**MLS Technical Meeting March 2015**

**Agenda:**

* CAP Surveys: report from Erin and discussion of the process
  + How, why, who
  + Most common problems/corrections
* Billing Ag Typing for Ag NEG units received from Bloodworks NW
* Death Notification updates of SQ
* Drugs
* Antibody Follow-up: discussion of following behind another tech/another shift
* RCAid: Helpful Hints for difficult antibody identifications
* Trauma paperwork completion: how can we make it better?
* 2nd sample: process improvement in identifying those patients
* QC: where are the sticky points?
* Shortdate Report: what are we doing with the results? What is a “shortdate”?

**Cap Surveys: Erin’s Report**

Questions?

**Billing Antigen Typings**

**Antigen Typed Units Received for a Specific Patient**

* Receive antigen negative units from Bloodworks NW (Salmon Tag)
* **BPT:** Enter their results as “OS” from the tie tag
* **BPT:** Enter TSL antigen typing confirmations, if antisera available to confirm
* **BOP:** Enter applicable TSL results for allocated units
* **BOP:** *when TSL has no confirmatory antisera*
  + Add Bloodworks NW results if TSL could not confirm (OS codes)
  + Complete QIM so Gie can notify CAST to bill appropriately
* ***BPT does NOT bill;*** *BOP does bill.*

**Patient Antigen Typing**

* TSL Tested: enter as **AGI** in **BOP –** bills patient for antigen typing
* Outside source tested: enter in **BAD file** using “OS” codes –
  + No charge to patient by TSL
  + Billed through CAST (Gie sends SOREF report to CAST and they result and pay)
  + ***If entered into AGI, creates a double bill – this is fraud!***

**Death Notification Updates in TSL**

Expanding the updates from Death Notifications: (CLT continue to check tissue storage)

* Enter BAD comment: “Patient deceased (date)”
* Move Antibody ID/TRRX folder to Expired area in filing cabinet after writing “Patient deceased (date)” on the outside of the folder
* Expire sample in SQ
* Release allocated product (rare)
* Sign and Date, refile in Notification notebook
* Should we do this as they come in? Weekly? Monthly? Write on fax?

**Drugs and Autoimmune Hemolytic Anemia/Auto Antibodies**

**Drugs of Concern in Autoimmune Hemolytic Anemias:**

 Cephalosporins (a class of antibiotics) -- most common cause

 Dapsone

 Levodopa

 Levofloxacin

 Methyldopa

 Nitrofurantoin

 Nonsteroidal anti-inflammatory drugs (NSAIDs)

 Penicillin and its derivatives

 Phenazopyridine (pyridium)

 Quinidine  
  
Source: [Drug-induced immune hemolytic anemia | University of Maryland Medical Center](http://umm.edu/health/medical/ency/articles/druginduced-immune-hemolytic-anemia#ixzz3T4rF4tal) <http://umm.edu/health/medical/ency/articles/druginduced-immune-hemolytic-anemia#ixzz3T4rF4tal>  
University of Maryland Medical Center

**Article of interest by Dr. Nester (Bloodworks NW)**

<http://ajcp.ascpjournals.org/content/136/1/7.full>

**Do NOT** print “Medications list” for any reason. This is potentially a HIPAA violation. Medical Director and residents can look it up themselves. Write on Antibody ID Worksheet if applicable to investigation. Provide to Bloodworks RCRL only as applicable to investigation.

**RCAid: Helpful Hints for making the most of the software**

* Put all the “extra” positives on one RCAid sheet; look for communalities. Example: are all the cells Jka +? All the cells Fyb homozygous?
* Compare reagent cell numbers: did you set up the same donor cell twice but call it 2 rule outs?
* Do not put Enzyme Treated Cells on the same RCAid sheet as the non-treated cells
* Mark expired panel cells separately from indate panels – helps when matching antigen typing of expired cells to tested select cells
* Do manual cross-outs with Enzyme Treated Cells; RCAid doesn’t recognize enzyme cells differently and will rule out incorrectly. *(Yes, we have asked for software upgrades. RCAid is very receptive to our suggestions and works to make RCAid better all the time.)*

**Following – Handing Off Antibody Identifications**

Incoming shift: Identify a person to take the antibody.

Sit down together without interruption:

* Review the Antibody ID Worksheet together: *use a highlighter to mark areas needing further work.*
* Make sure the work done is understood before the tech goes home.
* Make sure the antibody ID worksheet contains Additional Testing to be completed/performed.
* Write on the panel antigrams and other worksheets why the cells were run: example, *Selected cells to rule out \_\_\_\_\_\_\_\_\_\_.*
* Take notes and ask questions
* Just the facts: this is about the patient
* Update SQ as you do the test: hand off tech shouldn’t be entering your results
* Make sure QC is reviewed or notify person taking over to review ASAP: corrections can be made before tech departs
* Communicate clearly the status of blood needs for the patient
* Final Review at the bottom right corner is done by the TS Manager

**Weak Antibodies: How do you tell the junk from the CSA?**

**Preponderance of Positives**

*Bloodworks RCRL Lead, Allison Reid, says that we no longer see clear patterns with some antibodies. Why? Mostly because we are comparing different methodologies which don’t really compare. So ruling out needs to be observed with an eye for “preponderance of positives”. Seems wrong, doesn’t it? But the rules are changing as the detection methods differ in their sensitivity, specificity, and antigen presentation.*

**Examples:**

Recent Patient with multiple Jka POS reagent cells reacting ***but*** one Jka homozygous and 6 heterozygous cells didn’t react led to initially ruling out anti-Jka. Antibody confirmed by RCRL.

2nd example: anti-E and 2nd antibody of undetermined specificity was sent out. Turned out to be anti-E, -Fyb, -Jka went sent to RCRL.

**When you have unexplained reactions:**

* Don’t rule out Kidd or Duffy antibodies based on one homozygous cell.
* Don’t rule out Kidd or Duffy on heterozygotes only
* Kidd and Duffy antibodies show dosage especially when W+ to 1+
* Compare possible antibodies to antigen typing results

**How to handle those weak reactions:**

* Try techniques selecting the one that maximizes the reactivity
  + Enhancement: PEG, LISS, TANGO, ENZYME
  + Temperature range: What does IS/RT really look like?
  + Ask for a red top tube and use Polyspecific antisera – is it complement dependent?
  + Use the Ortho anti-IgG particularly for POS DAT Batteries
* Antigenicity of the reagent cells is vital: no comparison between homozygous and heterozygous rule outs when Kidd and Duffy are involved.
* Antigen type the patient beyond Rh Big Five and K when a pre-transfusion sample is available.
* Issue “antigen matched” when ruling out based on antigen typing and/or reagent cell reactions is unclear. It is justified to do so until the SOREF report comes back.
* **Send it out!** Don’t hesitate when our resources (people and reagents) have been exhausted.

**2nd Samples and Confirmations Needed: Ideas for Process Improvements**

How do you make sure an ABRH2 is collected when the sample was drawn in OR?

DOE: is our posting SOP working? Better ideas?

**Trauma Paperwork Completion: How do we make it easier and more accurate?**

Still getting QIMs on this so how can we fix it?

Review required and documented in the top right corner of the paperwork:

* Are you asked to review when no products are issued?
* Do you get another tech to review if you allocated/issued the products?

**QC: Where are the sticky points?**

**Equipment:**

* Sorvall cell washer at TANGO bench is now on the rotated duties list
* TANGO tech, check clipboard for completion

**Bench QC:**

* Saline squirt bottle is part of the Equipment ✓ marked on the Bench Daily Reagent and Equipment QC form by every shift. How often do you check it?
* With a student? Sign after them for bench QC

**Reagent QC:**

* Thanks, Marilyn, for getting approval and implementing Daily QC forms that have the lots typed in. Update this form as indicated by changing lots***. Where is the master located on Lilith2?***
* Signing for the testing, not the entry of the reagent – this is a change from the previous confusion on the older form
* Testing a new lot of anti-IgG: perform same testing as for POLY. You can mark through POLY on the reagent sheet and write IgG. It is not necessary to run a complete antibody screen.

**Reagent QC:** (continued)

* Confidence Kits:
  + We tried ordering 2 every month and were discarding unopened kits
  + We get 1 kit every month now
  + Staff counting the inventory and/or staff using the kit should notify 1st shift when it appears we won’t make it to the next shipment.
  + We will try to get a 2nd kit – not always possible
  + Give Nina your feedback about going back to 2 kits per month
  + Secondary QC works:
    - Use a group O patient sample run on the TANGO for A1, A2, and B cell QC
    - Use both TANGO POS Control and TANGO Control B for AB screen cells
    - Write Page 1 of 2 and Page 2 of 2 on the top right of each QC sheet

**Expiring reagents:**

* Responsibility of all techs to note expiration dates as they work making sure short dates are prominently noted
* Responsibility of the tech doing the weekly count to check all expirations and prominently record upcoming expirations
* Written on the Shift Responsibility Checklist
* Written on the Shift Hand Off
* Other ideas?

**Ortho Confidence Kit:**

* Problems with the standing order
* Think we are back on track
* With students and trainees we are going through the kits fast
* SOP has a back-up plan for using TANGO QC antibody

**Shortdate Blood Components: What is a “shortdate”? What do we do with the report?**

**3/6/2015: Per Dr. Hess**

Studies show that the age of blood does not matter except in the neonatal population. What matters is getting 1:1:1 into the bleeding patient.

TSL no longer needs to “tear down” ADULT trauma RBCs that are at 15 days. We can wait until 7 days. *SOP revision of Trauma Pack SOPs will happen.*

There is no change in the Pediatric RBC Trauma Pack. Units must be ≤7 days since draw date.

|  |  |  |
| --- | --- | --- |
| **Product** | **Shortdate?** | **Communication** |
| **Platelets** | ≤ 24 hours  ***Monitored by CLTs primarily*** | * Written on CLT/MLS Shift Hand Off form * Checked each shift when Allocation/Inventory check is performed * On Shortdate Report (rotated monthly duties) |
| **Plasma** | ≤ 24 hours | * Written on CLT/MLS Shift Hand Off form * Checked each shift when Allocation/Inventory check is performed * On Shortdate Report (rotated monthly duties) * Written on whiteboard by Tube Station |
| **RBCs** | ≤ 8 days for groups AB and B, group O and A if more than 2 units  ≤ 4 days for groups O and A (1-2 units)  ***Monitored by MLS primarily*** | * Written on CLT/MLS Shift Hand Off form * Checked each shift when Allocation/Inventory check is performed * On Shortdate Report (rotated monthly duties) * Written on whiteboard by Tube Station |

***Ask CLT about shortdate usage when products are brought for allocation***

**Using the Shortdate Report:**

* Why do we print it?
  + An RBC was allowed to outdate because it was in incorrect chronological order
* What responsibilities do we have with the information?
  + Make sure “shortdates” are prominently noted for 1st utilization
  + May take some hunting to find them.
    - Example: CAP units were on report 3/3. I used BIS to look at the numbers and realized they were not real units.
  + Move to the front, write it down, tell others
* Frozen inventory only checked monthly. What do you do with the information?
  + Same as above.
  + In addition, if plasma has ≤ 5 days, thaw it!