Methodist Lab Alert: Respiratory Viral Season 2015-2016

Clinical Diagnosis vs. Laboratory Testing

Laboratory testing may be unnecessary for many patients with influenza-like illness in the outpatient or emergency room setting. The majority of older adolescents or adults with abrupt onset of fever and cough within 2 days of presentation can be clinically diagnosed with influenza (63% sensitivity). For younger children, patients at higher risk for complications of influenza, or patients in whom results will influence management (i.e. antiviral treatment, infection control practices, or other diagnostic workups) laboratory testing for influenza and/or other respiratory viruses may be considered.

Primary Tests for Diagnosis of Respiratory Pathogens

$$ Flu A/B PCR:
- Preferred test for diagnosis of influenza
- Offered in-house with turn around time 2-4 hours **Day/Evening shift only.
- Specimen: Nasopharyngeal swab in viral transport media (VTM).
- Sensitivity 93-100% Specificity 100%

$ RSV rapid antigen:
- RSV has similar presentation to influenza, RSV testing may be useful in patients with flu-like illness.
- Method is a rapid antigen detection kit.
- Offered in-house with turn around time of 1 hour **Day/Evening shift only.
- Specimen: Nasopharyngeal swab in viral transport media (VTM).
- Sensitivity is 89%, specificity is 100% when RSV is present in the community.

$$ Adult Respiratory Panel:
- Includes both Flu A/B PCR & RSV rapid antigen.
- Specimen: Nasopharyngeal swab in viral transport media (VTM).
- Sensitivity, specificity varies by target.

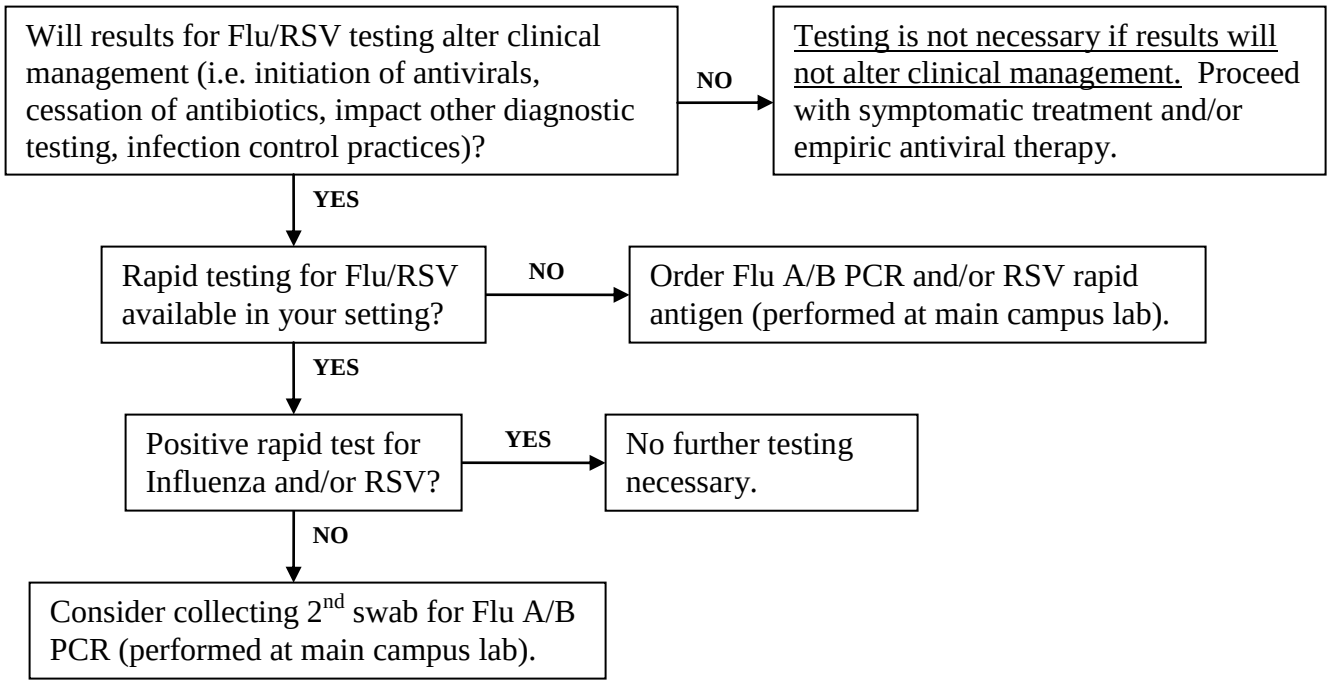
$$ Pertussis PCR
- If symptoms consistent with Whooping Cough (staccato cough, inspiratory whoop, post-tussive vomiting), *B. pertussis* by PCR should be considered
- Specimen: Nasopharyngeal swab without VTM (mini-tip swab).
- Sent to reference laboratory with turn around time 1-3 days.
- Most sensitive test if collected within 3 weeks of cough onset.

Supplemental Tests for Diagnosis of Respiratory Pathogens

$$$$ Pediatric Respiratory Panel:
- Starts with Flu A/B PCR and RSV rapid antigen.
- If both Flu A/B and RSV antigen negative, automatically reflexes to Respiratory Viral Panel by PCR which includes: Flu A/B, RSV, Parainfluenza 1-4, Coronaviruses HKU1, NL63, 229E, OC43, Enterovirus/Rhinovirus, Adenovirus, Human Metapneumovirus, *Mycoplasma pneumoniae*, *Chlamydophila pneumoniae*, *Bordetella pertussis*.
- Sensitivity/specificity varies by target.

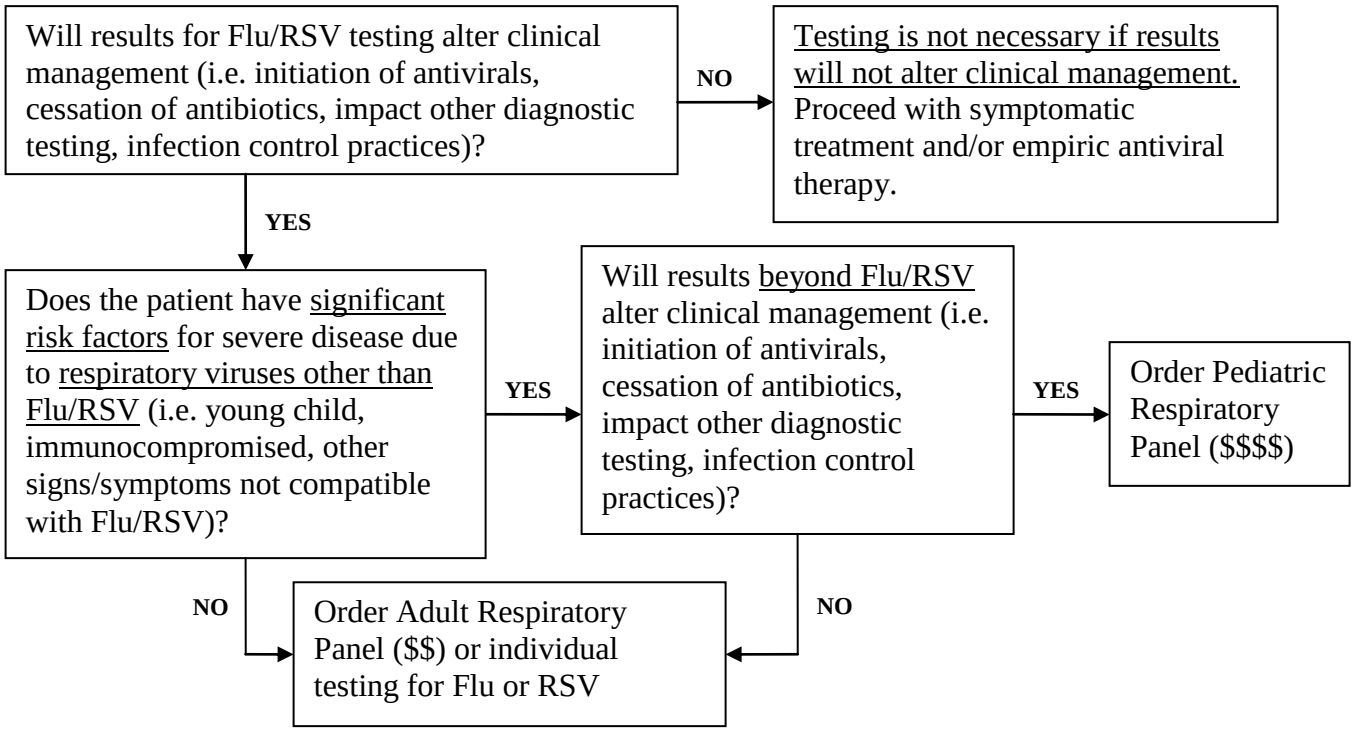
<u>Outpatient</u> with suspected influenza:

- Fever
- Muscle aches
- Respiratory symptoms



Inpatient or ED patient with suspected influenza:

- Fever
- Muscle aches
- Respiratory symptoms



Notes:

- The Influenza A/B PCR and RSV rapid antigen are available as individually orderable tests. The Respiratory Viral Panel (RVP) by PCR is not orderable separately.
- The Pediatric Respiratory Panel is not limited to children, but its use is suggested only in special circumstances (i.e. immunocompromised) outside of the pediatric population.
- Many of the outpatient clinics offer rapid flu and/or rapid RSV testing. The CDC recommends backing up negative rapid flu tests by a more sensitive method. If the results of the flu testing will impact clinical decision making, it is suggested that you back up negative rapid results with the Flu A/B PCR.

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