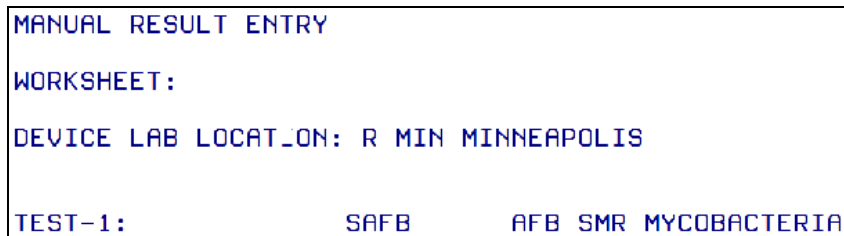
Test Code

AFBB (SAFB and CUTB) for non-blood samples
MYCOB for blood samples

Procedure

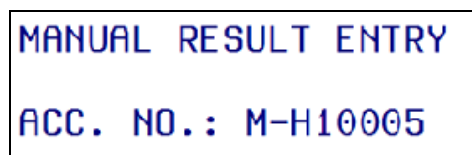**Documentation of Positive Smears**

1. Obtain the "Preliminary (Verbal) Test Results" slip that contains the patient information and result provided by MCL.

2. Obtain official updated report from MayoACCESS. Refer to the section later in this procedure, MayoACCESS Report Retrieval and Updates, for information on retrieving reports.

3. Open SmarTerm and enter function "MEM".

4. Return past worksheet (leave empty).

5. Under the "Test" prompt, enter the appropriate test code (SAFB) and accept (Figure 1).

```
MANUAL RESULT ENTRY

WORKSHEET:

DEVICE LAB LOCATION: R MIN MINNEAPOLIS


TEST-1:          SAFB      AFB SMR MYCOBACTERIA
```
Figure 1. Utilizing MEM in SmarTerm (smear).

6. Enter "**M-**"and then the patient's accession number to allow for modification of the preliminary information (Figure 2).

```
MANUAL RESULT ENTRY

ACC. NO.: M-H10005
```
Figure 2. Entering patient accession number.

7. Return to SMAF. Code **SEMAY** will be present in this line, which indicates to providers to look for the Mayo result that has crossed over.

8. Call provider with result. Underneath the test code, add hyphen, **CAL**, hyphen and semi-colon to free text full documentation of the phone call (name, date, time). Begin with "Called to and read back by*"* (**CAL**). Add the comment "Semi Urgent Result" (**SURE**) after the call information (Figure 3).

```
SS62      : SPU

SMAF      : SEMAY
            -CAL-;Dr. Johnson 11/02/17 1000-SURE
                              **Called to and read back by
                              Dr. Johnson 11/02/17 1000
                              SEMI URGENT RESULT
```

Figure 3. Documentation of result to provider with semi-urgent comment.

9. Accept documentation. The positive smear result from Mayo will be automatically sent into Sunquest via the laboratory interface.

Preliminary Result Reporting (Culture)

1. Obtain the "Preliminary (Verbal) Test Results" slip that contains the patient information and result provided by MCL.

2. Obtain official updated report from MayoACCESS. Refer to the section later in this procedure, MayoACCESS Report Retrieval and Updates, for information on retrieving reports.

3. Open SmarTerm and enter function "MEM".

4. Return past worksheet (leave empty).

5. Under the "Test" prompt, enter the appropriate test code (CUTB or MYCOB) and accept (Figure 4).

```
MANUAL RESULT ENTRY

WORKSHEET:

DEVICE LAB LOCATION: R MIN MINNEAPOLIS


TEST-1:             CUTB
```

Figure 4. Utilizing MEM in SmarTerm (culture).

6. Enter "**M-**"and then the patient's accession number to allow for modification of the preliminary information.

7. After initially ordering AFBB and MYCOB cultures, <HIDE> will be automatically resulted under the preliminary category. This will be removed as positive results are entered.

8. Preliminary results are to be entered under **CTB1P** for the AFBB test code or under **MYCBP** for the MYCOB test code.

9. Use the organism code corresponding to the result provided by Mayo. This can be AFO (Acid Fast Organism) or a more specific organism code, i.e. MTB or MAV

10. Replace <HIDE> with appropriate organism code. (Figure 5 & 6).

Figure 5: Preliminary result update for AFBB

Figure 6. Preliminary result update for MYCOB.

11. To add comments to document the notification to the provider:
- Add hyphen, **CAL**, hyphen and semi-colon to free text full documentation of the phone call (name, date, time).
- Add the comment "Semi Urgent Result" (**SURE**) after the call information (Figure 7).

Figure 7. Documentation of result to provider with semi-urgent comment.

12. **Call Infectious Disease** to ask if susceptibilities are desired.
    - **This step is required.** This is a second call in the morning when entering results.
    - Use AMION to determine the ID physician on call. Look under ID/Immuno/Inf Control section. Call the 'ID Mpls Primary' for inpatients in Minneapolis. Call the 'ID St Paul' for all other patients.

    - Ask which susceptibility are needed.
      - If susceptibilities are requested refer to the following section of the procedure: Susceptibility Add-On Requests.
      - Add hyphen and semi-colon to free text "***Susceptibilities requested***" Add the provider's name, date and time. (Figure 8). This will provide documentation and visibility that susceptibilities have been ordered.
      - Add **SUSI** comment if susceptibilities have already been requested. Add accession number and date/time of collection. This will provide documentation and visibility that susceptibilities have been ordered.
    - Calls to ID do not need to be made if the patient has previous positive results.
    - Susceptibilities may be repeated after 30 days if patient has repeat positive results. ID will call to request.

Figure 8. Documentation of susceptibility request.

1. Enter past CTB1 or MYCB and accept result.

2. Follow instructions below for ordering Susceptibilities.

Susceptibility Add-On Requests

3. Order susceptibility test codes in **Sunquest** GUI General Lab ORM under the **same accession** as the AFBB. Refer to Sunquest SmarTerm MIQ to inquire about temporary Mayo downtime recommendations suggested by LIS.

Mayo Code	Sunquest code	Test Definition
MMLRG	MMLRG	Rapid Growing Mycobacteria Susceptibility
MMLSG	MMLSG	Slow growing Mycobacteria Susceptibility

TB1LN	TB1LN	MTB Complex Susceptibility, Line 1
TB2LN	TB2LN	MTB Complex Susceptibility, Line 2
TBPZA	TBPZA	MTB Complex Susceptibility, Pyrazinamide
MTBPZ	MTBPZ	MTB Complex, Pyrazinamide PCR

- If the desired test is not an orderable Sunquest code and needs to be an MBAT, bring the request to Sendouts for them to add on and complete the necessary billing steps.

4. Open up an Internet page using Chrome and go to the Mayo Clinic Laboratories website (http://www.mayocliniclabs.com/)

5. Click on Message Center
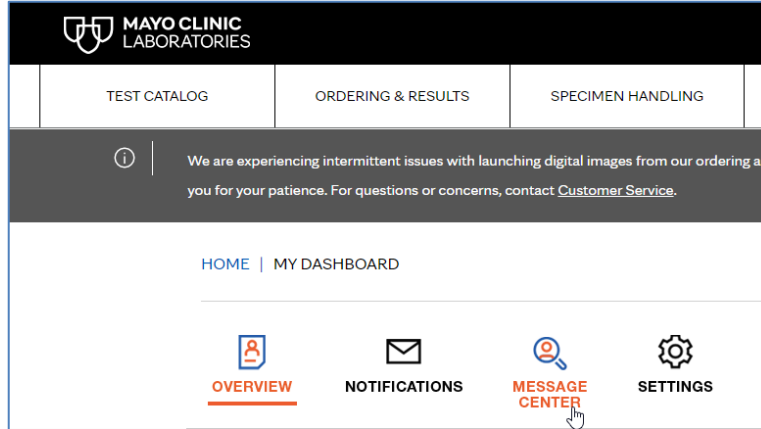
6. Click on New Message in the bottom right corner.
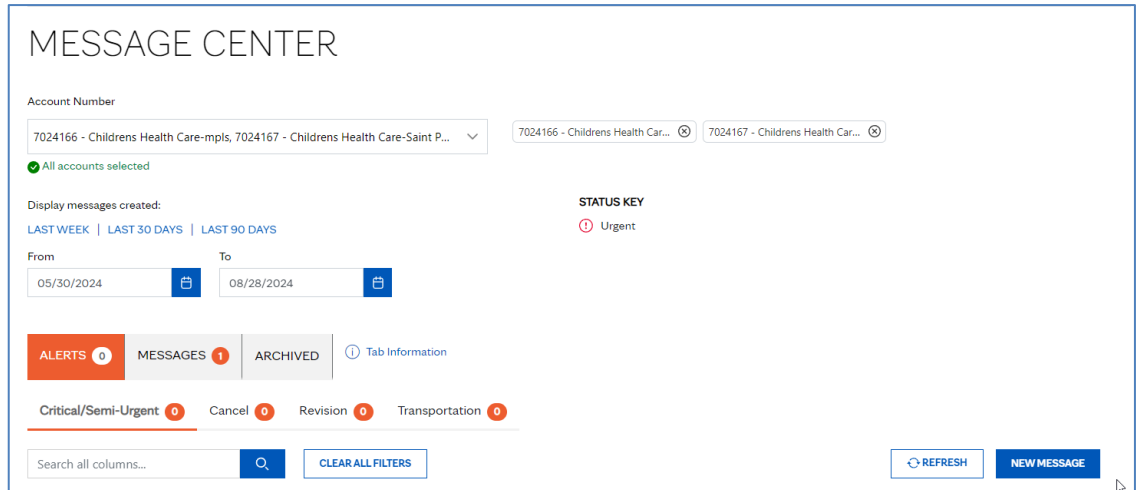
7. Click on the correct Account Number based on patient location.
8. Click on the Drop Down under Message Type and Select Test Add On.

9. **Important!** Click in box to authorize the request to request Additional testing on behalf of the provider. And then click on 'No" to answer if separate specimen is being sent for this request.

10. Enter the accession number under Client Order Number or other fields of information. Verify the patient information that populates is correct.

11. Add Mayo test code in the Test ID or Test Name field. You can also add comments in the Discussion field. Click on Submit.

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12. Antibiotics on each panel include:

- **MMLRG- Rapidly Growing Acid-Fast Bacilli**
  - Antimicrobials tested = Amikacin, cefoxitin, ciprofloxacin, clarithromycin, clofazimine, doxycycline, imipenem, linezolid, moxifloxacin, tobramycin, trimethoprim/sulfamethoxazole and tigecycline.

- **MMLSG- Slowly Growing Acid-Fast Bacilli**
  - Antimicrobials tested depend on the organism that is recovered. Refer to the Mayo Medical Laboratories website for this information.

- **TB1LN- *Mycobacterium tuberculosis* Complex, First Line**
  - Anti-mycobacterial drugs tested = Isoniazid, rifampin, ethambutol and pyrazinamide.

- **TBPZA- Susceptibility *Mycobacterium tuberculosis* Complex, Pyrazinamide -Also order in Sunquest using code TBPZA**
  - Commonly ordered along with TB1LN (first line agent)
  - **Check Mayo Medical lab website** to ensure test is available (it frequently is unavailable)

TEST ID : **TBPZA**

This test is temporarily unavailable. As an alternate, order MTBPZ. For additional details, see test update Here.

Susceptibility, Mycobacterium tuberculosis Complex, Pyrazinamide, Varies

  - If **TBPZA** is unavailable, please order **MTBPZ** instead.
  - The code **TBPZA** (first choice) and **MTBPZ** (second choice if TBPZA is unavailable) are orderable in Sunquest. Order separately so it can be resulted when completed.

- **TB2LN- *Mycobacterium tuberculosis* Complex, Second Line**
  - Antimycobacterial drugs test = Amikacin, ethionamide, kanamycin, moxifloxacin, ofloxacin, p-aminosalicylic acid, rifabutin, and streptomycin.

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- If the organism is still unknown and a susceptibility test code cannot be chosen, enter the following message in the 'Additional Notes' section: <u>"Please perform appropriate susceptibilities. Contact Children's Microbiology at 612-813-5866 if susceptibility ordering needs further confirmation.</u>

13. Submit the form to MCL.
14. Print a copy and deliver to the Send Out department. They will monitor to ensure it is resulted.
15. If you have any difficulty with the Mayo Message Center add on process, the Send Out Department can help.

MayoACCESS Report Retrieval & Updates

1. Open MayoACCESS by clicking the shortcut on the desktop or by entering the following web address into an Internet Chrome browser: https://www.
2. Log on using a unique user name and password.
   - Username is your email address. Access must be set up with Mayo at https://www.mayocliniclabs.com/. Click Register to register on the mayocliniclab.com website. Notify Children's Microbiology Technical Specialist to be granted access to the Children's accounts.
   - Passwords must be at least 6 alphanumeric characters and case specific (no special characters). Passwords must be changed after 180 days.
   - *Users must log on to MayoACCESS <u>at least once every 60 days</u> to avoid inactivation of an account. A bi-monthly reminder will be sent out to ensure that this is performed.*

3. Choose the appropriate account number based off which campus the patient is registered under.
   - <u>Minneapolis = C7024166</u>
   - <u>St. Paul = C7024167</u>

   If you wish to change accounts, users are able to change this on the following home screen (Select '*User*' → '*Other Sites*' → Choose Appropriate Account # → Click '*Change*')

4. On the home screen, choose the dropdown menu '*Orders*' and select '*Order Search*' (Figure 9).
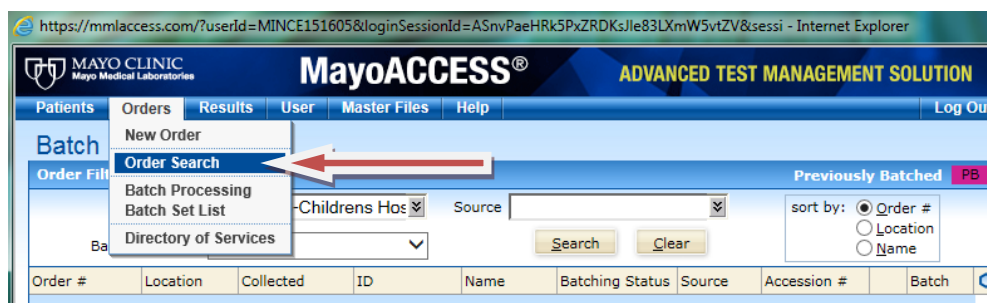

Figure 9. MayoACCESS order search.

5. Choose the '*Search Criteria*' tab.

6. To limit the search criteria, utilize the '*Contains Test*' box. Use code "**CTB**" for Mycobacterial Cultures or "**CTBBL**" for Mycobacterial Blood Cultures. Hit enter or choose either of these from the dropdown menu. A date range may be used if desired (Figure 10).
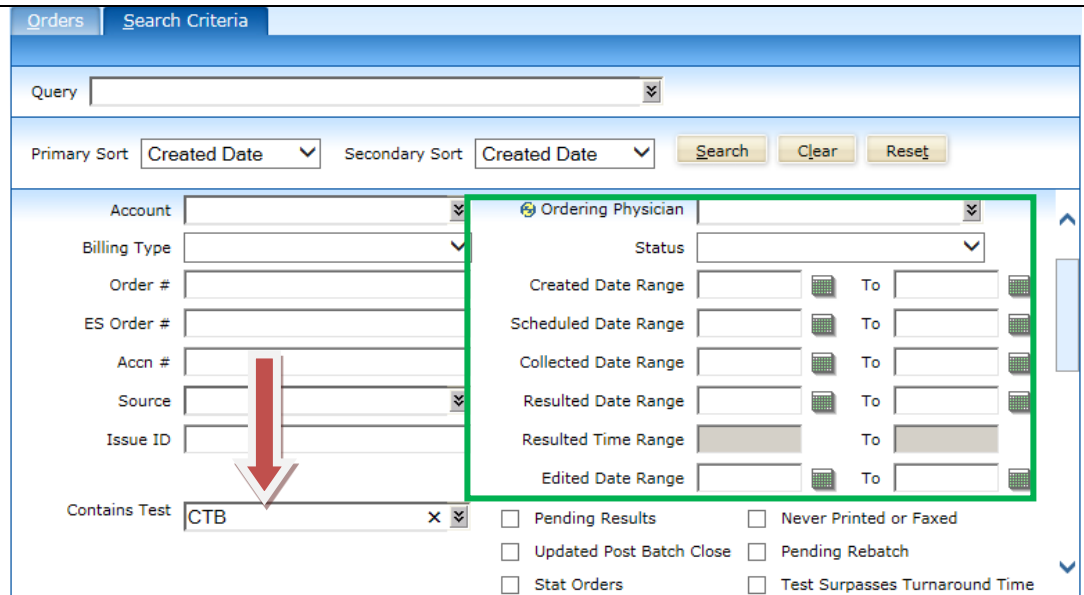
Figure 10. Customized search for Mycobacterial cultures.

7. Click the '*Search*' button.

8. All CTB orders will be displayed. Search for the patient name and accession number that matches the positive results from the MCL phone call. Children's accession numbers can be found under the 'Order #' category. Children's MRN numbers will fall under the 'ID' category.

9. Once the patient is selected, an updated report needs to be printed and held in the Microbiology Laboratory. Select the dropdown menu next to '*Report*' and choose '*Print Report*' (Figure 11). You can also set the '*Report*' button as a default print option by selecting '*Toggle Default Action'*.
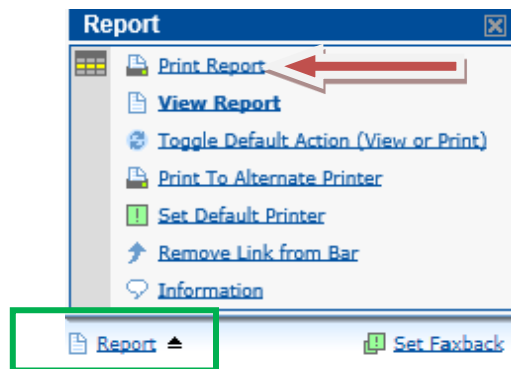
Figure 11. MayoACCESS report view.

10. In order to obtain an updated culture result as it becomes available, confirmation of a faxback report needs to be completed under the order number. Select '*Set Faxback'*.

11. On the following screen, select '*New Fax Number'*. The fax number for Children's Laboratory will be automatically added. Select '*Save Fax Number'*. Then, click '*Close*' (Figure 12).

Figure 12. MayoACCESS faxback.

12. Click 'Refresh Grid'. The patient should now display an icon at the end of the row that shows that a faxback has been requested (Figure 13).

Figure 13. MayoACCESS faxback symbol.

13. Obtain the printed report. Document on the report that a "faxback" has been requested. If applicable, attach to susceptibility test add-on form. Hold preliminary results in the "AFB Prelim" folder.

14. Once an updated identification has been received, the new information needs to be entered into the preliminary result line.

15. Refer back to the Preliminary Result Reporting section and perform steps 1-9.

16. Edit the culture information by appending the updated identification at the bottom of the preliminary result (Figure 14). Avoid modification of the original result, as this will call for a corrected report.

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SS63     : SPU

CTB1P    : AFO-CAL-;Dr.Johnson 09/27/17 0715-SURE
           -MTB                MYCOBACTERIUM TUBERCULOSIS
CTB1     :
```

Figure 14. Appending an updated identification.

Final Report

1. Once the culture is finalized through MCL, results will be dynamically downloaded into Sunquest under the "CTB1" category. This will allow for provider access in Cerner.

Training Plan/ Competency Assessment

Training Plan	Initial Competency Assessment
1. Employee must read the procedure. 2. Employee will observe trainer performing the procedure. 3. Employee will demonstrate the ability to perform procedure, record results and document corrective action after instruction by the trainer.	1. Direct observation.

Historical Record

Version	Written/Revised by:	Effective Date:	Summary of Revisions
1	Susan DeMeyere, Andrew Fangel	10/13/2017	Initial Version
2	Susan DeMeyere, Andrew Fangel	12/8/2017	Added how to document positive smear result call comment. Added obtain report from MayoACCESS before resulting in MEM.
3	Susan DeMeyere	5/31/2023	Added instructions for when TBPZA testing is unavailable
4	Susan DeMeyere	8/8/2024	Added to call ID regarding susceptibilities.
5	Susan DeMeyere, Sandra Tekman	9/18/2024	Added instructions for using Message Center and adding susceptibility codes in Sunquest.