## Quick Reference: Respiratory Disease in SLO County

### Signs + Symptoms

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<th>Disease</th>
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<th>Epidemiology</th>
<th>Testing</th>
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<tr>
<td><strong>Influenza</strong></td>
<td>Condition generally improves with or without treatment.</td>
<td>California = 5.2 / 100,000</td>
<td>Sputum for AFB smear, NAAT, and/or culture. Consider sending specimen to UC Davis.</td>
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<tr>
<td><strong>Pneumonia (Community Acquired)</strong></td>
<td>Condition worsens in absence of antibiotics.</td>
<td>SLO County = 150.4 / 100,000</td>
<td>Nasopharyngeal swab specimen (in viral transport media). RT-PCR; DFA; IFA.</td>
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<tr>
<td><strong>Valley Fever (Coccidioidomycosis)</strong></td>
<td>May take weeks or months, but most cases resolve with or without treatment. Disseminated disease in &lt; 1%.</td>
<td>California = 18.8 / 100,000</td>
<td>Serology: EIA (IgM detected in 50% of cases in week 1, 90% of cases in week 3); Immunodiffusion (can cross-react with Histoplasma). Culture. Consider sending specimen to UC Davis.</td>
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<tr>
<td><strong>Tuberculosis</strong></td>
<td>Onset is generally insidious. Improves only with tuberculosis-specific treatment.</td>
<td>California = 5.2 / 100,000</td>
<td>Sputums for AFB smear, NAAT, and/or culture. IGRA or Tuberculin Skin Test (reactivity 2-10 weeks after initial infection). Negative TST or IGRA does not rule out active TB in a symptomatic patient.</td>
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### Incidence Rate
- **Influenza**: U.S. = 5,000-20,000 / 100,000
- **Pneumonia (Community Acquired)**: U.S. = 1,720 / 100,000
- **Valley Fever (Coccidioidomycosis)**: California = 18.8 / 100,000
- **Tuberculosis**: California = 5.2 / 100,000

### Risk Factors
- **Influenza**: During community outbreaks, highest incidence among school-aged children. Degree of fever correlates with viral shedding (ceases within 7-10 days of symptom onset).
- **Pneumonia (Community Acquired)**: Persons with underlying illness, age > 50. Incidence increases during influenza epidemic. Mycoplasma in late summer or fall.
- **Valley Fever (Coccidioidomycosis)**: Outdoor work; contact with newly disturbed soil. Clusters typically follow dust-generating events.
- **Tuberculosis**: Immigration from or travel to countries other than U.S., Canada, Australia, New Zealand, and Western Europe; immunosuppression; known contact with tuberculosis case.

### Type and Timing
- **Influenza**: Nasopharyngeal swab specimen (in viral transport media), RT-PCR; DFA; IFA.
- **Pneumonia (Community Acquired)**: RT-PCR; sputum culture; blood culture; urinary *Streptococcus pneumoniae* antigen (not applicable to children); CBC (leukocytosis). Urinary antigen for Legionella.
- **Valley Fever (Coccidioidomycosis)**: Serology: EIA (IgM detected in 50% of cases in week 1, 90% of cases in week 3); Immunodiffusion (can cross-react with Histoplasma). Culture. Consider sending specimen to UC Davis.
- **Tuberculosis**: Sputums for AFB smear, NAAT, and/or culture. IGRA or Tuberculin Skin Test (reactivity 2-10 weeks after initial infection). Negative TST or IGRA does not rule out active TB in a symptomatic patient.

### Common Chest X-Ray Findings
- **Influenza**: Usually bilateral perihilar peribronchial thickening and ground-glass opacities and consolidation with a patchy or nodular appearance. A normal chest X-ray does not exclude diagnosis or suggest less severe illness.
- **Pneumonia (Community Acquired)**: New infiltrates with lobar or segmental consolidation; generally focal or limited to one side (though this may change with time).
- **Valley Fever (Coccidioidomycosis)**: Consolidation is most common finding (75%). Multiple nodules with increased involvement of inferior pulmonary lobes, interlobular septal thickening, bilateral hilar lymphadenopathy, and pleural effusions.
- **Tuberculosis**: Consolidation, segmental atelectasis or infiltrate, pleural effusion, nodules, lymphadenopathy and, less commonly, cavitation or mililiary infiltrates.

### Isolate
- **Influenza**: Positive
- **Pneumonia (Community Acquired)**: Positive
- **Valley Fever (Coccidioidomycosis)**: Positive
- **Tuberculosis**: Negative

### Report
- **Influenza**: Deaths under age 65, ICU admissions (any age), and novel strains (any age).
- **Pneumonia (Community Acquired)**: Positive
- **Valley Fever (Coccidioidomycosis)**: Positive
- **Tuberculosis**: Positive

### Notes
- Valley fever is most prevalent in the fall.
- Community acquired pneumonia is somewhat more common in winter.
- Flu “season” is November-April with highest incidence from January-March.