**MICROBIOLOGY**

**MICRO DAILY CHECKOFF SHEET**

1. **Review Biofire worksheets** (notebook and SQ)
2. **Communicable Disease Reports (Fax)**

**HEALTH DEPT**: CAMPY, SALM, SHIG, STEC, EAEC, EPEC, ETEC, EIEC, YERS, VIBRIO, PLESIO, NORO, ENTERIC ECOLI

**STATE LAB**: STEC

* 1. **Communicable Disease Fax (County Health Dept)**
		1. Green book, get Comm Dis Report
		2. Fill out form COMPLETELY:

--Name of Disease

--Patient Name

--Birthdate

--Medical Record Number

--Address, County

--Phone #

--Age

--Race

* + 1. Print out IQ worksheet
		2. Locate appropriate fax form according to pt location at top of IQ form
		3. Fax all three forms (IQ report, Fax form, and Comm Dis Report) to appropriate health department(s).
		4. Get Fax Transmission Confirmation form and staple forms together.
		5. Put completed fax forms in back of green notebook.
	1. **State Lab/Lab Corp**
		1. White send out notebook
		2. For State Lab and Lab Corp
		3. Choose Enteric sheet or Serology sheet
		4. Get shipping sheet
		5. Go to CHL for demographics
		6. Enter # of pkgs on shipping sheet and sign
		7. On shipping log in front of book, fill out info
		8. If sending a STEC: In SQ, order and receive a MISCSO.
		9. They will check for results in SL
		10. Make copy of completed SL form and put in yellow folder
		11. Parafilm sample. Put in appropriate sized tube (blue/pink).
		12. Put gauze in tube and load sample, put paper around outside of silver tube.
		13. Mark out “Serology” on outside and write “Enterics”
		14. Deliver to Mailroom by 11:30a
1. **Negative Bld Cxs/Discard Bottles**
	1. Login to Observa
	2. Print reports. Click on:
		1. 24 hr Negative
		2. Unload Negative
		3. Anon Bottles-RUN & CORRECT DAILY
	3. Click blue Negative bottle symbol. Drawers with neg bottles will light up. Open and discard lit up bottle locations in Biohazard bin.
	4. Click check mark on screen when done.
	5. Get Barcode log sheet to match up with reports.
	6. In Micro, Blood Culture Notebook has 5 days worth of reports.
		1. Compare the 24 Hr Neg report with the Barcoded sheets, Check name, CID, Bottle number x2, and put a mark beside on each sheet.
		2. NOTE: If you need to change a bottle’s CID# on Observa, follow these steps:
			1. Search by bottle ID
			2. Click “Choose Accession”
			3. Enter the correct Accession number, then click Run.
			4. Highlight Accession number.
			5. “OK” to attach bottle ID#. (On Observa, Acc#=Bottle ID#)
		3. Once you have reconciled the two reports, take out the 5-day old.
		4. Compare the Unload Negative report and the 5-day-old reports the same way as above. When complete, staple together, put in tray.
		5. Move each day back one day, then put the new 24-hr reports in front
	7. Run the NG report in SQ:
		1. SQ Function = Micro Automatic No-Growth Result Entry
		2. Worksheet = ARBLC
		3. Filter by Setup date/time
		4. Start Date = T-5
		5. Start Time = 0000
		6. End Date = T
		7. End Time = N
		8. Click ADD
		9. START UPDATE
2. **Discard old specimens**
	1. 2 day old Cepheids
	2. 2 day old urines
3. **Cepheid Daily Maintenance** (see front of Cepheid log book for list of other maint tasks)
	1. Wipe outside with alcohol
	2. Throw away used cartridges
	3. Dust instrument
4. **Review Cepheid worksheets** (notebook and SQ)
5. **GS Daily maintenance**
	1. Squirt nozzles with methanol and wipe with towel
	2. Run clean cycle (carrier inside)
	3. Perform QC slide
6. **Subculture daily organisms**
	1. Choc bugs, daily CO2 bag
7. **Empty dehumidifier**
8. **Clean microscope**
9. **Disinfect counters**

**BLOOD CX**

Positive Bld Cultures:

3 beeps=positive

Screen=yellow

Hit + bottle icon.

Open drawer with light on and locate bottle with light on. Pull out bottle.

Go to Observa and log in.

Click “search by CID” then scan bottle. Note: positive bottles usually have tan bottoms not gray/green).

Look at graph to confirm positive curve.

Check for companion + bottles by changing CID# +/-1.

If positive, change status to + then remove bottle (as above).

**Note**: if you are not sure the bottle is positive, do GS first.

Check SQ to see if there are previous positives.

Only do 1 BCID if multiple bottles pulled.

If both ANA and AER pulled, use AER bottle to work up.

 If no prev positives, DO BCID.

**In SQ:**

**Micro Setup Entry:**

Change date/time to now. Print workcard labels to put in book.

**Setting up BCID:**

1. Wipe rack and hood with approved wipes.
2. Change gloves.
3. Open white pack and listen for hiss. Note: if you do not hear hiss, pack is bad. Get another pack and make note of bad pack in back of BCID book.
4. Wipe BC bottle with alcohol and draw 200uL. Add to red tube and mix 5 times.
5. Add contents of red tube to left side of panel. Throw away tube.
6. Add contents of blue tube to right side of panel. Throw away tube.
7. Go to Biofire instrument and load strip.
8. Scan panel.
9. Scan sticker.
10. Log in. Note: add user if no login.
11. Start run.
12. Place label in BCID book.
13. Test takes 1 hour.

Make Gram stain and then read it**. Record results on Gram stain log before BCID is finished so NOS bottles can be reloaded.**

Get BCID printout. Place workcard label on printout.

Highlight any positive results.

Write positive results in BCID notebook.

Call pharmacy (x7799) with positive. “I have a positive Bld culture for patient John Doe. The BCID was positive for Staph aureus in the aerobic bottle. There were 2 of 4 bottles positive.” Get pharmacist’s name.

**Documentation:**

**1.MICRO RESULT ENTRY**

Go to Micro Result Entry.

Click Single Entry Specimen Mode button.

Look up the positive CID# (Scan barcode).

**On Direct Exam Tab:**

* Uncheck the “Suppress test” box
* First line: Enter the Gram stain (e.g. “;GPC”) then tab
* Second line: Enter the bottle.
	+ ANAB = ANA bottle only
	+ AERB = AER bottle only
	+ BOTH = Both bottle
* Third and fourth lines: Enter the call (“;RBV” then tab, then “;;pharmacist name DD/MM/YY 0000 initials”)
* Fifth line: Order the BCID🡪 ;BCIDO

**On Culture Entry Tab:**

* Change No growth entry to your Gram stain (e.g. “;GPC”)
* SAVE
* SAVE

**2.URINALYSIS RESULT ENTRY**

Document the BCID call in UA Result Entry:

* Pull down FA keyboard
* Scan barcode and choose BCID accession #.
* Using chart below (also found in back of BCID book) to determine which key is your organism, click the appropriate key. Then click the “DT” key.
* Click on the entry. Edit comment. Put “RBV” in the Text Code box, then click ADD.
* Type the called to info in the Comments Box at the bottom.
* Click OK.

|  |  |  |
| --- | --- | --- |
| Key | Code | Organism |
| ` | CARBFA | Carbapenem resistance |
| 1 | MECAFA | Methicillin resistance |
| 2 | VAMCFA | Vancomycin resistance |
| 3 | ENTCFA | Enterococcus species |
| Shift 4 | ENTFA | Enterobacteriaceae species |
| 4 | LISMFA | Listeria monocytogenes |
| Shift 5 | STAPFA | Staphylococcus species |
| 5 | SAURFA | Staphylococcus aureus |
| 6 | STAGFA | Streptococcus agalactiae |
| Shift 7 | STRPFA | Streptococcus species |
| 7 | STPNFA | Streptococcus pneumoniae |
| 8 | STPYFA | Streptococcus pyogenes |
| 9 | ACBAFA | Acinetobacter baumanii |
| 0 | ECLOFA | Enterobacter cloacae complex |
| = | ECOLFA | Escherichia coli |
| Q | KOXYFA | Klebsiella oxytoca |
| W | KPNEFA | Klebsiella pneumoniae |
| E | PRSPFA | Proteus species |
| R | SMARFA | Serratia marcescens |
| T | HINFFA | Haemophilus influenza |
| Y | NMENFA | Neisseria meningitides |
| U | PAERFA | Pseudomonas aeruginosa |
| I | CALBFA | Candida albicans |
| O | CGLAFA | Candida glabrata |
| P | CKRUFA | Candida krusei |
| [ | CPARFA | Candida parapsilosis |
| ] | CTROFA | Candida tropicalis |

Review results in Inquiry to make sure all results were entered correctly.

Place sheet in tray beside BCID book.

When to set up BCID:

**NOTE: ONLY WORK UP THE FIRST POSITIVE BOTTLE FOR EACH PATIENT.** Refer to table below.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Action** | **Setup Media\* and Gram Stain?** | **Call BCID and/or Gram Stain?** |
| **Bottle 1** | **Perform and report BCID** | **Yes** | **Yes - Both** |
| **Bottle(s) 2 – 4** **(Same Gram Stain as Bottle 1)** | **Perform and report Gram Stain ONLY** | **Yes** | **No - Neither** |
| **Bottles(s) 2 – 4****(Different Gram Stain from Bottle 1)** | **Perform and report BCID** | **Yes** | **Yes - Both** |
| **Invalid** | **Report Gram Stain Only – DO NOT repeat BCID** | **Yes** | **Yes – Gram Stain** |

**NOTE: DO NOT report BCID if the BioFire result and gram stain results do not correlate.**

**If gram stain is negative: then**

**a.    Reload the bottle using “Load Bottles”.  This must be performed in less than 1 hour.**

**b.    Put plates in CO2 incubator.**

**c.    DO NOT report BCID.**

**New Lot Info:**

1. When we receive Media/Kits to be QC’d🡪 Write on board behind door for Thea
2. **To print Cepheid Logs:** P drive/Lab🡪Search Cepheid log🡪

 Fill out on computer: lot, date, tech etc. 🡪 Print (# of kits rec’d)🡪 DO NOT SAVE

**QC LOG SHEETS**

Cryptococcal Ag

Gram Stain Notebook

BCID/GIPCR Notebook

Temperature Book (3rd shift)

Blood Volume

Lot-To-Lot QC Log

New Lot QC Log

Media Log

**LOGS/CLIPBOARDS;**

1. CSF
2. SPUT/WET PREP
3. GRAM STAIN

**BLOOD CX**

Every day:

1. Pull Unload Report. Keep for 5 days.
2. Pull Anonymous Report.
3. Pull 24 Hr Report.

Weekly:

Blood Culture Volume Monitoring:

Take 5 random bottles to compare with guide bottles. Write volumes of both on BC Vol Monitoring sheet in QC Notebook.

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**PENDING LOG:**

Keep for 5 days.

Look at Micro Result Entry. Confirm there is activity on culture. Ignore Bld Cxs.

**To print:**

ARMIC

PL

712

T-7

R AR

ARMIC

**BIOFIRE BOOK**

Review results daily, preferably from printout.

**CEPHEID BOOK**

Check positive worksheets in IQ.

**LEUKO EZ VUE:** Will replace Stool WBC

**QC**

QC on PCR and Rapid Kits is done on weekends. A few others are trained in case it needs to be done during the week:

**Cepheid:**

Zepometrix🡪QC directly into cassette

Organisms🡪 swab 1st zone into elution, vortex, into cassette

C.diff🡪 Helix swabs into elution, vortex, into cassette

**Biofire:** FilmArray Control Panel for BCID and GIPCR

**Rapid Kits: (Flu, RSV, Cryp Ag, and Leuko EZ Vue)**

**Do lot to lot🡪 QC Notebook🡪 yellow Lot-to-Lot folder**

QC provided in kit

**CO2 Bags:** GC on MTM

**Gram Stain Slide:** SA and E.coli (made by weekend micro tech)

**Media: (fridge)** MTM= N.gono and S.epi (no gr.)

CHOC= H flu 10211 and S.pne 6305

BA=Gram stain and Cepheid QC

1. Biofire: Zepometrix pooled QC (GIPCR=orange and purple vials) per new lot/shipment
2. Cepheid: Zepometrix except (SAC/MRSA) per new lot/shipment
3. Gram Stain: +/- control slides per shift

**CEPHEID MAINTENANCE**

Weekends

**CYTOSPINS**

1. 1 Drop albumin in small well
2. 4-5 drops specimen in large well
3. Cap
4. Cytocent🡪6🡪RUN

**GRAM STAINS**

1. Enter number of slides you are staining, including balance slide
2. RUN

**Logs:**

1. Log on clipboard
2. Notebook
* Daily
* Monthly
1. Reagent Log
* Fill in lot numbers when reagents are received

**GRAM STAIN MAINTENANCE** (Weekend micro tech does weekly and monthly maintenance)

**DAILY:**

1. Check reagent levels and expiration dates
2. Clean Cycle every shift
3. Wipe nozzles with methanol
4. Wipe interior of stainer with methanol on gauze

**WEEKLY**:

1. Cover rotor Nozzles
2. Check Spray Pattern D A B C E D
3. Check Spray Volume H2O SAFF IOD C.VIO METH H2O
4. Run Control slides (EC 25922, SA 25923)
5. Run Clean Cycle

**MONTHLY**:

**See procedure for detailed instructions:**

1. Disassemble nozzles
2. Place in conical tubes in maintenance box with ~10mLs of nozzle cleaning solution and soak.
3. Clean B (Iodine) with DI H2O then ½ bottle cleaning solution. Let sit for 1 hour.
4. Clean nozzle pieces during this hour.
5. Volume Test.
6. B line flush…follow prompts on Gram Stainer.
7. Rinse with DI H2O.
8. Reinstall nozzles.
9. Do weekly maintenance. Note: New Drain Tube every 6 months

Call BIOMED if issues: x7761