

2021-2022 Influenza Season

A Focus on Respiratory Disease Prevention

West Virginia Immunization Network
September 14, 2021



Objectives

- Review influenza as an etiologic agent and common signs/symptoms
- Discuss specific treatment efforts for high-risk populations
- Summarize previous influenza season(s) in West Virginia
- Describe importance of influenza surveillance
- Review influenza vaccine recommendations
- Highlight influenza prevention practices
- Discuss laboratory specimen procedures for respiratory pathogens

Disclosure: The speakers have no financial interest or other relationship with the company that makes the products/services discussed in this webinar including but not limited to vaccines, antivirals, and laboratory testing materials.

Influenza as an Etiologic Agent

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Assistant Professor

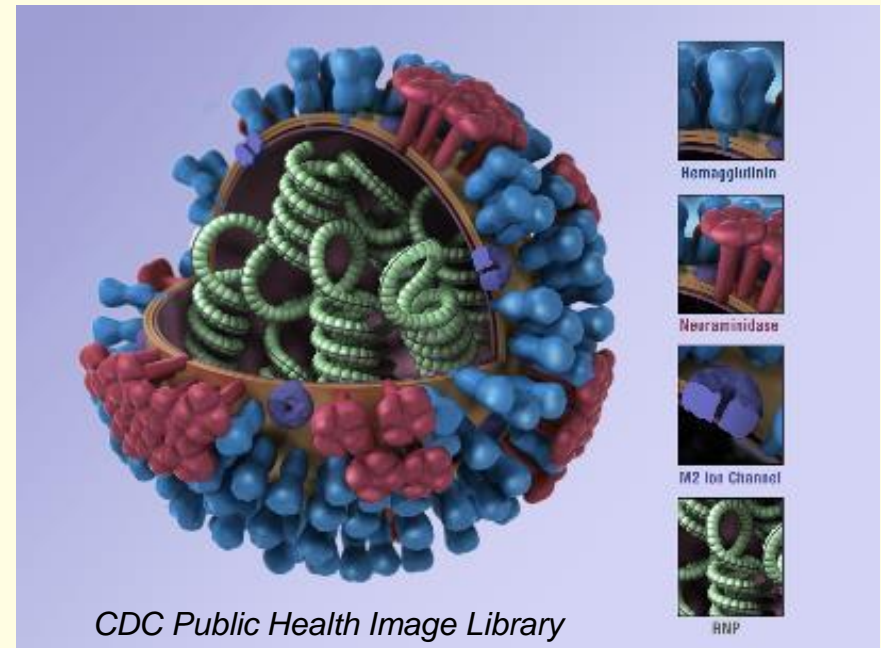
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Virus Structure and Classification

- Classified into types A through D
- Types A and B cause seasonal epidemics
- Type A further divided by outer proteins (“H” and “N”)
- Type B divided into lineages



Virus Circulation and Evolution

- Seasonal human viruses currently circulating: A (H3N2), A (2009 H1N1), B (Yamagata) and B (Victoria)
- Antigenic drift: Small changes in types A and B viruses → annual vaccination
- Antigenic shift: Recombination of >1 type A influenza virus (human or animal) into something new → pandemic potential

Transmission

DEFINITELY: Person-to-person spread

- Respiratory droplets produced by coughing, sneezing, talking, singing
- Close contact (within 6 feet)

POSSIBLY: Touching nose, mouth, or eyes after contact with contaminated surfaces

NOT LIKELY: Foodborne transmission



CDC Public Health Image Library

INCUBATION PERIOD: 1-4 days

AVERAGE SYMPTOM ONSET: 2 days

CONTAGIOUS PERIOD: 1 day before symptom onset – 7 days after symptom onset

TRANSMISSIBILITY (R_0): 1.3

CASE FATALITY RATE (CFR): 0.1%

SIGNS AND SYMPTOMS

- Fever
- Cough
- Sore throat
- Runny or stuffy nose
- Fatigue
- Myalgia
- Headache
- Vomiting and diarrhea
(more common in children)

Please Note: Co-infections of influenza and SARS-CoV-2 are possible and should be considered, especially in hospitalized patients with severe disease.

COMPLICATIONS

- Pneumonia
- Respiratory failure
- Acute Respiratory Disease Syndrome (ARDS)
- Sepsis
- Cardiac injury
- Multiple-organ failure
- Worsening of chronic medical conditions
- Inflammation of the heart, brain or muscle tissues
- Secondary bacterial infections

High-Risk Populations

High-risk individuals include children younger than 2 years old, adults aged 65+, racial/ethnic minorities, pregnant women, and adults with the following chronic health conditions:

- Liver Disorders
- Endocrine Disorders
- Metabolic Disorders
- Blood Disorders
- Cystic Fibrosis
- Asthma
- Diabetes
- Chronic Obstructive Pulmonary Disease (COPD)
- Obesity
- Neurological Conditions
- Serious Heart Conditions
- Chronic Kidney Disease
- Sickle Cell Disease
- Liver Disease
- Heart Disease
- Immunocompromised - due to disease or medications

Priority Groups for Antiviral Treatment of Influenza:

- Hospitalized patients
- Patients with severe, complicated or progressive illness
- Those at higher risk for influenza complications

Influenza Antiviral Options

- For outpatients with acute uncomplicated influenza, **oral oseltamivir, inhaled zanamivir, intravenous peramivir, or oral baloxavir** may be used for treatment.
- The U.S. Centers for Disease Control and Prevention (CDC) recommends that clinicians **do not wait for laboratory results** to initiate empiric influenza treatment for priority groups.
 - Clinical benefit is greatest when antiviral treatment starts as close to illness onset as possible (ideally within 48 hours).
- Oral oseltamivir is preferred for treatment of pregnant women, and for outpatients with complications or progressive disease.
- For hospitalized patients with suspected or confirmed influenza, initiation of antiviral treatment with oral or enterically-administered oseltamivir is recommended as soon as possible.
- CDC guidelines for treatment and prophylaxis with antivirals:
www.cdc.gov/flu/professionals/antivirals/summary-clinicians.htm.

Influenza Surveillance

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According to the Centers for Disease Control and Prevention *Manual for the Surveillance of Vaccine-Preventable Diseases*:

- Identifies new influenza viruses
- Informs annual vaccine component selection
- Assists healthcare providers in making treatment decisions
- Identifies high-risk persons
- Determines effectiveness of prevention strategies
- Helps in refining annual vaccine and antiviral recommendations

Clinical Laboratories

- Weekly aggregate counts of positive influenza tests and total influenza tests run – reports directly to the West Virginia Department of Health and Human Resources' Division of Infectious Disease Epidemiology (DIDE) Influenza Surveillance Coordinator electronically

Providers and Facilities

- Influenza-associated pediatric deaths – within 1 week to Local Health Department (LHD)

Outpatient Labs, Providers, and Facilities

- Novel influenza infection, animal or human – immediately to LHD
- Outbreaks (suspected or confirmed) – immediately to LHD

Influenza Laboratory Reports

Clinical laboratories are required to make weekly reports regarding their confirmatory influenza testing

- Report counts occurring Sunday – Saturday by following Monday to DIDE
- Report regardless of whether you report electronically to the state's Electronic Disease Surveillance System (WVEDSS)
- Continue utilizing online survey to complete (now via Google Forms)
- Consider joining the National Respiratory and Enteric Virus Surveillance System (NREVSS) – report testing directly to the CDC

WEST VIRGINIA
Health & Human Resources
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Influenza Laboratory Reporting

West Virginia Office of Epidemiology and Prevention Services
Division of Infectious Disease Epidemiology
Phone: (304) 558-5358, ext. 1

Instructions

- Fill in counts for each category in table below weekly Sunday-Saturday.
- Include RT-PCR, immunofluorescence, or culture tests only.
- Fax completed form to (304) 558-8736 or email it to Margret.A.Watkins@wv.gov by COB the following Monday.
- If you receive a result in a starred(*) category, please contact Margret Watkins by e-mail or phone at earliest convenience.

Week Ending: _____

Total # A(2009 H1N1)	
Total # A(H3N2)	
Total # A (Subtyping Not Performed)	
Total # A (0 or >1 Subtype Detected)*	
Total # B	
Total # Tested	

Laboratory/Hospital:	
Contact Person:	
Phone, Fax, or E-mail:	

Influenza Laboratory Tests

Serology and rapid flu diagnostic test (antigen) results DO NOT need to be reported. Specimens should be sent to the state's Office of Laboratory Services (OLS) for confirmatory testing.

Method	Acceptable Specimens	Test Time
Rapid Molecular Assay [influenza viral RNA or nucleic acid detection]	NP swab, nasal swab	15-30 minutes
Immunofluorescence, Direct (DFA) or Indirect (IFA) Florescent Antibody Staining [antigen detection]	NP swab or wash, bronchial wash, nasal or endotracheal aspirate	1-4 hours
RT-PCR (singleplex and multiplex; real-time and other RNA-based) and other molecular assays [influenza viral RNA or nucleic acid detection]	NP swab, throat swab, NP or bronchial wash, nasal or endotracheal aspirate, sputum	Varies (1-8 hours, varies by the assay)
Rapid cell culture (shell vials; cell mixtures; yields live virus)	NP swab, throat swab, NP or bronchial wash, nasal or endotracheal aspirate, sputum; (specimens placed in VTM)	1-3 days
Viral tissue cell culture (conventional; yields live virus)	NP swab, throat swab, NP or bronchial wash, nasal or endotracheal aspirate, sputum (specimens placed in VTM)	3-10 days

Adapted from CDC: www.cdc.gov/flu/professionals/diagnosis/table-testing-methods.htm

Optional Reporting

Influenza Sentinel Providers voluntarily participate in influenza surveillance by reporting counts of visits for Influenza-Like Illness (ILI) weekly directly to the CDC via the ILINet website.

Eligibility

- Primary healthcare provider of any specialty
- Ability to log into ILINet and report counts every week
- Note that it is a separate reporting stream than clinical laboratories' weekly reports
- ESSENCE facilities may be eligible in upcoming seasons

Incentives

- Free doses of influenza vaccine (max 100 doses)
- Free shipping and confirmatory testing for respiratory specimens submitted to OLS
- Weekly reports on state and regional flu activity

Influenza-Like Illness (ILI): Fever \geq 100 °F with cough and/or sore throat (now includes cases with a known cause other than influenza)

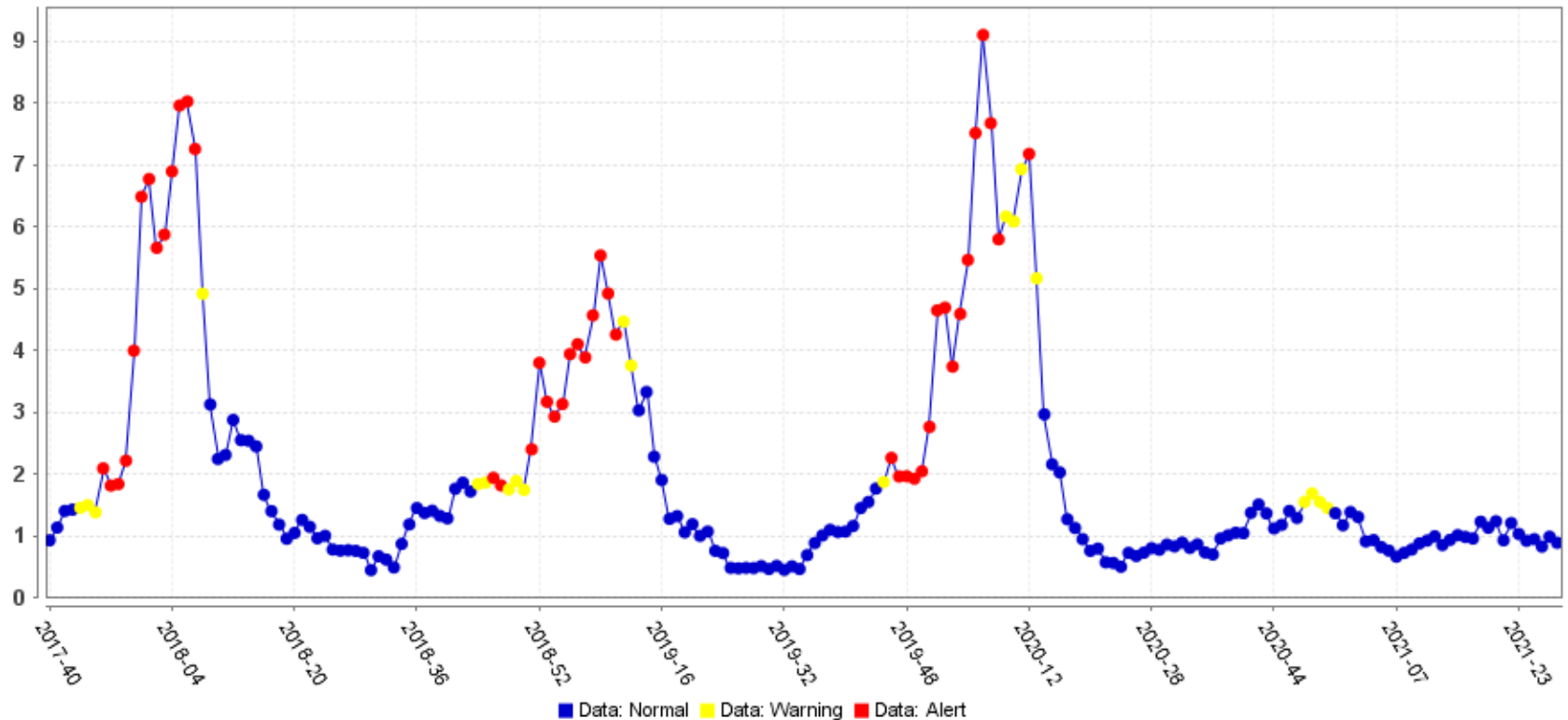
For respiratory outbreaks (OBs) in long-term care facilities (LTCFs), the **McGeer Criteria for ILI** is used: fever AND at least three of the following sub-criteria:

- Chills
- New headache or eye pain
- Myalgias or body aches
- Malaise or loss of appetite
- Sore throat
- New or increased dry cough

<https://oeps.wv.gov/toolkits/documents/ari/case-class-acute-ri-ltcf.pdf>

Previous Influenza Seasons

Weekly Percentage



ILI/ESSENCE data trends indicate little to no Influenza Season in 2020-2021

Record-breaking low influenza numbers in 2020-2021 season

- Attributed to COVID-19 mitigation strategies
- Testing rates increased based on previous years
- Vaccine distribution increased based on previous years
- Impact on upcoming 2021-2022 season is unknown, but it is estimated that flu rates will increase due to:
 - Testing rates remaining high
 - Lack of community exposure and natural immunity
 - Relaxed regulations (discontinue mask mandates)
 - Possible lowered vaccine confidence

Outbreaks reported to DIDE:

- 65 of 104 Respiratory OBs reported in 2019 were determined to be influenza (62.5%)
- 91 of 119 Respiratory OBs reported in 2020 were determined to be influenza (76.5%)
- 2 of 5 Respiratory OBs reported in 2021 were determined to be influenza (40% as of July 2021)

Influenza Vaccination

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2021-2022 Flu Vaccines

- Manufacturers anticipate providing between 188-200 million doses of flu vaccine for the United States this flu season.
- All vaccines produced for the 2021-2022 flu season will be quadrivalent and most (87%) will be thimerosal-free or thimerosal-reduced vaccines.
- Only multi-dose vial presentations of flu vaccines will contain thimerosal.
- About 18% of flu vaccines will be egg-free.

<https://www.cdc.gov/flu/season/index.html>

Composition of Egg-Based Vaccines

One of the recommended strains of influenza A is different for egg-based than for cell-based influenza vaccines this season.

Egg-based vaccines will contain the following strains:

- A/Victoria/2570/2019 (H1N1) pdm09-like virus
- A/Cambodia/e0826360/2020 (H3N2)-like virus
- B/Washington/02/2019- like virus (B/Victoria lineage)
- B/Phuket/3073/2013-like virus (B/Yamagata lineage)

Cell-Based and Recombinant Vaccines

Cell-based and recombinant vaccines are egg-free.

Egg-free vaccines will contain the following strains:

- A/Wisconsin/588/2019 (H1N1) pdm09-like virus
- A/Cambodia/e0826360/2020 (H3N2)-like virus
- B/Washington/02/2019- like virus (B/Victoria lineage)
- B/Phuket/3073/2013-like virus (B/Yamagata lineage)

Presentations of 2021-2022 Flu Vaccine

- Standard inactivated, injectable influenza (IIV) vaccine
- High dose vaccine for persons 65 and older
- Adjuvanted high dose vaccine for persons 65 and older
- Cell-based injectable vaccine (virus not grown in eggs)
- Recombinant vaccine virus (also egg-free)
- Live attenuated influenza vaccine (LAIV) administered by nasal spray
- Flu Vaccine can be co-administered with other vaccines
 - Includes COVID-19 doses/boosters
 - Injectables should be administered at different anatomical sites

State-Supplied Flu Vaccines

The West Virginia Department of Health and Human Resources, Bureau for Public Health provides free flu vaccines for:

- Children 0-18 years eligible for Vaccine for Children (VFC) and the West Virginia Children's Health Insurance Program (CHIP)
- VFC eligibility:
 1. Uninsured
 2. Medicaid-enrolled
 3. Underinsured
 4. American Indian and Alaskan Natives
- Adults at free clinics
- Community Health Centers (CHCs) – beginning in mid-October
 - CHCs also offer services on sliding fee scale

Project Firstline

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Topic 1: The Concept of Infection Control

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IS FOR
YOU**



**PROJECT
FIRSTLINE**

CDC's National Training Collaborative
for Healthcare Infection Prevention & Control

CS320316-A



Agenda:

- Project Firstline and the concept of infection control
 - Video
 - Discussion and reflection
- Session feedback form and next steps

Learning Objectives:

- Articulate at least one primary goal of infection control

Why do we do infection control?

Video: What's the Goal of Infection Control?

INSIDE INFECTION CONTROL

WHAT'S THE GOAL OF INFECTION CONTROL?

<https://www.cdc.gov/infectioncontrol/projectfirstline/videos/Ep1-Goal-LowRes-New.mp4>

EPISODE 1



Upcoming Session Topics

Coming Up Next

- The Basic Science of Viruses
- How Respiratory Droplets Spread COVID-19
- How Viruses Spread from Surfaces to People
- How COVID-19 Spreads: A Review

Broader Themes and Topics

- Infection Control: The Basics
- Source Control
- PPE: Basics
- PPE: Donning and Doffing
- Hand Hygiene
- Crisis Standards of Care
- Triage
- Standard and Transmission-Based Precautions
- Microbiology Basics
- Recognizing Risk
- Environmental Cleaning and Disinfection

Key Messages

- The goal of everything we do in infection control, for any disease, is to keep people from getting sick.
- The goal of Project Firstline is to make sure you have the infection control knowledge that you need and deserve to keep yourself, your patients, your colleagues, and your family safe.

Resources and Future Training Sessions

Project Firstline on CDC:

<https://www.cdc.gov/infectioncontrol/projectfirstline/index.html>

Project Firstline on Facebook:

<https://www.facebook.com/CDCProjectFirstline/>

Twitter:

https://twitter.com/CDC_Firstline

YouTube Playlist:

<https://www.youtube.com/playlist?list=PLvrp9iOILTQZQGtDnSDGViKDdRtlc13VX>

To sign up for Project Firstline e-mails, click here:

https://tools.cdc.gov/campaignproxyservice/subscriptions.aspx?topic_id=USCD C_2104

Feedback Form

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Influenza Prevention Practices

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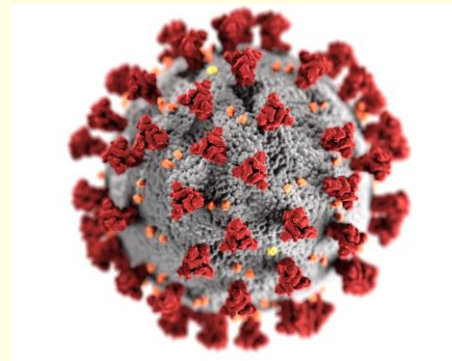
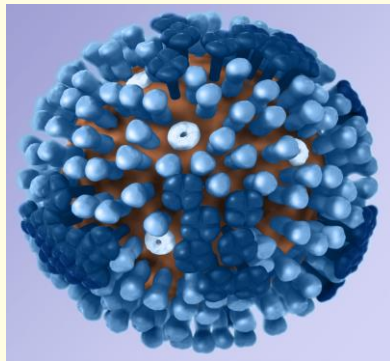
Infection Control Measures

- Cover coughs and sneezes
- Distancing/separation
- Hand Hygiene (HH)
- Personal Protective Equipment (PPE)
 - Masks, gloves, eye protection and/or gowns



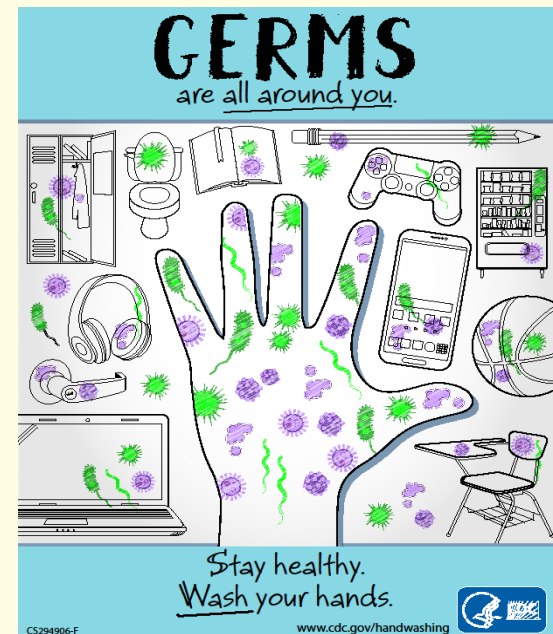
Is it influenza, is it COVID, or could it be both?

- Continue the use of masks for patients and visitors as they travel through the healthcare facility (also referred to as source control).
- Continue the use of a dedicated respiratory triage/waiting area or areas that allow distancing between patients (six feet between chairs).



Hand Hygiene

- HH is one of the most effective forms of infection control.
 - Every HH program should adhere to a minimum of 20 seconds of hand washing with soap and water or use of alcohol-based hand rubs.
- Encourage and enforce your hand hygiene program.
 - Every organization should have a HH program.
 - Follow the policy – audit your program.



<https://www.cdc.gov/handwashing/pdf/Handwashing-Middle-School-8x11-p.pdf>

Respiratory Etiquette

- Continue providing communication and signage for appropriate respiratory etiquette.
- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.



https://www.cdc.gov/coronavirus/2019-ncov/downloads/cover-your-cough_poster.pdf

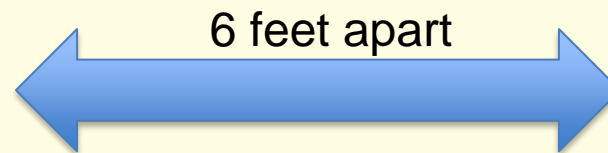
PPE: Masks, Gloves, Eye Protection and/or Gowns

- Until diagnosis of influenza (with no co-infection of COVID) is confirmed, full PPE is recommended.
- Direct contact of positive influenza dictates the need for masks and gloves (unless a situation arises warranting the need for gown and/or eye protection).



Distancing/Separation

- Continue to encourage social distancing.
 - Waiting areas should maintain distance between seats.
 - Common areas should be cleaned and disinfected routinely.
- Separate patients until confirmation of illness.
 - Cohort patients with confirmed illnesses.



Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic (updated Feb. 23, 2021): <https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html>

Hand Hygiene and Personal Protective Equipment Auditing

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Reasons to Audit

- In order to improve practice, it is important that the correct use of PPE and proper completion of hand hygiene be rigorously and consistently applied.
- A recent study demonstrated that only half of healthcare personnel removed PPE correctly under normal conditions.
- Healthcare providers clean their hands less than half of the times they should.
- Audits can provide immediate feedback and identify gaps in practice.

U.S. Centers for Disease Control and Prevention (CDC): Clean Hands Count for Safe Healthcare www.cdc.gov/patientsafety/features/clean-hands-count.html

Who Should Be Audited?

Anyone who comes into contact with patients or residents should be audited.

This includes:

- All licensed healthcare personnel
- All unlicensed healthcare personnel
- Physicians
- Volunteers
- Trainees

CDC: States Targeting Reduction in Infections via Engagement (STRIVE)
www.cdc.gov/infectioncontrol/pdf/strive/PPE104-508.pdf

Frequency and Re-Education

- Audits should take place at regular intervals as defined by the organization.
- It is also important to re-educate and audit whenever there is a change in equipment or supplies and if rates of healthcare-associated infections (HAIs) are high or increasing.

Planned Observations

- Pros:
 - Can be scheduled to ensure all individuals demonstrate regular competency
 - Scenarios can provide feedback on individual's ability to choose PPE appropriate for the situation or perform appropriate hand hygiene
- Cons:
 - Unable to determine behavior during the routine course of duties

Random Observations

- Pros:
 - Ability to assess adherence during normal work
- Cons:
 - Requires large number of observations on all shifts

Hand Hygiene Observational Tool



Observer: _____ Date: _____

Location (Unit or Wing)	Position	Before touching a patient		Before clean aseptic procedure		After body fluid exposure risk		After touching a patient		After touching patient surroundings	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
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		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

To calculate hand hygiene rate:

(A) Total Number of times Hand Hygiene was performed ('yes'): _____

(B) Total Number of Opportunities for Hand Hygiene ('yes' + 'no'): _____

(A+B)X100 = Percentage: _____

Hand Hygiene Observational Tool

Observer: Nurse A Date: July 29

Location (Unit or Wing)	Position	Before touching a patient		Before clean aseptic procedure		After body fluid exposure risk		After touching a patient		After touching patient surroundings	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
2-Hall	CNA	✓Yes	No	Yes	No	Yes	No	Yes	✓No	Yes	✓No
2-Hall	RN	Yes	No	Yes	No	Yes	No	✓Yes	No	✓Yes	No
2-Hall	PT	✓Yes	No	Yes	No	Yes	No	✓Yes	No	Yes	No
2-Hall	Dietary	Yes	No	Yes	No	Yes	No	Yes	✓No	Yes	✓No
2-Hall	PT	Yes	✓No	Yes	No	Yes	No	✓Yes	No	Yes	✓No
Dining	CNA	Yes	✓No	Yes	No	Yes	No	Yes	No	Yes	✓No
Dining	CNA	✓Yes	No	Yes	No	Yes	No	✓Yes	No	✓Yes	No
Dining	LPN	Yes	✓No	Yes	No	Yes	No	Yes	✓No	Yes	✓No
2-Hall	Physician	✓Yes	No	✓Yes	No	Yes	No	✓Yes	No	Yes	✓No
2-Hall	NP	✓Yes	No	Yes	No	✓Yes	No	✓Yes	No	✓Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
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		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

To calculate hand hygiene rate:

(A) Total Number of times Hand Hygiene was performed ('yes'): 16

(B) Total Number of Opportunities for Hand Hygiene ('yes' + 'no'): 28

(A+B)X100 = Percentage: 16/28X100=57%

Contact Precautions Observation Tool



Observer: _____ Date: _____

Location Unit or Wing	Position Ex. LPN, CNA, Dietary	Hand Hygiene Before		PPE Donned Before Entering Room		Contact Precautions				PPE Removed Upon Exit to Room		Hand Hygiene After	
						Gown		Gloves					
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
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		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
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		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

To calculate rate:

(A) Total number of times precautions performed appropriately ('yes'): _____

(B) Total number of opportunities for precautions to be performed ('yes' + 'no'): _____

(A/B)x100= Percentage: _____%

Feedback should be:

- Specific – When a break in protocol is identified, it should be specific.
- Timely – immediate feedback is the most effective.
- Non-threatening – the feedback should be given in a manner that is non-threatening.

Use of Audit Data

- Data on adherence should provide valuable information to drive improvement.
- Aggregate information can identify gaps in practices which helps the organization set priorities and develop improvement plans.

Regular audits to monitor adherence should include:

- Appropriate selection
- Donning and doffing
- Completion of appropriate hand hygiene
- Environmental contamination
- Evaluation of appropriate supplies and equipment
- Proximity of supplies to point of use

Aggregate data can be provided to identify opportunities for improvement.

Pathway Health Services, Inc. www.med.unc.edu/aging/cgwep/wp-content/uploads/sites/865/2020/11/COVID-19-Coronavirus-PPE-Audit-Tool-8.7.20-1.pdf

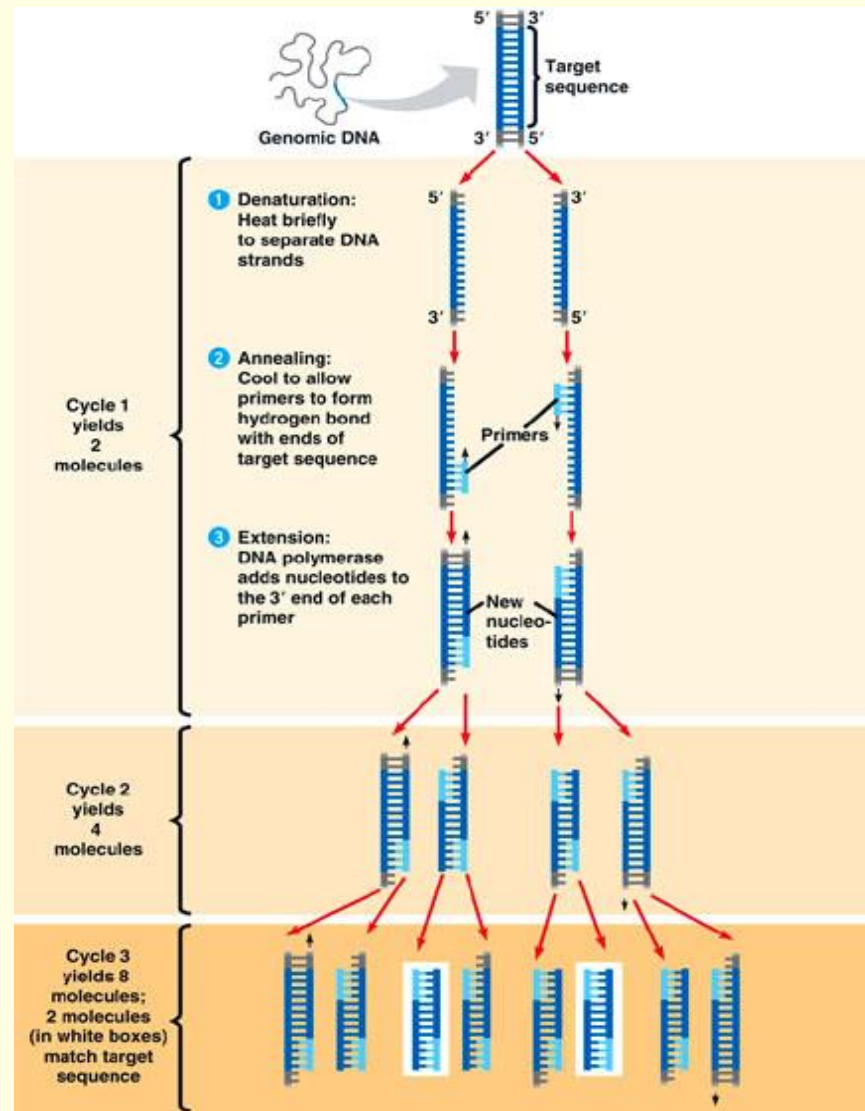
Laboratory Specimen Considerations

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Polymerase Chain Reaction

Polymerase Chain Reaction (PCR)

- A process which amplifies single or few copies of nucleic acid (RNA, DNA) to generate millions of copies to increase detection
- OLS utilizes the CDC RT-PCR assay for flu
- Specimens tested using A/B screen first, then reflexed to A subtyping if positive
- Subtyping panel can detect some variants like H3N2v



The CDC RT-PCR Assay utilizes 6 Targets!

TARGET	WHAT DOES IT MEAN?
infA	“seasonal” Influenza A
infB	“seasonal” Influenza B
pdmA	“swine-origin” Influenza A
pdmH1	“swine-origin” Influenza AH1
infH1	“seasonal” Influenza AH1
infH3	“seasonal” Influenza AH3

- Targets correspond to subtypes
- Designed to detect new and emerging strains
- Must send to CDC for confirmation until validated for new strain

Example: infA + pdmA + infH3 = Influenza AH3N2v

BioFire Torch or Multi-Plex PCR

- Can detect 18 viruses and 4 bacteria
- Results available in about 1 hour
- Used for a subset of samples that are influenza negative and in outbreak situations



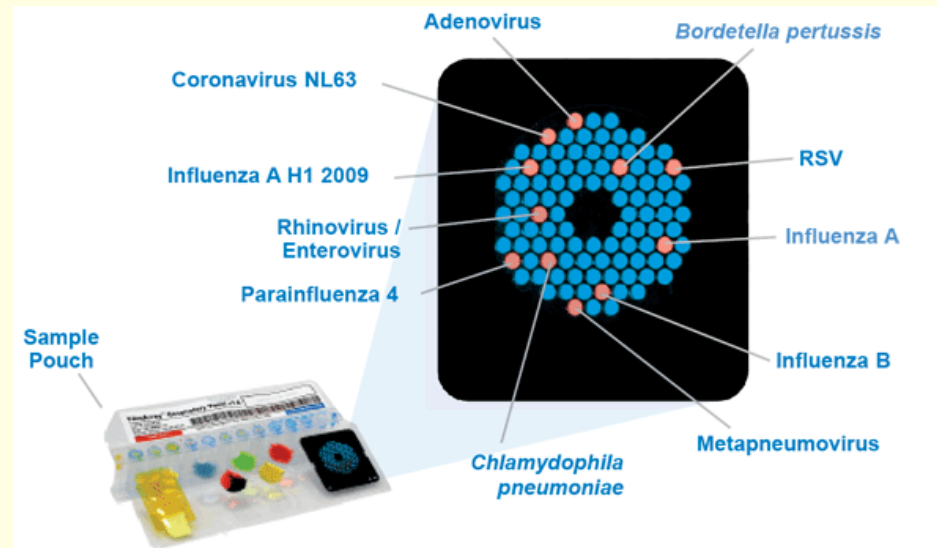
Multiplex Targets

VIRAL TARGETS

Adenovirus
SARS-CoV-2
Coronavirus HKU1
Coronavirus NL63
Coronavirus 229E
Coronavirus OC43
Human Metapneumovirus
Human Rhinovirus/Enterovirus
Influenza A
Influenza A/H1
Influenza A/H3
Influenza A/H1-2009pdm
Influenza B
Parainfluenza Virus 1
Parainfluenza Virus 2
Parainfluenza Virus 3
Parainfluenza Virus 4
Respiratory Syncytial Virus

BACTERIAL TARGETS

Bordetella pertussis
Chlamydomphila pneumoniae
Mycoplasma pneumoniae
Bordetella parapertussis



Proper collection of specimens for respiratory testing is crucial!

- Use only supplies provided by OLS or those that are recommended for use
- Do not collect a specimen if a patient is on antiviral therapy
 - If specimen must be collected after therapy has begun, do so within 24 hours
- Specimens can only be transported in approved viral transport media (VTM, UTM)
- Do not collect specimens in saline, buffer or any other media
- Do not use cotton swabs, calcium alginate swabs, or swabs with wooden shafts

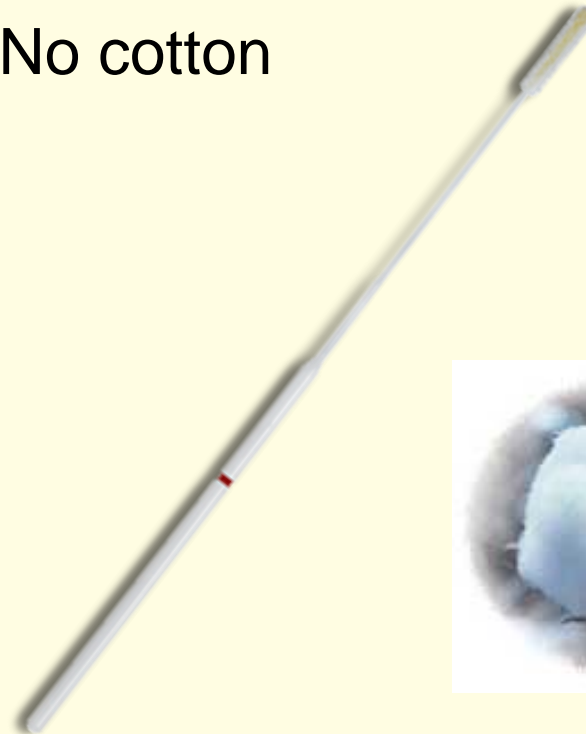
Media

- VTM, UTM
- No saline



Swabs

- Only polyester, Dacron, rayon, etc.
- No cotton



Specimen Handling and Shipping

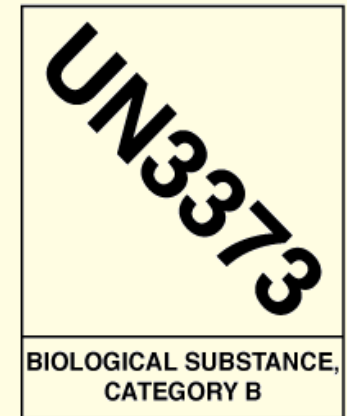
After collection, keep specimen refrigerated

- If unable to reach OLS within 72 hours of collection, freeze at -80 degrees Celsius
- Use manual defrost freezer



Ship all specimens on cold packs, even if frozen

- Use current IATA, DOT shipping regulations
- Overnight shipping preferred



OLS Forms

OLS Submission Form

OFFICE OF LABORATORY SERVICES
157 11th Avenue | South Charleston, WV 25303
PH: (304) 558-3530 | FX: (304) 558-2006

PLACE BARCODE HERE
OLS USE ONLY

MICROBIOLOGY LABORATORY SPECIMEN SUBMISSION FORM

PATIENT INFORMATION
PATIENT ID (Chart #, MRN, etc.) MAX. 17 CHARACTER(S)
LAST NAME FIRST NAME MI
DATE OF BIRTH SSN (last 4 only, optb/no)
RACE White Asian Black Other
 American Indian/Alaskan
 Native Hawaiian or other Pacific Islander
ETHNICITY Not Hispanic or Latino
 Hispanic or Latino
 Unknown
COUNTY OF RESIDENCE SEX (at birth)
 Female Male
STREET ADDRESS
CITY STATE ZIP
PATIENT PHONE NO. (optional)

DATE OF COLLECTION:
SITE/SOURCE OF SPECIMEN:
 Blood Sputum
 CSF Sputum, induced
 Nasopharyngeal Stool
 Urine Stool, bloody
 Rectal Throat
 Serum Urethra
 Serum, acute Serum, convalescent
 Cellulose tape mount
 Wound Location:
 Bronchial Specify: _____
 Tissue Specify: _____
 Fluid Specify: _____
 Other Specify: _____

TEST(S) REQUESTED:
BACTERIOLOGY
 Referred Culture
 Pertussis culture / PCR
 Enteric blood in Cary-Blair
 Gonorrhea culture
 Unknown bacterial ID
Suspected Organism (s): _____
MYCOBACTERIOLOGY
 Culture / Smear
 TB ID / Confirmation
 NTM Identification
Suspected Organism: _____
Date growth appeared: _____
Patient taking TB drugs?
 Yes No
Date Started: _____
Skin Test
 POS (+) NEG (-)
Chest X-ray
 Abnormal Normal
Contact to TB patient?
 Yes No
Refrigerated? Yes No

MOLECULAR
GI PATHOGENS
 Norovirus RT-PCR ***
 GI Pathogen Panel ***
RESPIRATORY PATHOGENS
 Respiratory Pathogen Panel ***
 Influenza RT-PCR
Submitted for:
 Surveillance Outbreak
 Unsubtypable Influenza A
Optimal Respiratory Specimen Data
Symptom Onset Date: / /
Patient Level of Care:
 Inpatient Outpatient
Was specimen pre-screened?
 Yes (specify under Comments)
 No

PARASITOLOGY
 Fecal Parasite Exam
(10% Formalin)
 Pinworm Exam
(cellulose tape mount)

SEND/OUT
 Referral Testing / ID

REFERENCE
 ARN Reference: DST

OUTBREAK NUMBER
(ONLY PROVIDE TO RELEVANT OUTBREAK REPORT ONLY)
CONTACT NAME: _____

OLGAT | Reason: ACC: DE: CKD:
 UNRELIABLE | Reason:
 SATISFACTORY

FAILURE TO COMPLETE THIS FORM IN ITS ENTIRETY MAY RESULT IN DELAYED TEST RESULTS

rev. 03/2021

Specimen Kit Request Form

INFLUENZA/RESPIRATORY PATHOGEN SPECIMEN KIT REQUEST FORM

REQUEST FROM:
NAME OF FACILITY
MAILING ADDRESS CITY STATE ZIP
NAME OF PERSON REQUESTING KIT(S) TITLE
PHONE NUMBER DATE

COLLECTION KIT	QUANTITY	
	ORDERED	SENT
Complete Collection Kit <i>Includes: viral transport media (1), nasopharyngeal swab (1), plastic biohazard bags (2), ice pack (1), absorbent material, shipping box, specimen submission/test request form.</i>		

INDIVIDUAL KIT COMPONENTS	QUANTITY	
	ORDERED	SENT
Transport Media (VTM or UTM)		
Nasopharyngeal Swabs		
Biohazard Bag, 95KPa		
Biohazard Bag, zippered		
Absorbent Material		
FedEx® Return Shipping Label		
Shipping Box, insulated		

NOTE: Specimen Submission Test Request Forms can be downloaded from our website at www.dhhr.wv.gov/ols

CONTACT INFORMATION

Section/Unit	Extension
Microbiology Section	2602
Virology Unit	2403
Containers Unit	2204

Order Filled By: _____
Order Shipped By: _____
Date: _____


STATE OF WEST VIRGINIA • DEPARTMENT OF HEALTH AND HUMAN RESOURCES • BUREAU FOR PUBLIC HEALTH
OFFICE OF LABORATORY SERVICES
157 11th AVENUE | SOUTH CHARLESTON, WV 25303
PHONE | (304) 558-3530 • FAX | (304) 558-6230

rev. 10/2018

Forms can be downloaded/printed from the OLS website: <https://dhhr.wv.gov/ols/forms>

OLS Reporting

Influenza PCR



WVDHHR/BPH - Office of Laboratory Services
167 11th Avenue, South Charleston, WV 25303
Phone: (304) 558-3530 Fax: (304) 558-6210
Andrea M. Labik, Sc.D - Laboratory Director

MCRO
Virology Isolation

Lab Number: M12001306-01 Submitter: [REDACTED]
Submitter #: [REDACTED]
Patient Name: [REDACTED]
Address: [REDACTED]
[REDACTED]
Phone #: [REDACTED] Attention To:
Birth Date: [REDACTED] MICRO LAB
Age: [REDACTED]
Sex: [REDACTED]
Last 4 SSN: [REDACTED] Patient ID: [REDACTED]

Specimen Source: Nasopharyngeal Other:
Date Collected: 04/15/2012
Date Received: 04/24/2012
Comments:

Influenza PCR

Result Positive A H3	Interpretation Influenza A H3 viral RNA detected by PCR.	Date Reported 04/24/2012	Tech ID E016077
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Comments:

Report Approved By: MS541B Date Reported: 04/25/2012

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Page 1 of 1 Date Printed: 09/14/2012 10:44

Respiratory Virus Panel



WVDHHR/BPH - Office of Laboratory Services
167 11th Avenue, South Charleston, WV 25303
Phone: (304) 558-3530 Fax: (304) 558-6210
Andrea M. Labik, Sc.D - Laboratory Director

MCRO
Virology Isolation

Lab Number: [REDACTED] Submitter: [REDACTED]
Submitter #: [REDACTED]
Patient Name: [REDACTED]
Address: [REDACTED]
[REDACTED]
Phone #: [REDACTED] Attention To:
Birth Date: [REDACTED] MICRO LAB
Age: [REDACTED]
Sex: [REDACTED]
Last 4 SSN: [REDACTED] Patient ID: [REDACTED]

Specimen Source: Nasopharyngeal Other:
Date Collected: 08/27/2012
Date Received: 09/04/2012
Comments:

Respiratory Virus Panel

Final ID Rhinovirus / Enterovirus	Date Reported 09/05/2012	Tech ID E006330
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Comments:

Report Approved By: MS541B Date Reported: 09/05/2012

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Page 1 of 1 Date Printed: 09/14/2012 10:38

Lab Summary

- **OLS provides influenza and expanded respiratory virus screening year-round.**
- **Collect respiratory virus testing specimens properly to ensure quality results.**
- **Pack and ship according to current regulations and via overnight carrier.**
- **Expect testing results via fax and/or ELR.**
- **Contact OLS with any questions: (304) 558-3530.**

Key Points

- Influenza testing must be considered for any patient experiencing respiratory symptoms.
 - A full Respiratory Panel should be ordered if feasible.
- Surveillance is key for identifying Novel Influenza and refining annual vaccine and treatment recommendations.
- The flu vaccine is recommended for anyone 6 months or older without contraindications.
 - Can be co-administered with COVID-19 vaccine.
 - “Flu Before Boo” campaign for the general population.
- Infection Control practices are critical in preventing the spread of flu and other respiratory viruses in clinical settings.
 - Consider routine re-education for all staff.
 - Regular auditing to identify gaps and make improvements.