10X Essentials

Infectious Disease Diagnostics in the Geisinger Health System

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SUMMARY

Choose the more sensitive Giardia and Cryptosporidium EIA (GEIA and CRYIA) on most Epic order sets. OAP (Ova and Parasite) exams are limited to risk-based testing

Blood Culture, Early intervention (BLCEI) will be replaced Blood Culture (BLC).

ABRP (FluA/B RSV PCR) testing discontinued in favor of RVPCR (respiratory panel) until next flu season.

If you have any questions about this information, please contact the Microbiology Doctoral Directors, pager 8600. For newsletter questions, contact Christy Attinger, (570) 271-6338

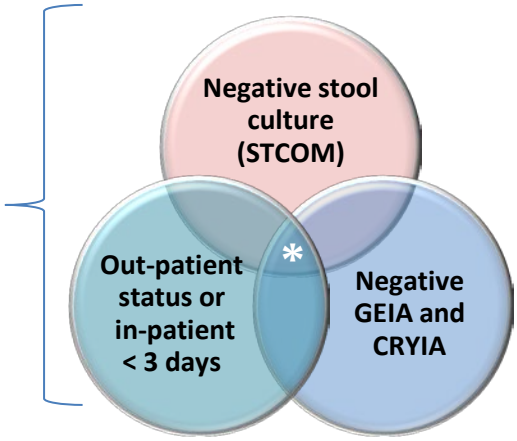
10X Essentials: *Antigen Detection Tests Put Limited Resources to Better Use!*

The Ova and Parasite exam (OAP) examination is one of the most over-utilized and non-productive tests in the GHS Microbiology test menu for both inpatients and outpatients. **Excluding Giardia and Cryptosporidium, the yield of an OAP in the GHS catchment area is < 1 positive result for every 10,000 samples tested.**

Therefore, the GHS OAP will be replaced by the more sensitive Giardia Antigen EIA and Cryptosporidium Antigen EIA **(GEIA and CRYIA)** on all EPIC Smart Sets and Preference Lists as of May 1, 2015. Please join our Microbiology staff as we say goodbye to the OAP test as a first line diagnostic. Don't worry, you can still order OAP when appropriate (See page 3 for the decision tree) – OAP test will remain available on your EPIC facilities test list when you search for it.

Optimized parasite testing strategy got GHS catchment is as follows:

1) Pinworm testing (PINW) will continue to be performed for symptomatic patients.
2) IF your patient has ≥ 3 loose stool/24hr AND status listed in the Venn diagram. → Limit OAP to the following risk-based exemptions:



a) Pediatric patients with low socioeconomic history, or positive pinworm test, both of which support suspicion for *Dientamoeba fragilis*
b) Recent travel history WITH exposure risk or recent residence in tropical or underdeveloped geographical region
c) Public health foodborne outbreaks of suspected *Cyclospora* (special stains)
d) Severely immunocompromised patients (NOTE: *Isospora* or microsporidum require special staining
e) Patient who is disabled and/or living in a group home or communal living condition where syndromic assessment indicates a possible parasitic outbreak

For questions about Ova and Parasite Testing, please contact Microbiology Technical Specialists: PJ Taylor, 570-214-8198 or Doctoral Directors: Dr. Donna Wolk at 570-271-7467 or Dr. Raquel Martinez at 570-271-6338.

Blood culture orders, BLCEI is replaced with BLC

Effective May 5th, the test code Blood Culture, Early Intervention (Sunquest Code BLCEI) will be made clinically inactive due to redundancy and confusion in the ordering process. The system will return to using the standard test code of Culture, Blood for all collections at all sites (Sunquest Code BLC).

The methodology utilized for culturing and rapid identifications (where applicable) will not change. The only change is in the ordering process.

- All bottle types/cultures should be ordered as BLC
- BACTEC resin bottles are at GMC, GWV, GSACH, and GHSH
- BacTAlert bottles will remain at GCMC, GLH, and GBH for now.

For questions please contact Microbiology Technical Specialist, Julie A. Riley, B.S., MT(ASCP), RM (NRCM) at 570-214-8199, Dr. Donna Wolk, MHA, Ph.D., D(ABMM), System Director, Clinical Microbiology at 570-271-7467 or Dr. Raquel Martinez, Ph.D., D(ABMM), Director, Clinical Microbiology at 570-214-6587.

Say Goodbye to ABRP for the Summer!

- Effective tomorrow, May 1st, test code ABRP (FLU A/B AND RSV PCR) will be clinically inactivated (un-orderable) in all computer systems until next influenza season.
- This test code is inactivated May 1 – Oct. 31 due to the rare occurrence of Influenza and RSV in the population (prevalence is extremely low) and the need to identify other viruses that may be challenging the system during summer months.
- Ordering clinicians will be directed to order test code RVPCR – RESPIRATORY PATHOGEN PCR thru EPIC Smart Text.
- **Also on May 1st, rapid RSV EIA testing (and for GLH, Rapid FLU EIA testing) will no longer be performed at any testing site due to lack of need until next winter.**
- Please see the attached Respiratory Flow Diagram (Page 4) for May thru October and disseminate this information to all pertinent staff.

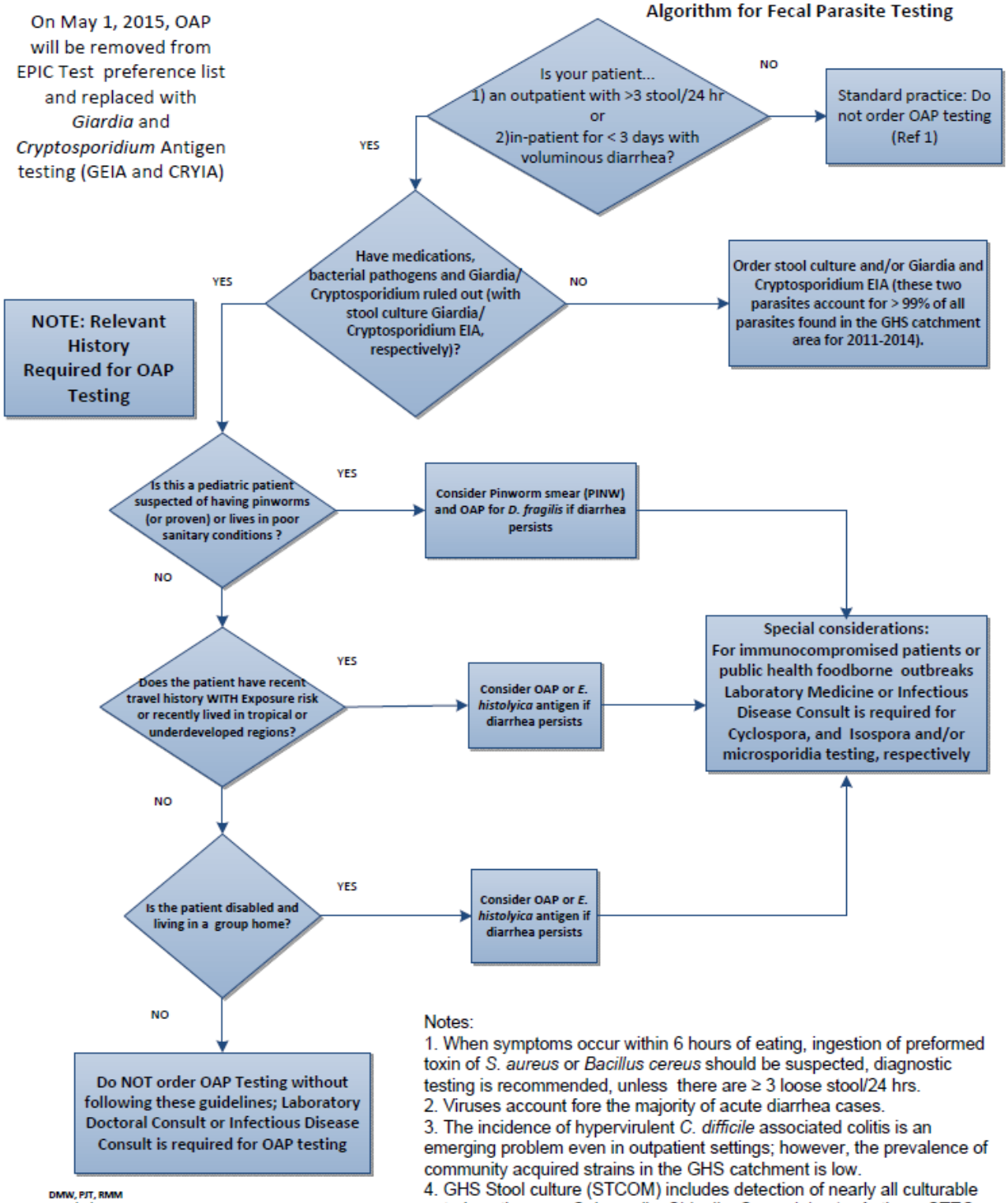
For questions about respiratory pathogen testing, please contact Microbiology Technical Specialists: Lisa Scicchitano, 570-214-4294, or Francis Tomashefski at 570-271-6185 or Doctoral Directors: Dr. Donna Wolk at 570-271-7467 or Dr. Raquel Martinez at 570-271-6338.

RespView (see page 5)

- The incidence of flu A is low
- Flu B and rhinovirus predominate followed by parainfluenza and RSV

On May 1, 2015, OAP will be removed from EPIC Test preference list and replaced with *Giardia* and *Cryptosporidium* Antigen testing (GEIA and CRYIA)

Algorithm for Fecal Parasite Testing



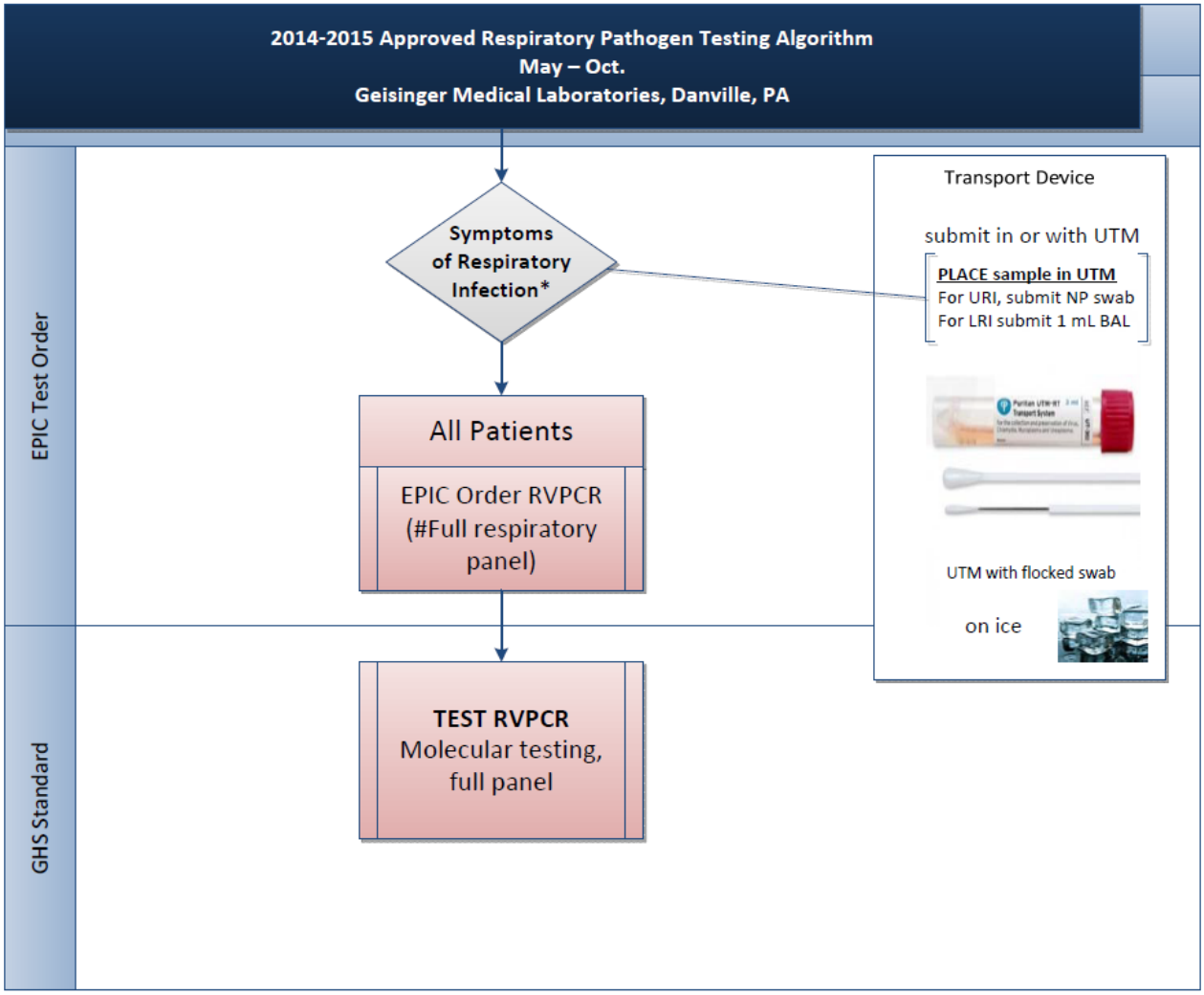
DMW, PJT, RMM
3/31/15

Notes:

1. When symptoms occur within 6 hours of eating, ingestion of preformed toxin of *S. aureus* or *Bacillus cereus* should be suspected, diagnostic testing is recommended, unless there are ≥ 3 loose stool/24 hrs.
2. Viruses account fore the majority of acute diarrhea cases.
3. The incidence of hypervirulent *C. difficile* associated colitis is an emerging problem even in outpatient settings; however, the prevalence of community acquired strains in the GHS catchment is low.
4. GHS Stool culture (STCOM) includes detection of nearly all culturable enteric pathogens: *Salmonella, Shigella, Campylobacter* Antigen, STEC Antigen, *Yersinia, Vibrio, Aeromonas* and *Pleisiomonas*.
5. Infection with HIV is also a common cause of diarrhea, as are many common medications.

References

1. Wolk, DM,. Martinez, RM. 2011-2014 parasite survey Geisinger Health System



TEST = RVPCR

Molecular testing full panel: adenovirus; coronaviruses 229E, HKU1, NL63, and OC43; rhinovirus; human metapneumovirus; influenza A (subtypes H1, 2009 H1, and H3); influenza B; parainfluenza virus types 1-4; RSV; Bordetella pertussis; Chlamydophila pneumoniae; and Mycoplasma pneumonia.

Performing laboratories: GMC, GWV, GCMC, and GBH. GSACH and GLH sent to GMC.

Abbreviations
URI = upper respiratory infection
LRI = lower respiratory tract infection
UTM = universal transport media w/ flocked swab
NP = nasopharyngeal
BAL= brochoalveolar lavage

For questions about respiratory pathogen testing, please contact Microbiology Technical Specialists: Lisa Scicchitano, B.S., MT(ASCP) at 570-214-4294, or Francis Tomashefski, B.S., MT(ASCP) at 570-271-6185 of **Doctoral directors:** Dr. Donna Wolk, MHA, Ph.D, D(ABMM) at 570-271-7467 or Dr. Raquel Martinez, Ph.D, D(ABMM) at 570-271-6338.

*Note: Exceptions to algorithm can occur with laboratory waiver, e.g., patients in high risk groups
*May 1- Oct 31: rare chance of detecting influenza/ RSV; for diagnostic purposes, the full molecular panel is standard.

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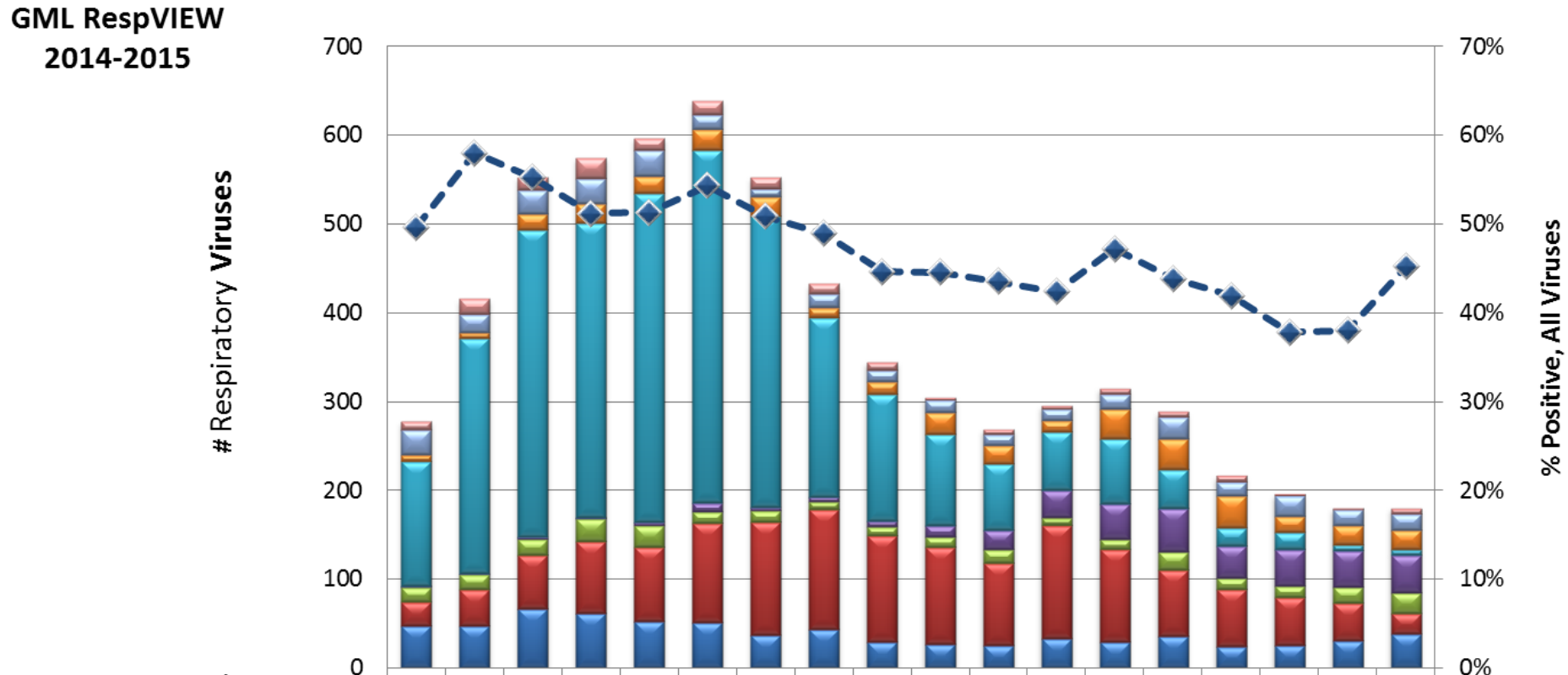

CDC Respiratory Week, 2014-2015	51	52	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
adenovirus	10	17	14	23	14	16	13	12	9	3	6	4	6	6	7	2	2	6
coronavirus	28	21	27	29	29	16	9	15	13	14	12	13	17	25	16	23	18	19
hum.metapneumovirus	7	7	18	22	19	24	22	11	14	25	21	13	34	34	36	18	21	22
influenza A	140	265	346	331	371	397	328	202	143	102	75	66	73	44	20	19	7	6
influenza B	2	1	3	2	4	10	4	6	7	13	22	31	40	49	37	41	41	42
parainfluenza	16	17	18	26	24	13	13	9	10	12	15	8	11	20	13	13	18	24
respiratory syncytial virus	27	40	60	80	84	112	127	134	120	109	93	128	105	75	64	54	42	23
rhinovirus	48	48	67	62	52	51	37	44	29	27	25	33	29	36	24	26	31	38
% Positive Rollup (right axis)	50%	58%	55%	51%	51%	54%	51%	49%	45%	45%	44%	42%	47%	44%	42%	38%	38%	45%