

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 Clinical Significance	and	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 <u>MCVI 4.0 Critical Results).</u>
Test Code	-	AFBB (SAFB and CUTB) for non-blood samples MYCOB for blood samples
Procedure		Decumentation of Positivo Smoore
		Documentation of Positive Smears
		 Obtain the "Preliminary (Verbal) Test Results" slip that contains the patient information and result provided by MCL.
		 Obtain official updated report from MayoACCESS. Refer to the section later in this procedure, <u>MayoACCESS Report Retrieval and Updates</u>, 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



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.
- 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).



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, <u>MayoACCESS Report Retrieval and Updates</u>, 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).



DEVICE	LOC: R MIN MINN	EAPOLIS		HOSP.	ID: MIN
ACC NO	NAME	PN: MCSV-5050	AGE/SI	EX LOC	PHYSIC
H5307	MYCOB, TESYT		U	MCSV	SCHMIT
		DOB:	00/00/0000	COLL:	06/16/2022
CID:					
SS63	: SPU				
CTB1P	: HIDE				
	МТВ	MYCOBACTERI	UM TUBERCULO	SIS COMP	LEX
CTB1	:				

Figure 5: Preliminary result update for AFBB

LOC: R MIN MINN	EAPOLIS		HOSP. ID:
NAME	PN: MCSV-5050	AGE/SE	X LOC
MYCOB, TESYT		U	MCSV
	DOB:	00/00/0000	COLL: 06/
: BLD			
: HIDE			
MTB	MYCOBACTERI	UM TUBERCULOS	SIS COMPLEX
:			
	LOC: R MIN MINN NAME MYCOB,TESYT : BLD : HIDE MTB :	LOC: R MIN MINNEAPOLIS NAME PN: MCSV-5050 MYCOB,TESYT DOB: : BLD : HIDE MTB MYCOBACTERI :	LOC: R MIN MINNEAPOLIS NAME PN: MCSV-5050 AGE/SE MYCOB,TESYT U DOB: 00/00/0000 : BLD : HIDE MTB MYCOBACTERIUM TUBERCULOS :

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).

DEVICE ACC NO	LO	C: R NAME	MIN	MINNEA	POLI PN:	IS MCSV-5	050		AGE/SE	H <mark>OSP.</mark> X LOC
H5307		MYCO	B,TE	SYT					U	MCSL
							DOB:	00/00	/0000	COLL:
CID:										
SS63	:	SPU								
CTR1D		мтр								
CIDII	•	-CAL-	DR S	SCHMITT	140	00 6/16	/2022	-SURE		
						**Call	ed to	and r	ead bac	k by
						DR SCH	MITT	1400 6,	/16/202	22
						SEMI-U	RGENT	RESUL	Т	
CTB1	:									

DEVICE <u>ACC NO</u> H5297 CID:	LOC: R MIN MINNEAPOL NAME PN: MYCOB,TESYT	IS MCSV-5050 DOB:	AGE/SE U 00/00/0000	HOSP. <u>X LOC</u> MCSV COLL:	ID: MI PH SC 06/16/
SS64	: BLD				
МҮСВР	: MTB -CAL-;Dr Schmitt at	: 1400 6/16/20 **Called to	022. and read bac	k by	
МҮСВ	:			EUEL.	

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 MpIs 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: <u>Susceptibility Add-On Requests</u>.
 - 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.

		TENTOU	
	MHNUHL RESUL	I ENIRY	
DEVICE	LOC: R MIN MINNEAPOLIS	HOSP. ID:	MIN
ACC NO	NAME PN: 4690252	AGE/SEX LOC	PHYSICI
F4980	ZZZTESTBUILD,COPATH AUTOPSY	29M M 7122-01	CASEY,
	DX: SICK		
	DOB:	04/01/2015 COLL: 09/	01/2017
SS63	: BR		
CTB1P	: MTB-CAL-;Dr. Johnson 9/6/17 1000	-SURE	
	-:Susceptibilities requested 9/7	/17 1200 per Dr. Johns	on
	Suscentibili	ties requested 9/7/17	1200 ner
neon	000000010111		1200 001
CTR1			
CIDI	•		

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

 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 (<u>http://www.mayocliniclabs.com/</u>)
- 5. Click on Message Center

HABORATORIES			
TEST CATALOG	ORDERING & RESULTS	SPECIME	N HANDLING
We are expr you for your	ariencing intermittent issues with patience. For questions or conce	launching digital ima _i rns, contact <u>Custom</u> i	ges from our ordering ap <u>er Service</u> .
HOME	MY DASHBOARD		
OVERV			

6. Click on New Message in the bottom right corner.

7024166 - Childrens Health Care	-mpls, 7024167 - Childrens Health Care-Saint P 🗸	7024166 - Childrens Health Car 🛞	7024167 - Childrens Health Car 🛞	
All accounts selected				
Display messages created:		STATUS KEY		
LAST WEEK LAST 30 DAYS	LAST 90 DAYS	() Urgent		
From 05/30/2024	To 08/28/2024 Ё			
ALERTS 0 MESSAGE	ARCHIVED (i) Tab Information			

- 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.



CREATE MESSAGE	
MESSAGE INFORMATION	
Account Number	
7024166 - Childrens Health Care-mpls	
7024166 - Childrens Health Care-mpls Message Type For an urgent request: submit a message, call Customer Service, and re	ference the Mayo Case Numb
7024166 - Childrens Health Care-mpls Message Type For an urgent request: submit a message, call Customer Service, and re	ference the Mayo Case Numb
7024166 - Childrens Health Care-mpls Message Type For an urgent request: submit a message, call Customer Service, and re Test Add On	ference the Mayo Case Numb
7024166 - Childrens Health Care-mpls Message Type For an urgent request: submit a message, call Customer Service, and re Test Add On Inquiry	ference the Mayo Case Numb

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.

MESSAGE INFORMATION		
Account Number		
7024166 - Childrens Health Care-mpls	\sim	7024166 - Childrens Health Car
Message Type		
For an urgent request: submit a message, call Customer Service, and reference the Mayo Ca	ase Number.	
Test Add On	~	
By clicking the box, I agree that I am authorized to request additional testi understand that additional charges will be applied, and provider signature Mayo Clinic Laboratories upon request.	ing on this spe (s) and related	cimen on behalf of the ordering provide documentation shall be made available
Is a separate specimen 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.

PATIENT INFORMATION							
Select an order by searching on any one field or a combina	tion of any of the fields below.						
Medical Record Number	Client Order Number		Mayo Accession Number				
Q		Q		Q			
Last Name	First Name		Date of Birth				
Q		Q	mm/dd/yyyy				

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.



MMLRG	I	×	Q
MMLRG - Susc Growing	s, AFB, Rapidly	ď	+
DISCUSSIO	N		
CLEAR	MATTACH		
♦ CLEAR	Mattach		

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

TEST ID : TBPZA

- 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)

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.



- 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</u> <u>susceptibilities</u>. Contact Children's Microbiology at 612-813-5866 if susceptibility ordering needs further confirmation.
- 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 <u>https://www.mayocliniclabs.com/</u>. 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' \rightarrow 'Other Sites' \rightarrow Choose Appropriate Account # \rightarrow Click 'Change')

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

e	https://mmlaccess.com/?userId=MINCE151605&loginSessionId=ASnvPaeHRk5PxZRDKsJle83LXmW5vtZV&sessi - Internet Explorer													
Ţ		O CLINIC	ies		Ма	yoAC(CESS®		ADVAN	ICED TES	T MANAGEMI	ENT SO	DLUTIO	DN
	Patients	Orders	Resu	lts U	ser I	Master Files	Help						Lo	g Out
	Batch	New Ord	ler											
	Order Filt	Order Se	earch	<							Previou	ly Bat	ched	PB
		Batch Pi Batch Se	rocessii et List	ng	-Childre	ens Hos 🛛	Source			*	sort by:	• <u>O</u> rde	er #	
	Ва	Director	y of Ser	vices		~		Search	Cle	ar		○ <u>L</u> oca ○ <u>N</u> am	ition ie	
	Order #	Locat	ion	Collect	ed	ID	Name	Batch	ing Status	Source	Accession #		Batch	0

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).



<u>O</u> rders <u>S</u> earch	Criteria
Query	×
Primary Sort Cre	ated Date V Secondary Sort Created Date V Secondary Reset
Account	Cordening Physician
Billing Type	Status V
Order #	Created Date Range To To
ES Order #	Scheduled Date Range To To
Accn #	Collected Date Range To To
Source	Resulted Date Range To
Issue ID	Resulted Time Range To
	Edited Date Range To
Contains Test	CTB × V Pending Results Never Printed or Faxed
	Updated Post Batch Close Pending Rebatch
	Stat Orders Test Surpasses Turnaround Time

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).



遵 https://mn	MayoAccess		x	prer	
	Faxback Settings fo	Order# M46916		OLUTI	ON
Patients	Fax Number To	Cover Sheet	0	s Lo	og Out
Order			^		
Orders			~	rders	SO
Collected (☑ Include Cover Sheet			0
08/28/17 N	т	Lab Save Fax Number			
08/25/17 F	Company	C7024166-Childrens Hosp & Clinic		ER.	Ê
08/23/17 V	😣 Fax Numbe	(612)813-6951			
08/18/17 F	Phone Numbe	(612)813-6280			
08/18/17 F	Messag	(012)013-0200			
08/10/17 H	incody.	^			
08/10/17 H		✓			
08/07/17 N					
08/03/17 S		Close			
08/04/17 F			2		
08/03/17 H					~
08/04/17 H					
🖹 Order	Edit Or	er 🖻 Perform Order 🕒 Report 📳 Set Fax	back		
E Search Res	sults 🕒 Pending	Tests 🖉 Refresh Grid 🖻 Export Grid			

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).

ck	CE	Faxback	FE	B Sta	t C)rde	ers	S	D
Ac	ct	Phys	-	Туре					0
C7	024	KURACHEK, ST	ΈF/	Account					
C7	024	MOORE, BROO	KE/	Account					^
C7	024	MCNAMARA, JO	эн	Account			FB		
C7	024	ZGHEREA MD,	DA	Account					L

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.

SS63	:	SPU				
CTB1P	:	AFO-CAL-;Dr.Johnson -MTB	09/27/17 MYCOBACTE	0715- RIUM	-SURE TUBERCULOSIS	
CTB1	:					

Figure 14. Appending an updated identification.

Final Report

Training Plan

1.



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.

1.

Initial Competency Assessment

Direct observation.

Training Plan/ Competency Assessment

Employee will observe trainer performing the procedure.
 Employee will demonstrate the ability to perform procedure, record results and document corrective action after instruction by the trainer.

Employee must read the procedure.

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.