IDMP GUIDELINES FOR DIAGNOSIS AND MANAGEMENT OF INFLUENZA
2020-21 INFLUENZA SEASON

DIAGNOSTICS

INFLUENZA DIAGNOSTICS REFERENCE TABLE

APEX Name	Assay Type	Viruses	Sensitivity	Specificity	Sample	COVID on same swab?	Turn around time
POCT FLU A and B RNA, QUAL RAPID*	Molecular	Influenza A/B	95%	>95%	Nasal swab	No	15-20 min Available in Parnassus and Mission Bay ED
Influenza A/B/RSV PCR	Molecular	Influenza A/B RSV	>95%	>95%	NP swab	Yes	4-8 h (STAT) 12-24h (Routine)
Respiratory Viral Panel PCR	Molecular	Influenza A/B RSV Parainfluenza Metapneumovirus Rhinovirus Adenovirus	>95%	>95%	NP swab or lower tract sample (BAL, ET aspirate)	Yes	4-8 h (STAT) 12-24h (Routine)

*Note: the POCT test is a rapid molecular test that is 95% sensitive (this is different than prior POCT antigen tests).

WHICH PATIENTS SHOULD BE TESTED FOR INFLUENZA DURING INFLUENZA SEASON?

Inpatients/ER pending admission

- All patients on admission with:
  - Acute respiratory illness including pneumonia, with or without fever
  - Acute worsening of chronic cardiopulmonary disease (COPD, asthma, CAD, CHF)
  - Fever alone if immunocompromised or high risk
- All hospitalized patients who develop acute onset of respiratory symptoms without a clear alternative diagnosis

Outpatients/ER anticipated discharge

- High risk patients with influenza-like illness, pneumonia, or nonspecific respiratory illness, with or without fever
- Non-high risk patients presenting with a complication of influenza (e.g., pneumonia)
- Consider in other patients with influenza-like illness, pneumonia, or nonspecific respiratory illness if it will change management

*Test only if results will change management including decisions around antivirals, antibiotics, further diagnostic testing, or infection control.

Influenza Signs and Symptoms (usually abrupt onset)

- Respiratory symptoms: dyspnea, cough, chest pain
- Systemic signs and symptoms: chills, malaise, fatigue, myalgia **with or without fever**
- ENT symptoms: headache, sore throat, hoarseness (nasal congestion, rhinorrhea more common in children)
- GI symptoms: abdominal pain, vomiting (diarrhea more common in children)

Patients at High Risk of Complications

- Adults ≥ 65 years or children <5 years (especially <2 years)
- Chronic pulmonary, CV, renal, hepatic, heme, neuro/neurodevelopmental, metabolic disorders (incl. diabetes)
- Immunocompromised
- Pregnant or postpartum (within 2 weeks after delivery)
- Children <18 years receiving aspirin or salicylate containing medications (risk of Reye syndrome if get flu)
- American Indians/Alaska Natives
- Extreme obesity (BMI ≥40)
- Residents of chronic care facilities

WHICH TEST SHOULD I ORDER IN SYMPTOMATIC PATIENTS?

See the section above for guidance on indications for influenza testing. For the 2020 season, all patients who require influenza testing should also be tested for COVID.

Outside of Flu Season

Inpatients/ER pending admission

- Critically ill or immunocompromised: COVID + RVP
- All other patients: COVID only

Outpatients/ER anticipated discharge

- COVID only
- Consider RVP in immunocompromised

During Flu Season

Inpatients/ER pending admission

COVID + RVP

Outpatients/ER anticipated discharge

- COVID + influenza (POCT or influenza/RSV PCR depending on setting)
- Consider RVP instead of flu testing in immunocompromised

Important Notes on Testing

- The start of flu season will be indicated by UCSF Health with an institution-wide email based on internal influenza testing and SFDPH influenza surveillance. The onset of the influenza season varies but is usually in late December/early January in Northern California; the end of the season also varies.
- The COVID and RVP tests can be run together, so RVP is the test of choice (over influenza/RSV PCR) for inpatients in the 2020 season.
- To maximize detection, respiratory specimens should be collected as close to illness onset as possible, preferably <4 days after symptom onset (but can and should be done later if patients do not present early)
- STAT testing should be prioritized for new hospital admissions only.
- **In critically ill patients, send upper and lower respiratory tract samples for RVP to improve sensitivity for diagnosis of respiratory viral infection.**

TREATMENT

WHICH PATIENTS WITH INFLUENZA/SUSPECTED INFLUENZA SHOULD BE TREATED WITH ANTIVIRALS?

Inpatients/ER pending admission

- **All inpatients with influenza or suspected influenza, irrespective of time of symptom onset**
- This is because treatment is associated with lower mortality in inpatients, even if >48h of symptoms
- Treat as early as possible and do not delay therapy while awaiting lab confirmation

Outpatients/ER anticipated discharge

- High risk patients or patients with severe or progressive illness
  - Treat irrespective of time of symptom onset
  - Treat as early as possible and do not delay while awaiting lab confirmation
- Can consider treatment in:
  - Non-high risk patients if ≤48h symptoms
  - Household contacts of high risk patients
  - HCWs who take care of high risk patients

Important Notes on Indications for Treatment

- Household contacts of HCWs who take care of high risk patients should only be treated if they have a specific indication, not solely to prevent spread to the HCW.
- For young children, routine empiric influenza therapy in this age group is somewhat controversial. It is recommended to offer therapy to this group of patients, but individual treatment decisions may be considered via shared decision-making and incorporation of other clinical factors.

Drug options

Drug	Route	Adverse Effects	Comments
Oseltamivir	PO	Nausea/vomiting, rare neuropsychiatric effects.	Drug of choice for most patients
Zanamavir	Inhaled	Cannot use in intubated patients or those with respiratory disease (asthma/COPD) as it can cause cough, bronchospasm.	Consider if patient cannot take PO although requires patient participation with use
Peramivir	IV	GI side effects, neutropenia	Consider use in hospitalized patients with influenza in whom there is a concern for GI absorption that would limit the use of oral oseltamivir.
Baloxavir	PO	Diarrhea	Not routinely recommended given concerns about treatment emergent resistance. May be considered as combination therapy in critically ill patients.

Important Notes on Antiviral Therapy

- Please see IDMP (idmp.ucsf.edu) for dosing recommendations for oseltamivir in children and adults
- If you are considering zanamavir, peramivir, or baloxavir, please consult ID
- For ICU patients, treatment courses may be extended based on severity of illness and repeat RVP testing of lower respiratory tract samples. Please consult ID for assistance in these cases.

Considerations Regarding Bacterial Superinfection in Patients with Confirmed Influenza

- Bacterial superinfection is more common at clinical presentation in influenza than in COVID (~10% of hospitalized patients with influenza vs. <5% of hospitalized patients with COVID)
- If patients with influenza are started on antibiotics for CAP, consider early discontinuation (at 48-72h) if patient is clinically stable and there is a low suspicion for bacterial pneumonia based on labs and radiologic features.

REFERENCES

1. Uyeki et al, IDSA 2018 Update on Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management of Seasonal Influenza, CID 2019, 68:e1.
2. CDC, Seasonal Influenza Antiviral Drugs, https://www.cdc.gov/flu/professionals/antivirals/index.htm, accessed October 14, 2020.
3. Metlay et al, Joint ATS/IDSA Guidelines for the Diagnosis and Treatment of Adults with CAP, AJRCCM 2019, 200:e45.