

SUMMARY

Choose **RVPCR** (full respiratory panel) for inpatients or immune-compromised and other at risk outpatients.

Choose **ABRP** (Flu/RSV) for outpatients.

Do not order ABRP on inpatients.

Please refer to the respiratory peak season algorithm on page 4.

If you have any questions, please contact the Doctoral Directors, Donna Wolk, Ph.D., D(ABMM) at 570-271-7467 or Raquel Martinez Ph.D., D(ABMM) at 570-214-6587.

For newsletter questions, contact Christy Attinger at (570) 271-6338.

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10X Essentials: Respiratory Pathogens Detected by PCR

Effective November 3, 2015, GML sites will offer/perform the following testing scheme for respiratory pathogen detection by Polymerase Chain Reaction (PCR). See page 4. There are only RARE influenza and RSV circulating; the predominant virus is rhinovirus.



REMEMBER

Collect a nasopharyngeal (NP) swab
Do NOT collect a nasal swab (lower accuracy)
Place swab in Universal Transport Media (UTM)
and transport at 2-8°C



Pre-Admission and In-patients: Use test code RVPCR (Respiratory Pathogen PCR). RVPCR is performed year round by GMC, GWV, GCMC, GBH, and GLH laboratories.

RVPCR can also be ordered for compromised outpatients at the clinician's discretion, but **avoid testing RVPCR on the same day as ABRP (see below) to avoid billing complications for your out-patients as some targets overlap.**

RVPCR testing includes: 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*, *Chlamydia pneumoniae*, and *Mycoplasma pneumoniae*.

Our Culture Is Patient Safety

Why are all viruses tested when there is no antiviral therapy, except for influenza? Geisinger's focus on patient safety led to a decision in 2009 to invest in identification of airborne and droplet spread respiratory viruses for all incoming patients. The RVPCR test triggers respiratory isolation and prevention of viral spread to other inpatients, many of whom are severely debilitated already. In addition, the RVPCR test results enable faster and more accurate decisions for bed placement and bed management throughout all 7 GHS hospitals. The RVPCR testing program is evidence of Geisinger's commitment to patient safety and infection prevention.

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Why not just use a rapid antigen for testing influenza only?

Due to its inaccuracy, Rapid Influenza Antigen testing is NOT performed in any GML or GRL sites. The Center for Disease Control has deemed most rapid influenza testing inappropriate for patient use. The rapid flu tests are well-documented to be fraught with false negative and false positive test results. Despite claims in package inserts that boast accuracies of > 90%, these comparisons were performed against the much less sensitive viral culture, long abandoned in favor of molecular methods. In actuality, the **sensitivity of these methods compared against current molecular methods ranges from 40-85% and the specificity from 70-80%.**

- Only a few rapid antigen methods are acceptable to CDC, and it is expected that this winter/spring some suppliers will be blocked from the sale of inaccurate flu testing.
- GML is a leader in national commitment and responsibility to patients and to the concepts of population health. We provide the most accurate testing available to prevent the spread of disease that occurs with false negative flu testing, and the over-treatment with antivirals that occurs with false positive testing or omission of the RSV target. Because we care for several generations of families, and indeed the population of 44 counties, we are committed to accuracy – no family member should be hospitalized due to influenza that could have been prevented by the use of accurate test method and antiviral therapy. No patient should be subjected to antiviral therapy that will not help them when they do not have the flu.
- **In summary, no GML site offers rapid influenza testing.** To obtain rapid antigen testing, both Geisinger and non-Geisinger clinicians physicians will need to triage patients to Geisinger CareWorks sites - they will offer a CDC-approved rapid influenza test, and will reflex negative samples for complicated patients to GMC for molecular testing via ABRP.

Note: CPSL sites affiliated with Holy Spirit Hospital will also offer a CDC-approved rapid influenza method, as they are not yet fully integrated with the all GML policies.

Test code **ABRP (FLU A/B and RSV PCR)**; recommended for most outpatients

ABRP is available November 3, 2015 – April 30, 2016 (Why is that?):

During the winter months the overwhelming proportion of viruses are identified as influenza and RSV; therefore, offering this test to outpatients during the winter offers a lower cost option for them. RSV continues to be included, because approximately 40% of children and adults, who are suspected of having influenza, actually have RSV. Knowledge of RSV infection in the absence of influenza allows physicians to remove anti-influenza antivirals and minimize antiviral pressure for drug resistance mutations to develop in the GHS population.

As of November 3, 2015, ABRP is now performed at ALL GML Hospital sites (GMC, GWV, GSACH, GBH, GCMC, GLH, and our laboratory family's newest site, Geisinger Holy Spirit Hospital). We welcome our Holy Spirit colleagues. Dr. Beth Houser is the Microbiology Laboratory Manager at Holy Spirit - A Geisinger Affiliate, Phone: 717-972-4508.

See Respiratory Testing Algorithm on page 4.

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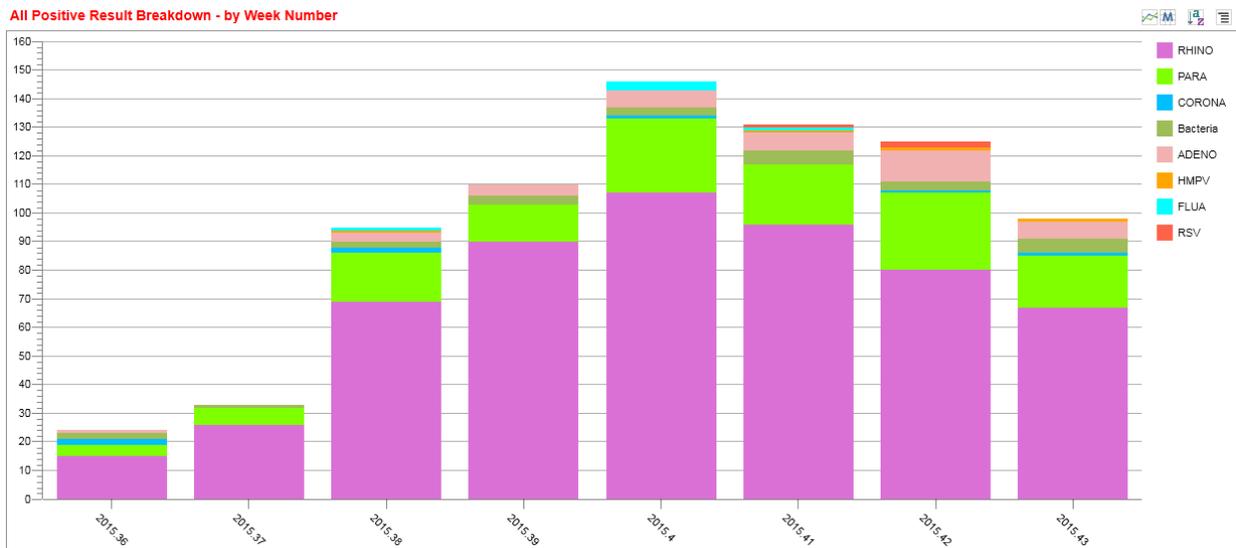
What about Rapid Antigen RSV Testing?

As of Nov 3, 2015, no hospital sites will be performing Rapid RSV antigens due to the superiority of the ABRP for RSV.

Rapid antigen testing for RSV on patients <6 yrs (November 3 – April 30) is only performed in GRL physician office laboratory sites. If the rapid RSV results are positive, no further testing is routinely performed. If the rapid RSV results are negative, PCR testing for influenza A, influenza B and RSV (ABRP) is reflexed and performed.

NEW ALTOSOFT DASHBOARD (RESP-VIEW)

- We are excited to offer a new face to respiratory season at GML, with our near real-time and site specific Respiratory Virus Dashboard. We are currently in CDC week # 43 (last column). The output summarizes respiratory pathogens detected by molecular methods.
- You can easily see that rhinovirus and parainfluenza top our list, with some adenovirus.
- Flu and RSV are virtually non-existent, identified but only on rare occasion, so be cautious about the use of antivirals when there is not yet widespread flu in our catchment area.
- If you would like a local view of viruses in your local region, contact your local hospital laboratory to request access to their dashboard or have you own dashboard installed. If you have a Sunquest location code, you can see your local viruses for your region or practice.



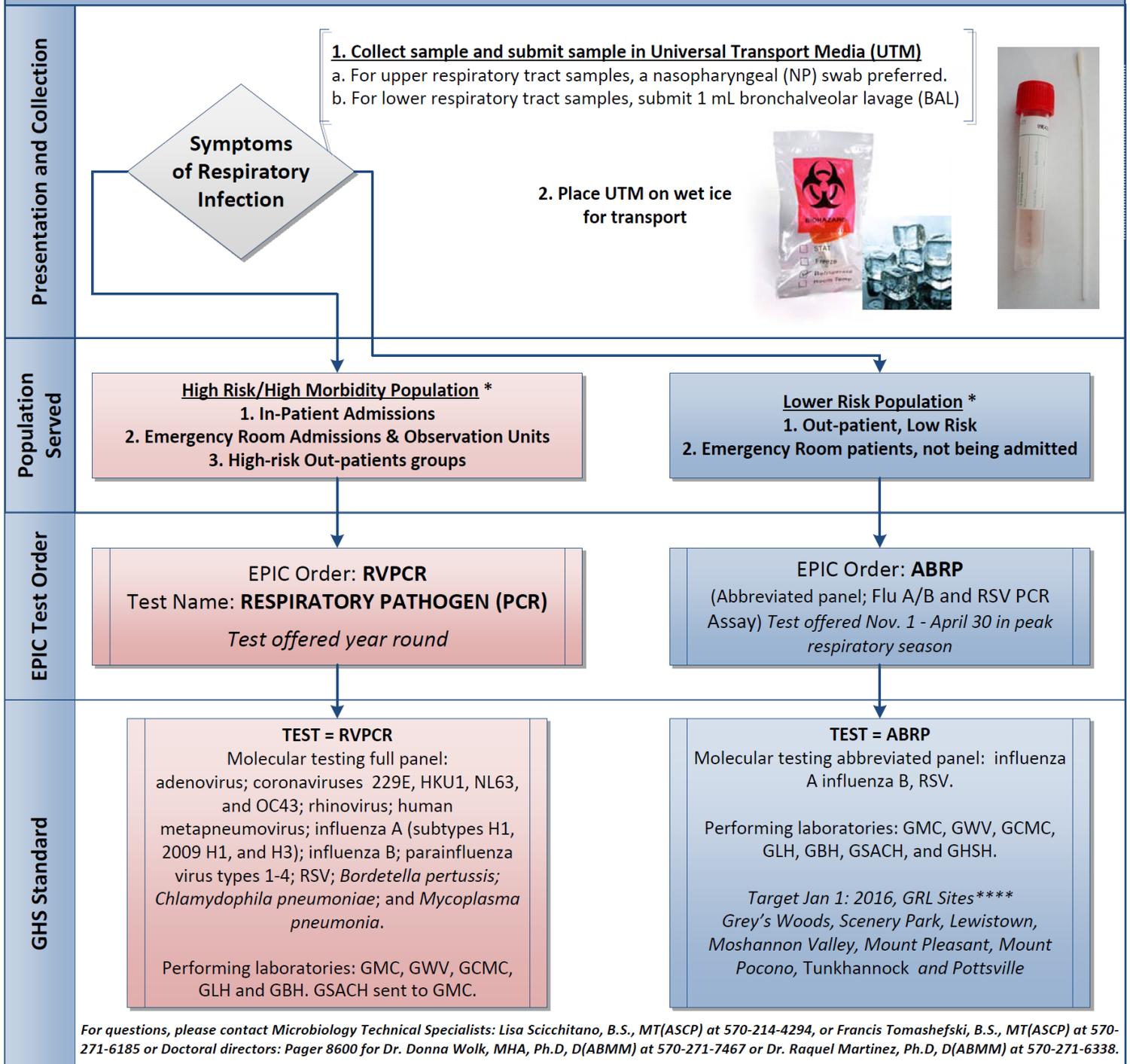
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2015-2016 Approved Respiratory Pathogen Testing Algorithm

Geisinger Medical Laboratories

Order UTM with flocked swab from GHS Supply Chain, Part # or via your GML Customer Care Representative



For questions, please contact Microbiology Technical Specialists: Lisa Scicchitano, B.S., MT(ASCP) at 570-214-4294, or Francis Tomaszewski, B.S., MT(ASCP) at 570-271-6185 or Doctoral directors: Pager 8600 for 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 after a laboratory waiver id received (call pager 8600); for GSACH order STAT courier for critical patients or ED bed management

***May 1- Oct 31:** rare chance of detecting influenza/ RSV; for diagnostic purposes, the full molecular panel is standard.

***** Geisinger Careworks and GHSH clinics will offer rapid influenza antigen and back up negative samples for high risk groups by molecular methods.**

******Note:** Rapid RSV antigen testing is only performed at GRL hub sites until they are converted to molecular methods.

*** Groups at high risk for influenza complications**

Children <2 years* and Adults ≥65 years of age

Persons with chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematologic (including sickle cell disease), metabolic (including diabetes mellitus), neurologic, neuromuscular, and neurodevelopmental disorders (including disorders of the brain, spinal cord, peripheral nerve and muscle such as cerebral palsy, epilepsy, stroke, intellectual disability [mental retardation], moderate to severe developmental delay, muscular dystrophy, or spinal cord injury)Immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus)

Women who are pregnant or postpartum (within two weeks after delivery)

Children <19 years of age and receiving long-term aspirin therapy

Native Americans and Alaskan Natives

Morbidly obese (body mass index [BMI] ≥40 for adults or BMI >2.33 standard deviations above the mean for children)

Residents of nursing homes and other chronic care facilities*

Although all children <5 years of age are considered to be at higher risk for complications of influenza, the highest risk is for those <2 years of age, with the highest hospitalization and death rates among infants <6 months of age.

Adapted from: Influenza Division, National Center for Immunization and Respiratory Diseases, CDC. Prevention and control of seasonal influenza with vaccines. MMWR Recomm Rep 2013; 62:1.