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Prepared by QA Committee		
Issued by: Laboratory Manager	Revision Date: 4/17/2023	
Approved by Laboratory Director: Microbiologist-in-Chief	Next Review Date: 4/17/2025	

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Added accession guide for Extended Panel- Multiplex Respiratory Viral PCR Detection..... 39

Bench Duties

Specific duties are delegated as part of each bench assignment per shift, weekday, weekend and holidays inclusive.

Each bench will complete and sign off on duties as assigned within the [Bench Duties](#) form provided on a daily basis.

If unable to complete any daily duty, bench staff must alert senior technologists in the area as soon as possible before end of shift. The senior technologist will arrange to ensure duties are taken care of.

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Bench Workflow

WASPLAB Workflow

Screening/Reading Workflow (Monday-Friday)



1. Screen all available Blood Cultures first
2. Ensure you go into each specimen number in LIS to check:
 - a. If there was an ID that matches the gram stain
 - b. Check to see gram was called under call window
 - c. If there is a colonial description associated with “Send for Work-Up” line
 - d. If identification has been accepted at an earlier reading time check to see if the things below have been completed:
 - i. If FILM was used as colonial morphology, please update according to WASPLab image
 - ii. Sensitivities for specific organisms with correct keypad sensi input (i.e. AST391/AST580...etc)
 - iii. If no sensitivities needed, please add “No sensitivity/Refer sensitivity comment” under Isolate Comments
 - iv. Offline Tests (BLACTA, STRNG, FRZ, Wellcolex, PBP2a)
 - v. If anything of the above are missing, press “Send for Work-Up” and give to old BC for further work-up.
 - e. If the isolate is a GNB, ensure that at least 1 of the readings of the MAC plate states that it is either an LF or NLF
 - i. If both sets are gram positive cocci in clusters, ensure both sets have had an identification associated with the set.
 - f. At 18 Hour Culture Reading:
 1. If it is growing aerobically and everything above is completed, write in respective FA/FN COMM: All Checked + Date
 2. If it is not growing aerobically, write in respective FA/FN COMM: WAITING FOR BRUC + Date
 - g. Interim if all plates (BA, MAC, CHOC, BRUC) for both sets are completed and all workup is completed at 48 hours
 - i. If only 1 set positive, ensure second set becomes negative first before interming
3. Go to Phenomatrix
 - a. Screen all negative MRSA, VRE, and Urines first
 - b. Screen positive MRSA and VRE
 - i. Change reading of culture if applicable if colony does not resemble Staph aureus or Enterococcus species

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- c. Screen all NSG and Mixed Growth Urines
 - i. For women of child bearing age be sure to send any cultures suspected with GBS to reader
- d. Screen positive Burgundy Pink E-coli's
- e. Screen other positive urines
- 4. Go to Screening
 - a. Screen all available CRE/ESBL
 - b. Screen all available Stools
 - c. Screen all available GBS
- 5. Go to Reading
 - a. Ensure you are the only reader and remove readers from previous shift(s) and assign yourself to everything
 - b. Read all available MRSA, VRE, CRE/ESBL
 - i. Ensure to check previous positive MRSA, VREs, and ESBL within 3 months and document in LIS.
 - c. Read all available Urine and Stool
- 6. Go on break
- 7. Check and mark plates on end line 200, and canisters 201 and 202 for error plates
 - i. Reload plate(s) back before Incubator 1
 - ii. If still unsuccessful read and document offline (any problems with WASPLab imaging present to Senior or SuperUser to delete plate)
- 8. Review all Campy's on Screening pages
 - a. For Stools
 - i. Ensure that the following work-up has been completed:
 1. Wellcolex for NLF/Green E-coli's identified by MS
 2. Oxidase for applicable colonies
 3. If other Shigella/Salmonella/E-coli O157 serologies are missing please give to UR/STL Bench
 4. Not significant isolates are alpha'd out and verified
 - ii. Interim if applicable
 - b. If Campy's does not have an image and is stuck on screening
 - i. Reload plate a maximum of 2 additional times
 - ii. If image still does not appear: read and document offline and let a Senior/SuperUser know to delete plate(s)
 - c. Go through EACH Campy plate in LIS to ensure Screening result has uploaded correctly
- 9. Go through Red Triangle samples and send them to stacker 109
 - a. Investigate each plate ensuring to update reading on plate accordingly
 - i. Keep plate if necessary

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- ii.QCOM plates under WASP with comment Red Triangle
- 10.Repeat steps 1-5 as necessary
- 11.Throw out WASPLab garbages and biohazard boxes if full
- 12.Discard Campy plates >4 days – move to individual benches
- 13.Troubleshoot WASPLab alarm on a rotational basis
 - a.Anytime you finish troubleshooting, be sure to check 200 line and canister 201 and 202 for reloading or offline incubation
- 14.At 2pm repeat step 6-9
- 15.At 3pm stop screening and finish anything on reading
 - a.Read evening OX/VA and VANCS screens and divide evening old work to respective benches
 - b.Help set up sensi's/work in New Rack if applicable
 - c.Log out of "Reading" for all specimen types.
- 16.Once all specimens in reading are finished, and all other work is completed, go back to screening until end of shift. Ensure to read all available specimens and that pickers pick these specimens.



Picker 1 Workflow (Rotate duties with Second Picker if applicable)

- 1.MS plates in "To Be MS Rack" put by previous shift(s)
- 2.Start MS slide with controls
- 3.Obtain ALL plates from Stackers ensuring you separate each sample type
 - a.Check on Dashboard → Stackers Status to see what plates are present in canisters that are "available" for pick up
- 4.Check canisters 201 and 202 for plates and investigate why the plates are there
 - a.Reload plates or incubate offline as applicable
- 5.Set aside any CRE/SBVRE/Pure E-coli's
- 6.Start your 16 spot MS Slide (DO NOT go over 16 spots)
 - a.Pick BC
 - i.Go into each plate and describe the colonial morphology as per the Blood Culture Picking Manual
 - ii.Clearly input isolates when appropriate in LIS
 - iii.Print labels ensuring the right isolate number is written on the label
 - b.Pick IC/Urines/Stools
 - i.Print labels and be sure the right isolate number is written on the label
 - ii.Perform VRE PCR on purple colonies along with ¼ SBVRE plate and place onto old IC Bench
- 7.Scan and Load MS Slide
 - a.As slide is loading/firing print labels CRE/SBVRE/Pure E-coli's and prelim the samples before putting them in the rack (if not done by Picker 2)

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- i. Perform oxidase on applicable CRE colonies and document on plate
 1. If Oxidase positive, document result in LIS and alpha out isolate before Final status
8. Go on break
9. Review and re-fire slide as necessary
10. On isolates with successful identification:
 - a. Blood Cultures
 - i. Check history
 - ii. Verify and prelim isolate
 - iii. Set up all BC sensitivities if necessary and offline tests as per bacteria work up (i.e. BLACTA/STRNG... etc)
 - iv. Freeze isolates that do not require sensitivities
 1. Please remember to freeze all FPATH
 - v. Add sensitivity comments regarding no sensitivity/refer sensitivity as required
 - vi. Interim culture if applicable
 - b. Infection Control
 - i. Check history if applicable
 - ii. Perform DENKA on Staph aureus' identified on DBLUE agar
 - iii. Verify and prelim plates giving to Old IC for further work up
 - c. Stool
 - i. Verify, alpha (if applicable), and prelim plates that do not require further workup, place into done Stool rack for filing.
 - ii. For isolates requiring further serologies, subculture plate(s) onto Blood Agar and place into Working Stool Rack
 - d. Urines
 - i. Check history to see if there was a previous <3 days for cultures requiring sensitivities and refer if applicable
 - ii. Verify and prelim culture before putting into rack
 1. Write SPICE/PSEUDO on plate if additional disks are required
 2. Write 580 OX/VA or 67 VA on Staph aureus and Entero cultures
 - iii. Interim culture if applicable
11. Repeat steps 3-10 on rotational basis with Picker 2
12. Troubleshoot WASPLab alarms on a rotational basis
 - a. Anytime you finish troubleshooting, be sure to check 200 line and canister 201 and 202 for reloading or offline incubation
13. Throw out WASPLab garbages if full
14. Load last slide at 2:45pm
 - a. Review slide and complete work on plates before starting step 15

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15. By end of shift (done with Picker 2):

- a. Take all plates out of stackers and pick accordingly with labels
- b. Place plates in respective rack that requires MS for next shift
- c. Review picking list to ensure no plates are missing
- d. Help set up sensi's/work in New Rack if applicable
- e. Log out of "Reading" for all specimen types.
- f. Ensure no samples are in Reading or Picking
- g. File and date GBS+Yeast into drawer

16. Stock up media and consumables for next shift

Picker 2 Bench (rotate with Picker 1)



1. Take out new controls and distribute to benches and incubate new ones.
 - a. Ensure that Enterobacter and Candida glabrata controls are only 1 week old.
2. Throw out any full WASPLab garbages
3. Check end line and reload plates before Incubator 1
4. Check canisters 201 and 202 for plates and investigate why the plates are there
 - a. Reload plates or incubate offline as applicable
5. Remove any plates seen from Canisters for further work up
 - a. Give positive BC's to Picker 1
 - b. Pick, perform offline tests, and/or prelim other plates as applicable
6. Help Screener screen Positive IC in Phenomatrix and CRE/ESBL in screening (if Picker 1 has not loaded their slide yet)
 - a. Read positive IC after complete
7. After Picker 1 has loaded their slide proceed to start your slide
 - a. Follow steps 5-10 under Picker 1
8. Repeat steps 3-10 on rotational basis with Picker 1
9. Troubleshoot WASPLab alarms on a rotational basis
 - a. Anytime you finish troubleshooting, be sure to check 200 line and canister 201 and 202 for reloading or offline incubation
10. Throw out WASPLab garbages if full
11. Load last slide at 2:45pm
 - a. Review slide and complete work on plates before starting Step 11
12. By end of shift (done with Picker 1):
 - a. Take all plates out of stackers and pick accordingly with labels
 - b. Place plate in respective rack that requires MS for next shift
 - c. Review picking list to ensure no plates are missing
 - d. Help set up sensi's/work in New Rack if applicable
 - e. Log out of "Reading" for all specimen types.
 - f. Ensure no samples are in Reading or Picking

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- g. File and date GBS+Yeast into drawer
 13. Stock up media and consumables for next shift

Old IC Bench (Monday – Friday)

1. Take out IC cart from incubator
2. Read and set up all old IC work
 - a. Go through old work for plates needed for MS and place into the To Be MS rack
 - b. Screen through kbmems CRE and put aside any small zone sizes for MS and place into the To be MS rack
 - c. Work up other MRSA/VRE/ESBL/CRE as required
3. Check offline IC bin
4. Check all IC lists after completing old IC work
5. Discard old VRE, CRE, MRSA plates > 7days
6. Set up new work from New Working Rack or plates given by Pickers
7. Troubleshoot WASPLab Alarms on a rotational basis
 - a. Anytime you finish troubleshooting, be sure to check 200 line and canister 201 and 202 for reloading or offline incubation
8. Read Evening Old IC work at 3:00 pm given from screening bench.
9. Stock up media and consumables for next shift

Old IC Bench/Stool/Gyne Bench (Weekend and holidays)



1. Take out IC cart and WASP controls from incubator
2. Read WASP Controls and take QC Document from front end WASP. Document in LIS and inform senior when suspicious results occurs
3. Read and set up all old IC work
4. Check offline Urine bin, IC bin, and Working Stool rack
5. Check all IC lists after completing old IC work
6. Read and set up all old stool – including opening at least one 48hr Campy jar and subbing 4 control plates for technicians
7. Set up GBS if applicable from previous day
8. Check old Urine/Stool/Gyne worklists
9. Discard old VRE, CRE, MRSA plates, urine, GBS plates, and GBS broths > 7days
10. Go through Campy plates that have come out of WASPLab after screening has been complete
11. Set up new work from New Working Rack
 - a. Triage work from previous shift if left over and then newest samples for both IC and Urines
12. Set up new Stool work given from Picker

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13. At 11am pull out orange CAROT broths for Streptococcus grouping
14. Set up new GBS when available
15. Troubleshoot WASPLab Alarms on a rotational basis
 - a. Anytime you finish troubleshooting, be sure to check 200 line and canister 201 and 202 for reloading or offline incubation
10. Read Evening Old Urine and IC work at 3:00pm
11. Stock up media and consumables for next shift

Old Urine/Stool/Gyne Bench (Monday – Friday)

1. Read Wasp Controls and take QC Document from Wasp. Document in LIS and inform senior when suspicious results occur
2. Check offline Urine bin, Working Stool rack, and GBS rack
3. Read old Urine sensi and set up all old Urine work from old Urine Rack
4. Read and set up all old stool
5. Load Campy plats on Wasp Lab (screened by Wasp) then check in LIS that it is complete
6. Set up GBS if applicable from previous day
7. Check Urine/Stool/Gyne worklists
8. Discard old urine, GBS plates and GBS broths > 7days
9. Set up new work from New Working Rack
10. At 11am pull out orange CAROT broths for Streptococcus grouping
11. Set up new GBS when available
12. Troubleshoot WASPLab Alarms on a rotational basis
 - a. Anytime you finish troubleshooting, be sure to check 200 line and canister 201 for reloading or offline incubation
12. Read Evening Old Urine work at 3:00pm
13. Stock up media and consumables for next shift

Old Urine (Weekend and holidays)

1. Stat Bench to read old Urine sensi and set up all old Urine work from old Urine rack

Old BC Bench (Monday – Friday)



1. Read and setup all old BC work
 - a. Freeze isolates after sensi is completed
 - b. Check to make sure all extra tests are completed
2. Open 48 hour anaerobic jars document and Brucella plates markup where appropriate
3. Check all old BC worklists
 - a. Freeze isolates that do not require sensi
 - b. Check to see appropriate tests have been completed:

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- i.If FILM was used as colonial morphology, please update according to WASPLab image
- ii.If result has been phoned to ward
- iii.Sensitivities for specific organisms
- iv.Extra Tests (BLACTA, STRNG, FRZ, Wellcolex, PBP2a)
- 4.Discard old blood plates >7days
- 5.Troubleshoot WASPLab Alarms on a rotational basis
 - a.Anytime you finish troubleshooting, be sure to check 200 line and canister 201 for reloading or offline incubation
- 6.Read Evening Old BC Work at 3:00pm
- 7.Stock up media and consumables for next shift

Old BC Bench (Weekend and holidays)



- 1.Read and setup all old BC work
 - a Freeze isolates after sensi is completed
 - b.Check to make sure all offline tests are completed
 - c.Mark and count number of plates loaded on WASPLab
 - d.You can now load a few plates before Incubator 2 and 3 to avoid congestion
 - e.Any Brucella/Campy plates that reach the 200 error lane:
 - i.Mark plates with “200”
 - ii.Reload back before Incubator 1
 - iii.If still unsuccessful read and document offline (any problems further with WASPLab imaging present to SuperUser to delete plate)
- 2.Open 48hr anaerobic jars for BC Brucella document and markup where appropriate (no need to load on WASP)
 - a.Check to see appropriate tests have been completed:
 - i.Check for FA/FN COMM
 - ii.If FA/FN COMM is not complete, check:
 - 1.Colonial morphology is appropriate for organism ID
 - 2.Sensitivities for specific organisms
 - 3.Offline Tests (BLACTA, STRNG, FRZ)
 - 4.Freezen isolates as per blood culture SOP
 - iii.Interim when everything is complete
- 3.Check all old BC worklists
- 4.Discard old blood plates >7days
- 5.Troubleshoot WASPLab Alarms on a rotational basis
 - a.Anytime you finish troubleshooting, be sure to check 200 line and canister 201 for reloading or offline incubation
- 6.Read Evening Old BC Work

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7. Stock up media and consumables for next shift

Screening/Reading/Picking Workflow (Weekend/Holiday):



1. Take out new controls and distribute to benches and incubate new ones.
 - a. Ensure that Enterobacter and Candida glabrata controls are only 1 week old.
2. Screen all available Blood Cultures first
 - a. Ensure you go into each specimen number in LIS to check:
 - i. If there was an ID that matches the gram stain
 - ii. If gram smear was called under call window
 - iii. If there is a colonial description associated with “Send for Work-Up” line
 - iv. If identification has been accepted at an earlier reading time check to see if the things below have been completed:
 1. If FILM was used as colonial morphology, please update according to WASPLab image
 2. Sensitivities for specific organisms with correct keypad sensi input (i.e. AST391/AST580...etc)
 3. If no sensitivities needed, please add “No sensitivity/Refer sensitivity comment” under Isolate Comments
 4. Offline Tests (BLACTA, STRNG, FRZ, Wellcolex, DENKA)
 5. If anything of the above are missing send plate Send for Work-Up and give to old BC for further work-up.
 - b. If the isolate is a GNB, ensure that at least 1 of the readings of the MAC plate states that it is either an LF or NLF
 - c. If both sets are gram positive cocci in clusters, ensure both sets have had an identification associated with the set.
 - d. Interim if all plates (BA, MAC, CHOC, BRUC) for both sets are completed and all workup is completed at 48 hours
 - i. If only 1 set positive, ensure second set becomes negative first before interiming
 - e. At 18 Hour Culture Reading:
 1. If it is growing aerobically and everything above is completed, write in respective FA/FN COMM: All Checked + DATE
 2. If it is not growing aerobically, write in respective FA/FN COMM: WAITING FOR BRUC + DATE
3. Go to Phenomatrix
 - a. Screen all negative MRSA, and VRE first.
 - b. On Saturday, Urine screening, reading, and picking will be taken over by Christian. Otherwise, screen, read, and pick all urines.

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- c. On Sundays (or if Christian is absent), screen all negative MRSA, VRE, and Urine.
- d. Screen positive MRSA and VRE
 - i. Change reading of culture if applicable
- e. On Sundays only (or if Christian is absent), screen all NSG and Mixed Growth Urines
 - i. For women of child bearing age be sure to send any cultures suspected with GBS to reader
- f. On Sundays only (or if Christian is absent), screen positive Burgundy Pink E-coli's
- g. On Sundays only (or if Christian is absent), screen other positive urines
- 4. Go to Screening
 - a. Screen all available CRE/ESBL
 - b. Screen all available Stools
 - c. Screen all available GBS
- 5. Go to Reading
 - a. Ensure you are the only reader and kick out any past readers from previous shift(s) and assign yourself to everything
 - b. Read all available MRSA, VRE, CRE/ESBL
 - i. Ensure to check previous positive MRSA, VREs, and ESBL within 3 months and document in LIS.
 - c. Read all available Urine (on Sundays only or if Christian is absent) and Stool
- 6. MS plates in "To Be MS Rack" put by previous shift(s)
- 7. Start MS slide with controls
- 8. Obtain plates from Stackers ensuring you separate each sample type
- 9. Check end line 200 and canister 201 and 202 for error plates and investigate why the plates are there
 - a. Reload plates or incubate offline as applicable
- 10. Set aside any CRE/SBVRE/Pure E-coli's (Stacker 103)
- 11. Start your 16 spot MS Slide (DO NOT go over 16 spots)
 - a. Pick BC
 - i. Go into each plate and describe the colonial morphology
 - ii. Clearly input isolates when appropriate in LIS
 - iii. Print labels ensuring the right isolate number is written on the label
 - b. Pick IC/Stool
 - i. Print labels and be sure the right isolate number is written on the label
 - ii. Perform VRE PCR on purple colonies along with ¼ SBVRE plate and place onto old IC Bench
 - c. Pick Urines from Stacker 101 on Sundays (or if Christian is absent) only
 - i. Print labels ensuring the right isolate number is written on the label
- 12. Scan and Load MS Slide

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- a. As slide is loading/firing print labels CRE/SBVRE/Pure E-coli's and prelin the samples before putting them in the rack
 - i. Perform oxidase on applicable CRE colonies and document on plate.
 - 1. If Oxidase positive, document result in LIS, alpha out, and verify isolate before Final status
- 13. Go on break
- 14. Check end line 200 and canister 201 and 202 for error plates and investigate why the plates are there
 - a. Reload plates or incubate offline as applicable
- 15. On isolates with successful identification:
 - a. Blood Cultures
 - i. Check history
 - ii. Verify and prelin isolate
 - iii. Set up all BC sensitivities if necessary and offline tests as per bacteria work up (i.e. BLACTA/STRNG... etc)
 - iv. Freeze isolates that do not require sensitivities
 - v. Add sensitivity comments regarding no sensitivity/refer sensitivity as required
 - vi. Interim culture if applicable
 - b. Infection Control
 - i. Check history if applicable
 - ii. Perform PBP2a on Staph aureus' identified on DBLUE agar
 - iii. Verify and prelin plates giving to Old IC for further work up
 - c. Stool
 - i. Verify, alpha (if applicable), and prelin plates that do not require further workup, place into done Stool rack for filing.
 - ii. For isolates requiring further serologies, subculture plate(s) onto Blood Agar and place into Working Stool Rack
 - d. Urines
 - i. Check history to see if there was a previous <3 days for cultures requiring sensitivities and refer if applicable
 - ii. Verify and prelin culture before putting into rack
 - 1. Write SPICE/PSEUDO on plate if additional disks are required
 - 2. Write 580 OX/VA or 67 VA on Staph aureus and Entero cultures
 - iii. Interim culture if applicable
- 14. Review Campy's on respective Screening pages
 - a. For Stools
 - i. Ensure that the following work-up has been completed:
 - 1. Wellcolex for NLF/Green E-coli's identified by MS

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- 2.Oxidase for applicable colonies
- 3.If other Shigella/Salmonella/E-coli O157 serologies are missing please give to Old IC Bench
- 4.Not significant isolates are alpha'd out and verified
 - ii.Interim if applicable
- b.If either of Brucella or Campy's do not have an image and is stuck on screening
 - i.Reload plate a maximum of 2 additional times
 - ii.If image still does not appear:
 - 1.Read and document offline and let a Senior/SuperUser know to delete plate(s)
- 15.Go through Red Triangle samples and put them in 109
 - a.Investigate each plate ensuring to update reading on plate accordingly
 - i.Keep plate if necessary
- 16.Repeat steps 2-12, and 14 as necessary
- 17.Throw out WASPLab garbage if full
- 18.Troubleshoot WASPLab alarm on a rotational basis
 - a.Anytime you finish troubleshooting, be sure to check 200 line and canister 201 for reloading or offline incubation
- 19.At 3pm stop screening and finish anything on reading
 - a.Read evening OX/VA and VANCS screens and divide evening old work to respective benches
 - b.Help set up sensi's/work in New Rack if applicable
- 20.Once all specimens in reading are finished, go back to screening until end of shift. Ensure to read and pick all available specimens and place plates for MS into rack.
- 21.Log out of Reading after all reading is complete at end of shift
- 22.Stock up media and consumables for next shift
- 23.File and date yeast and GBS into drawer

Screening/Reading/Picking Workflow (Evenings/Nights):



- 1.Read and set up all old work
- 2.Screen all available Blood Cultures first
 - a.Ensure you go into each specimen number in LIS to check:
 - i.If there was an ID that matches the gram stain
 - ii.Check to see gram was called under call window
 - iii.If there is a colonial description associated with "Send for Work-Up" line
 - iv.If identification has been accepted at an earlier reading time check to see if the things below have been completed:

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- 1.If FILM was used as colonial morphology, please update according to WASPLab image
- 2.Sensitivities for specific organisms with correct keypad sensi input (i.e. AST391/AST580...etc)
- 3.If no sensitivities needed, please add “No sensitivity/Refer sensitivity comment” under Isolate Comments
- 4.Offline Tests (BLACTA, STRNG, FRZ, Wellcolex, DENKA)
- 5.If anything of the above are missing send plate Send for Work-Up
- b.If the isolate is a GNB, ensure that at least 1 of the readings of the MAC plate states that it is either an LF or NLF
- c.If both sets are gram positive cocci in clusters, ensure both sets have had an identification associated with the set.
- d.Interim if all plates (BA, MAC, CHOC, BRUC) for both sets are completed and all workup is completed at 48 hours
 - i.If only 1 set positive, ensure second set becomes negative first before interming
- e.At 18 Hour Culture Reading:
 - 1.If it is growing aerobically and everything above is completed, write in respective FA/FN COMM: All Checked + DATE
 - 2.If it is not growing aerobically, write in respective FA/FN COMM: WAITING FOR BRUC + DATE
- 3.Go to Phenomatrix
 - a.Screen all negative MRSA, and VRE first.
 - b.Screen positive MRSA and VRE
 - i.Change reading of culture if applicable
- 4.Go to Screening
 - a.Screen all available CRE/ESBL
 - b.Screen all available Stools
 - c.Screen all available GBS
- 5.Go to Reading
 - a.Ensure you are the only reader and kick out any past readers from previous shift(s)
 - b.Read all available MRSA, VRE, CRE/ESBL
 - i.Ensure to check previous positive MRSA, VREs, and ESBL within 3 months and document in LIS.
- 6.MS plates in “To Be MS Rack” put by previous shift(s)
- 7.Obtain plates from Stackers ensuring you separate each sample type
- 8.Check end line 200 and canister 201 and 202 for error plates and investigate why the plates are there
 - a.Reload plates or incubate offline as applicable

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9. Start MS slide
10. Start your 16 spot MS Slide (DO NOT go over 16 spots)
 - a. Pick BC
 - i. Go into each plate and describe the colonial morphology
 - ii. Clearly input isolates when appropriate in LIS
 - iii. Print labels ensuring the right isolate number is written on the label
 - b. Pick IC/UR/Stool
 - i. Print labels ensuring the right isolate number is written on the label
 - ii. Perform VRE PCR on purple colonies along with ¼ SBVRE plate and place onto old IC Bench
11. Scan and Load MS Slide
 - a. As slide is loading/firing print labels CRE/SBVRE/Pure E-coli's and prelim the samples before putting them in the rack
 - i. Perform oxidase on applicable CRE colonies and document on plate
 - ii. If Oxidase positive, document result in LIS and alpha out isolate before Final status
 - b. Blood Cultures
 - i. Check history
 - ii. Verify and prelim isolate
 - iii. Set up all BC sensitivities if necessary and offline tests as per bacteria work up (i.e. BLACTA/STRNG... etc)
 - iv. Freeze isolates that do not require sensitivities
 - v. Add sensitivity comments regarding no sensitivity/refer sensitivity as required
 - vi. Interim culture if applicable
 - c. Infection Control
 - i. Check history if applicable
 - ii. Perform PBP2a on Staph aureus' identified on DBLUE agar
 - iii. Verify and prelim plates giving to Old IC for further work up
 - d. Stool
 - i. Verify, alpha (if applicable), and prelim plates that do not require further workup, place into done Stool rack for filing.
 - ii. For isolates requiring further serologies, subculture plate(s) onto Blood Agar and place into Working Stool Rack
 - e. Urines
 - i. Check history to see if there was a previous <3 days for cultures requiring sensitivities and refer if applicable
 - ii. Verify and prelim culture before putting into rack
 1. Write SPICE/PSEUDO on plate if additional disks are required

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2. Write 580 OX/VA or 67 VA on Staph aureus and Entero cultures
 - iii. Interim culture if applicable
12. Troubleshoot WASPLab alarm
 - a. Anytime you finish troubleshooting, be sure to check 200 line and canister 201 for reloading or offline incubation
13. Repeat steps 2-12 as necessary
14. At 10pm/5:00am load last slide
 - a. Log out of "Reading" for all specimen types after all reading is complete.
15. Pick all remainder specimens and place into To MS Rack
16. Set up OX/VA and VRE Screens
17. Stock up media and consumables for next shift

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Miscellaneous Bench Workflow

The Miscellaneous Bench has 3 technologists. First thing every weekday morning each tech will perform one of the following 3 sets of duties:

1. Process Vitek 2
2. Process the 48 hour miscellaneous anaerobic jars
3. Retrieve new work racks from CO2 inc. in planting area. (sterile fluids, sterile sites and miscellaneous) and put on appropriate benches.

Weekday duties include: label Ox/Vanc screen plates

Prepare screen 0.5 McFarland ATCC stds

Read and record the 24 hr Ox/Vanc screens in afternoon

Weekend duties (in addition to weekday duties): read Ox/Vanc screen plates

When these duties are completed, start your Bench work:

1. Read remaining Gram stains from the previous day
2. Process* New Sterile Fluids identifying any growth using Maldi (any MS id's will be put with BC bench's first run)
3. Process* Sterile specimens using Maldi to identify any significant growth
4. Process* Miscellaneous specimens, use Maldi to identify any significant growth and use ancillary tests for non-pathogens, i.e. Pastorex, BE (this will be faster than waiting for a Maldi result)
5. Process* 48 hour work
6. If there is no acceptable ID by Maldi after refire, use alternate ID methods i.e. GNI, GPI, NFT etc. Review results from MYLA and transfer when done.
7. Use Prolex for identifying B-streps, it is faster and sometimes more reliable than Maldi
8. Read STAT grams throughout the day and answer the phone as needed


*Process includes reading plates and broths, doing any gram stains needed, identifying and reporting significant isolates, setting up appropriate susceptibility tests, reporting anaerobic results, recording broth results and subbing as needed, phoning any results as required

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Respiratory Bench Workflow

New Work

1. Read any leftover grams from previous night
2. Sort quickly through the plates to find any BAL, bronchial washings or brushings and deal with those first. All sputums that look like oral flora but need a bile solubility can be put in one pile, with bile added, to be read and reported later. Any sputums with pathogens to be worked on can have labels called for MS. Process all significant isolates on positive respiratory specimens, using MS. Do all yeast isolates on MS to rule out *Cryptococcus neoformans*.
3. In MYLA, review MS ID's when ready. If there are any that don't have ID's, re-fire before removing the slide from MS. For any isolates that do not ID even after re-firing, check for purity and set up ID/sens on vitek.
4. Examine plates in the throat jar. Use Prolex Strep Grouping Kit for any beta colonies.
5. Check worklist at the end of the day to be sure there are no outstanding orders.

Old Work

1. Examine 48 hour plates, checking for any pathogens that may have been missed at 24 hours. Work up as above.

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QC Sterility Bench Workflow



1. Record temperatures of 37C and 56C heat blocks. Record temperatures of the 3 Attest incubators. Document in the QC section of the mic's Attest work list.
2. Read and document Vancomycin, Oxacillin, and Quad screens.
3. Retrieve Q.C. plates, 7 day, 14 day and overnight sterility tubes from walk in incubator. Retrieve applicable plates from CO2 incubator.
4. Record the Attest results. (kept 2 days) Finalize "Test spores No growth" for negatives. Call all positives to the sending institution. Retain all finalized Attest in the 2 Styrofoam containers found on the bench.
5. Read and document results of sterility tubes in the 7 Day, and 14 Day work list. Gram and sub (Bruc and Choc) cloudy broths. Phone results to sending institution. Ensure you read the fresh bone specimens at 8 am and 3 pm.
6. Read and document results of all broths subcultured previously. Freeze all bone bank isolates.
7. Read and document results of Q.C. testing. Document in micqc, Tasks, result entry, F2 to scroll through the list and enter under Q.C. bench.
8. Go to walk in fridge and retrieve any media, reagents, kits, or panels that need to be Q.C.'d. They will be found on tray on right hand side of fridge.
 - a. Register the items for Q.C. under micqc, Registration, pick the appropriate category, A (for add), F2, select appropriate media type, record lot # (if lot has been previously tested, add A as a suffix for the lot #), and enter expiration date. F12. The appropriate Q.C. organisms will be listed on the screen.
 - b. To print labels for testing, go to the receiving work list "QC Media". Using the Media QC template, wand the barcodes for the appropriate media (i.e. for Campy plates there will be 2 to mark, for Ent. Vanc there will be 4 to mark) **F7 R**. Choose a label printer. One label is for the inoculum tube, one is for the purity plate and one is for the actual media you are testing.
 - c. Make a 0.5 McFarland for each organism. (For N.gonorrhoeae, H.influenzae, and Campylobacter you must further dilute. Transfer 300 microlitres of the 0.5 McFarland broth into an other 0.45 % saline tube.)
 - d. Inoculate the organisms to the appropriate media. Incubate at the appropriate temperature and atmosphere. For each media you should have 2 extra items for each type to be used to check the sterility. Mark one 37 and one Room Temperature and date them. Incubate them accordingly and monitor them for 2 days.
9. Subculture QC stock culture organism according to the schedule. There are pre-printed labels for all weekly subs in the blue folder labeled "QC Labels". Alternately, you can print labels from the receiving work list as required.

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10. Make sure you do all the scheduled duties according to the Vitek work list. Go to micqc. Tasks, result entry, F2 to scroll through the list until you get to Vitek QC.
11. There are monthly duties that need to be fulfilled as well. These include Colourimeter checks, S/C of freezer stock organisms and Salmonella/Shigella antisera.

Accessioning Guide for Extended Panel- Multiplex Respiratory Viral PCR Detection

CHECK ORDER COMMENT: EXTENDED PANEL – YES



MSH

WARD	ACTIONS	TEST COMMENT
NICU	1.Add RVP19 (Done in-house) 2.Aliquot 500UI-YELLE TOP <i>NOTE: NP swabs only, other respiratory types –Send out to PHOL</i>	N/A
IN-PATIENT	1. Add VREFX 2. Aliquot 500uL-CLEAR TOP 3. RESP BENCH will send out to PHOL with Test Comment 4. Interim Result 5. Attached both stickers IN-PATIENT and MRVP to PHOL requisition form 6. Add in PHOL Send out Log sheet	Test Comment: Use Keypad This specimen has been sent to the Public Health Ontario Laboratories (PHOL) 661 University Ave., Suite 1701, Toronto, Ont., M5G 1M1 For Multiplex Respiratory Virus PCR (enter manually)
POP/ER/OTHER Ambulatory Clinics	1.Add VREFX 2.Finalize with Test Comment	Test Comment: Use Keypad: Public Health Ontario (PHO) has updated the Respiratory Viral Testing Algorithm and this sample does not currently qualify for Referred Out Multiplex Respiratory Viral PCR (MRVP) testing. Please contact the Virology Lab with any questions at (416)-586-4800 extension 4182. Influenza A/B & RSV PCR testing is performed in-house year round.

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UHN



WARD	ACTIONS	TEST COMMENT
PMH 14/15	1.Add RVP19 (Done in-house) 2.Aliquot 500uL-YELLE TOP <i>NOTE: NP swabs only, other respiratory types –Send out to PHOL</i>	N/A
IN-PATIENT	1. Add VREFX 2.Cancel Test: RVP19 3. Aliquot 500uL-CLEAR TOP 4. RESP BENCH will send out to PHOL with Test Comment 5. Interim Result 6. Attached both stickers IN-PATIENT and MRVP to PHOL requisition form 7. Add in PHOL Send out Log sheet	Test Comment: Use Keypad This specimen has been sent to the Public Health Ontario Laboratories (PHOL) 661 University Ave., Suite 1701, Toronto, Ont., M5G 1M1 For Multiplex Respiratory Virus PCR (enter manually)
POP/ER/OTHER Ambulatory Clinics	1.Add VREFX 2.Cancel Test:RVP19 3.Finalize with Test Comment	Test Comment: Use Keypad: Public Health Ontario (PHO) has updated the Respiratory Viral Testing Algorithm and this sample does not currently qualify for Referred Out Multiplex Respiratory Viral PCR (MRVP) testing. Please contact the Virology Lab with any questions at (416)-586-4800 extension 4182. Influenza A/B & RSV PCR testing is performed in-house year round.

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Other Clients

WARD	ACTIONS	TEST COMMENT
IN-PATIENT	1. Add VREFX 2. Aliquot 500uL-CLEAR TOP 3. RESP BENCH will send out to PHOL with Test Comment 4. Interim Result 5. Attached both stickers IN-PATIENT and MRVP to PHOL requisition form 6. Add in PHOL Send out Log sheet	Test Comment: Use Keypad This specimen has been sent to the Public Health Ontario Laboratories (PHOL) 661 University Ave., Suite 1701, Toronto, Ont., M5G 1M1 For Multiplex Respiratory Virus PCR (enter manually)
POP/ER/OTHER Ambulatory Clinics	1. Add VREFX 2. Cancel Test: RVP19 3. Finalize with Test Comment	Test Comment: Use Keypad: Public Health Ontario (PHO) has updated the Respiratory Viral Testing Algorithm and this sample does not currently qualify for Referred Out Multiplex Respiratory Viral PCR (MRVP) testing. Please contact the Virology Lab with any questions at (416)-586-4800 extension 4182. Influenza A/B & RSV PCR testing is performed in-house year round.

QC bench (Weekend)



- Saturday
 - o Morning 7:30-11:30am – Sterility testing

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- Afternoon 11:30-3:30pm – assist MISC 2 and MISC 3
- Sunday and STAT holidays
 - Morning 7:30-11:30am – Sterility testing
 - Afternoon 11:30 – 3:30pm WASP

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Gram Stains

Monday to Friday

Day Shift

Early morning:

Leftover gram smears from the previous day:

Divide smear equally to the following 6 benches:

M1

M2

M3

Urine 1 or 2

Resp

Gyne/Enterics

All the above smears are to be read before 10 a.m.

Rest of the Day

- STATS – Shared by M1, M2, M3 according to the STAT smears recording sheet
- Wet Preps – Gyne/Enteric throughout the day
- Other Grams – equally divided between M1, M2, M3, Resp, Urine 1 or 2



Evening Shifts:

All smears from 3:30 onward

- Bacteriology evening technologist,
- Serology technologist to help

Night Shifts:

Read remaining smears if time permits

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Vitek MS Bench Schedule

MS Vitek 1:

- used alternatively throughout the day by the WASPLab pickers

MS Vitek 2 is reserved in the AM for sterile

- 8:00am to 8:30am will be reserved for MISC benches to load a **sterile fluids** slide first.
- 9:00am -10:00am Respiratory bench will load slide
- MISC bench will be able to load freely once respiratory's slide is complete.
- use of the MS2 in the afternoon is available to all non-wasplab benches on a first come first serve basis.

Planting Workflow

Serology Workflow



Technician 1 - Day	Technician 2 - Day	Technician 3 - Evening	Technician 4 - Night
Morning 08:00am - 12:00pm) <ul style="list-style-type: none"> • Clean up work bench • Prepare Hood • Enter hood QC in LIS • Process Donor Samples • Process HBV and HCV samples 	Morning 08:00am - 12:00pm) <ul style="list-style-type: none"> • Send out HBV and HCV sample including TW Liver clinic specimens • Send out other samples for PHL • Process STAT Samples (needle stick, etc.) • Process any CMV Avidity samples left over from previous day 	Process samples in order or priority: <ul style="list-style-type: none"> • Process HBV and HCV samples first • Process STAT samples (needle stick, etc.) as they arrive • Process routine serology samples • Clean up bench and discard garbage • Send outs (dry ice send out every Thursday) 	See Technician's Night Shift Workflow
Afternoon (12:00-4:00)	Afternoon (12:00-4:00)		

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<ul style="list-style-type: none"> • Process HBV and HCV samples • Process routine serology samples • Discard garbage • Help Tech2 process CMV avidity samples 	<ul style="list-style-type: none"> • HIV Viral Load • Process CMV Avidity Samples 		
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Issued by: Laboratory Manager	Revision Date: 4/17/2023	
Approved by Laboratory Director: Microbiologist-in-Chief	Next Review Date: 4/17/2025	

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Wash-up Workflow



Wash up Bench Workflow			
Duties to be done by the technician assigned to Inventory & Wash up Bench			
Monday	Tuesday	Wednesday	Thursday & Friday *If no Inventory person scheduled, assign duties.
Take Inventory (Media/Reagents/Consumables/ Antibiotics KB + Etests)	Wash-up	Wash-up	Wash-up
Autoclave 1-2 batches	Autoclave 1-2 batches	Autoclave 1-2 batches	Autoclave 1-2 batches
Bring empty alcohol cans to 6 th floor to be refilled.	Pick up refilled alcohol cans from 6th floor	Clean Blood Culture Area Incubators	Clean Planting Area Incubators
Clean mycology incubators	Receive media Document in inventory spreadsheet using packing slips	Receive media Document in inventory spreadsheet using packing slips	Record DH2O nanopure and CO2 incubators reading daily
Record DH2O nanopure and CO2 incubators reading daily	Clean incubators in technologist area (Wednesday if busy)	Record Fyrite test for CO2 Incubator (Weekly)	Receive and put away supplies/ shipments throughout the day

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Receive and put away supplies/ shipments throughout the day	Make up 70% Alcohol & Alcohol/Acetone	Record DH2O nanopure and CO2 incubators reading daily	
Restock and reorganize the shelves	Record DH2O nanopure and CO2 incubators reading daily	Receive and put away supplies/ shipments throughout the day	
	Receive and put away supplies/ shipments throughout the day		
	*If long weekend Take Inventory (Media/Reagents/Consumables/ Antibiotics KB + Etests)		
	*If Long weekend Clean mycology		

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Issued by: Laboratory Manager	Revision Date: 4/17/2023	
Approved by Laboratory Director: Microbiologist-in-Chief	Next Review Date: 4/17/2025	

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Window Bench: C. difficile Toxin PCR Workflow

1. All specimens are considered STAT. Accession and process as soon as specimens arrive. DO NOT batch.
2. All specimens to be set up are listed in the LIS Worklist “1CLDT C. diff Toxin – New”
3. See for set up instructions.
4. After cartridge is set up and loaded into Xpert, Use one of the **Blue** laminated cards and write the expected completion time (45 minutes after loading).
5. Pass the card to the VRE Bench on day shifts and to the evening Serology Technologist on evenings, nights and weekends.
6. Repeat “Error” and “Invalid” tests as per [Molecular Diagnostic Test Manual](#) as notified by technologist on VRE Bench. This must be done IMMEDIATELY.
7. Freeze all Positive and Indeterminate specimens as per LIS Work list “1CLDF C. diff Toxin – FRZ” at 9 am and 3 pm each day.

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Window Bench: VRE PCR Direct from Specimen Workflow

1. VRE PCR arrives in batches usually in the morning with notification by ICP.
2. All specimens to be set up after the first batch of C. diff in the morning. as listed in LIS Worklist “ICVPC - IC VRE PCR”
3. See [VRE PCR Procedure](#) for set up instructions.
4. After cartridge is set up and loaded into Xpert, Use one of the **Pink** laminated cards and write the expected completion time (45 minutes after loading).
5. Pass the card to the VRE Bench.

6. Repeat “Error” and “Invalid” tests as per [VRE PCR Procedure](#) as notified by technologist on VRE Bench. This must be done IMMEDIATELY.

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Technician Midnight Shift Workflow

Technician's Night Shift Workflow 11:00pm-7:00am



1. Bacti Send out:
 - TB (T04),
 - Legionella (B05), Urogenital Mycoplasma (B09), Mycoplasma pneumoniae (B07).
2. Parasitology Send out:
 - Stool O&P (P04), other body fluids/tissue (Acanthamoeba) for O&P (P03).
 - Accessioning the stools for O&P and other stools if it is not done from other shifts.
3. Fungal Send out (M03).
4. Chlamydia trachomatis (V03).
5. Whooping cough (Bordetella pertussis) (B10).
6. International send out:
 - Ann Lemont Mira Vista Diagnostics/USA: Histoplasma Ag & Blastomyces...
 - Steve Keas, Clinical Lab/ National Hansen's Disease Programs/USA: Slit Skin Smears for Leprosy.
 - CDC – for
7. Serology Send out:
 - Prenatal (MSH&UHN)
 - MIREF
 - Other sends out (H. pylori, HIV and ...)
 - Accessioning of other in-house serology if there is any left over from other shifts.
8. Receiving two deliveries at 1:30 am and 4:00 am:
 - Sorting the specimens.
 - Accessioning and loading the BC bottles.
 - Unloading negative BC bottles.
 - Processing all sterile fluids.

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- Accessioning other specimens (urines, respiratory, Misc. & swabs) if there is extra time.
- 9. Check the Outstanding lists for send out samples.
- 10. Important check the outside Fridge and incubator for specimens (especially the stat specimens & BC).
- 11. Clean the gram stainer & fill up the stains.
- 12. Clean Isoplators / WASPS
- 13. Prepare the QC plates for Isoplators and Hoods.
- 14. Write any notes & questions in the communications book.

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Technician Night Shift Daily Check List:



	Tasks	Initial when done
1.	Bacti Send out: <ul style="list-style-type: none"> - TB (T04), - Legionella (B05), - Urogenital - Mycoplasma (B09), - Mycoplasma pneumoniae (B07). 	
2.	Parasitology Send out: <ul style="list-style-type: none"> - Stool O&P (P04), other body fluids/tissue (Acanthamoeba) for O&P (P03). - Accessioning the stools for O&P and other stools if it is not done from other shifts. 	
3.	Fungal Send out (M03).	
4.	Chlamydia trachomatis (V03).	
5.	Whooping cough (Bordetella pertussis) (B10)	
6.	International send out: <ul style="list-style-type: none"> - Ann Lemont Mira Vista Diagnostics/USA: Histoplasma Ag & Blastomyces... - Steve Keas, Clinical Lab/ National Hansen's Disease Programs/USA: Slit Skin Smears for Leprosy. - CDC – for 	
7.	Serology Send out: <ul style="list-style-type: none"> - Prenatal (MSH&UHN) - MIREF - Other sends out (H. pylori, HIV and ...) - Accessioning of other in-house serology if there is any left over from other shifts. 	
8.	Receiving two deliveries at 1:30 am and 4:00 am: <ul style="list-style-type: none"> - Sorting the specimens. - Accessioning and loading the BC bottles. - Unloading negative BC bottles. - Processing all sterile fluids. - Accessioning other specimens (urines, respiratory, Misc. & swabs) if there is extra time. 	

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	Tasks	Initial when done
9.	Check the Outstanding lists for send outs	
10.	Important check the outside Fridge and incubator for specimens (especially the stat specimens & BC).	
11.	Clean the gram stainer & fill up the stains.	
12.	Clean Isoplators / WASP	
13.	Prepare the QC plates for Isoplators and Hoods.	
14.	Write any notes & questions in the communications book.	

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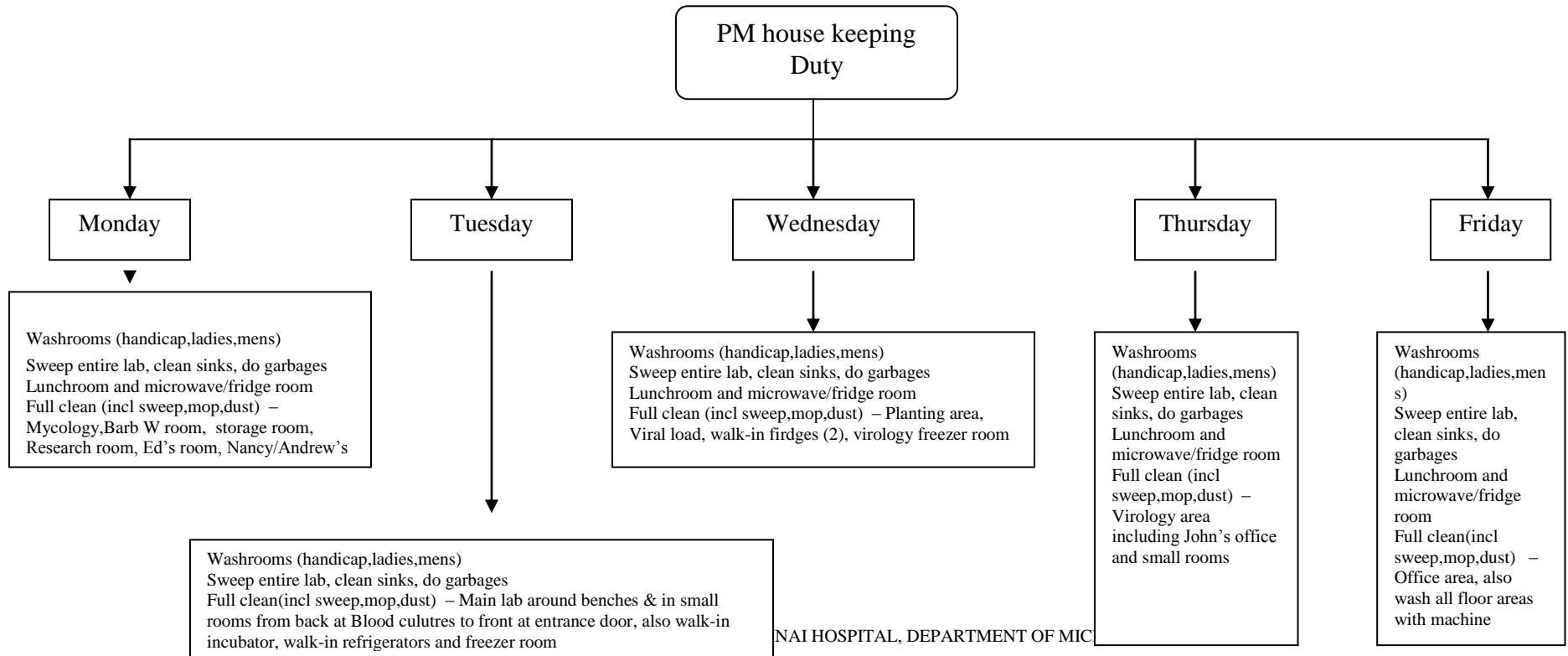
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Prepared by QA Committee		
Issued by: Laboratory Manager	Revision Date: 4/17/2023	
Approved by Laboratory Director: Microbiologist-in-Chief	Next Review Date: 4/17/2025	



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House Keeping Duty Schedule





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Safety Precautions -Standard precaution should be follow.

See

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Approved by Laboratory Director: Microbiologist-in-Chief	Next Review Date: 4/17/2025	

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Record of Edited Revisions


Manual Section Name: Bench Workflow

Page Number / Item	Date of Revision	Signature of Approval
Annual Review Updated workflow	November 04, 2013	Dr. T. Mazzulli
Updated Evening and Night shift duties	February 20, 2014	Dr. T. Mazzulli
Added link to Planting Bench Workflow	February 20, 2014	Dr. T. Mazzulli
Added C. diff and VRE PCR workflow	May 07, 2014	Dr. T. Mazzulli
Technician night duties revised	July 09, 2014	Dr. T. Mazzulli
Blood culture day shift workflow, delete TDNA and bile aesculin plate	August 13, 2014	Dr. T. Mazzulli
Add: MS2 (sterile fluid), set up before 11:00, MS2/or MS1 (non-sterile) at 12:00 N	October 25, 2014	Dr. T. Mazzulli
Annual Review Flu season Bench duties revised	November 06, 2014	Dr. T. Mazzulli
House Keeping Duty Schedule	November 14, 2014	Dr. T. Mazzulli
Evening Flu Season Technician Duties	January 22, 2015	Dr. T. Mazzulli
New urine chrom media (CPS4) workflow Addition of QC Sterility workflow Technician washup workflow link Moved "Duties" Into Technologist/Technician duties manual	February 24, 2015	Dr. T. Mazzulli
Annual Review p.2 Technologist BC (new work) added: #9 Group together & identify "No Bacteria seen" with sticky note. p.17 Added Technician Serology Workflow Policy:MI\VTMS\ to MI\WF	May 1, 2015	Dr. T. Mazzulli
Added to each shift of BC bench workflow: "For plates with growth, check LIS to verify which isolate number to choose for MS. If there is more than 1 type seen in Gram, ensure you pick the appropriate isolate number for MS. If you are not sure which colony pertains to which gram, put additional isolate numbers in	November 2, 2015	Dr. T. Mazzulli

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the isolate window, as required. Note this on the plate (with a description i.e. 1 large, 2 alpha ppt) and put the isolate number on MS label” -Fixed BC rack names		
-Updated QC bench workflow	November 12, 2015	Dr. T. Mazzulli
Annual Review	February 24, 2016	Dr. T. Mazzulli
Annual Review	February 24, 2017	Dr. T. Mazzulli
Annual Review Updated IC with WASPLab workflow	February 24, 2018	Dr. T. Mazzulli
Minor formatting changes	September 14, 2018	Dr. T. Mazzulli
Annual Review	June 23, 2019	Dr. T. Mazzulli
Bacteriology wasplab and other bench workflow updated	February 24, 2020	Dr. T. Mazzulli
Annual Review Link to bench duties form added in Bench duties section	October 28, 2020	Dr. T. Mazzulli

Full document review included in all updates. Bi-annual review conducted when no revision had been made within 2 years.

Page Number / Item	Date of Revision	Edited by:
Minor formatting change	April 11, 2021	Jessica Bourke
Various updates	Sep 1, 2021	Wayne Chiu
Added QC bench weekend duties	Sep 29, 2022	Wayne Chiu
Added accession guide for Extended Panel- Multiplex Respiratory Viral PCR Detection	April 04, 2023	Qin Liu

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