

# COVID-19 in the Primary Care Setting (4/18/22)

## Transmission

- Respiratory droplets (large particles)
  - Cover mouth with cough/sneeze
  - 6ft distance, wear a mask (esp inside car)
  - Sneeze/cough > laugh/sing > talking > heavy breathing with exercise
- Short range aerosol transmission (smaller particles) in crowded, poorly ventilated space over longer time
- Surfaces: play smaller role but don't be careless (wash hands/don't touch face)
- Standard surgical mask usually ok. N95 needed for aerosol-generating procedures (i.e. nebs)
- High rate of asx infection (depends on variant)
- Transmission rate from those with asymptomatic infection unknown

## Onset

- Incubation 2-14 days (average is 5 days)
- First sx → SOB/viral pneumonia takes ~5 days
- Progression to respiratory failure takes 8-12D
- Multi-organ failure/cytokine storm can happen in a matter of hours

## Testing

- PCR 70% sensitivity (~30% false negatives)
  - ↓ Sensitivity: early in dz/poor technique
  - ↑ Sensitivity if testing 5-8D after exposure (just before sx onset and few days after)
- Antigen sensitivity 58-72%
- >95% Specificity (PCR & Antigen); few false (+)s
- (+) PCR test correlates poorly with infectivity
- (+) antigen test correlates well with infectivity
- No guaranteed protection with (+) Antibodies

## Prognosis

- 98% self-limiting/2% inpatient (.3% ICU or vent)
- Overall ICU mortality 31%; mortality varies with risk factors (<https://covid-calculator.com/>)

## Clinical Manifestations

- 90% fever but only about half at onset
- 70% dry cough (some produce sputum)
- 60% fatigue
- 60% appetite
- 30% muscle aches
- ↓ smell/taste prior to respiratory sx's
- 30% shortness of breath
- Silent hypoxemia common/pulse ox ↓
- GI sx's (more in kids): Nausea without vomiting; Belly discomfort with loose BMs
- Neuro Sx's: blurry vision, dizziness, headache
- Hypercoagulability (risk of blood clot)
- Residual Symptoms: Fatigue, SOB, Foggy
- Thinking, Damage to Heart/Lungs/Kidneys/GI/Skin/Liver/Nervous System
- Multisystem Inflamm. Synd. in Children (MIS-C)

## Influenza Compared with COVID-19

- Influenza: more rapid onset
- Influenza: ↑ fever, ↑ body aches
- Influenza: ↑ congestion, ↑ GI sx's (N/V/D)
- Influenza: less cough, less SOB
- Influenza: 2° Bacterial Pneumonia is complication (much less w/ COVID-19)
- Influenza: only 1-4 days incubation
- Influenza: affects children more
- Influenza: Mortality ~0.1%

## RFs for Severe Disease/Mortality

- Smoker
- Cancer
- Diabetes
- Immuno↓
- Kidney/Heart/Lung Dz
- Sickle Cell Dz
- HTN and Pregnancy to a lesser degree
- Increased age → increased mortality

## Treatment

- Outpatient:
  - Supportive care
  - Paxlovid > Sotrovimab >> Remdesivir (if at risk for severe disease)
- Inpatient on O2: remdesivir, dexamethasone
- Statins: ↓ severe viral pneumonias, ↓ cardiac complications. May ↑ immune response to virus
- Convalescent plasma: depends on variant

## Labs

- ↑ CRP, Ferritin, AST/ALT, CK
- ↓ WBC, platelets

## Prevention

- Exposed/Asx/fully vaccinated: mask for 10 days
- Exposed/Asx/not vaccinated: 5 days quarantine and then 5 days masked
- COVID(+): Be home 5 days from sx onset, if improving after 5 days can leave quarantine but must mask for 5 additional days

## Primary Care Role

- Triage and guide pts with respiratory sx's including asthma and COPD
- Promote vaccination; distancing/mask use/avoiding gatherings when rates high
- Promote overall wellness to maximize immune system health
- Manage chronic disease; keep pts away from ED/hospital
- Address inequities and bias:
  - Hospitalization rates March – August 2020
    - Black/Latino/Native: 330/100K
    - Asian: 95/100K
    - White: 71/100K

## Sources:

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- NIH. (2020). Coronavirus Disease 2019 (COVID-19) Treatment Guidelines. <https://www.covid19treatmentguidelines.nih.gov/>

## Additional articles re: COVID-19 in the Primary Care Setting:

- Krist AH, DeVoe JE, Cheng A, Ehrlich T, Jones SM. Redesigning Primary Care to Address the COVID-19 Pandemic in the Midst of the Pandemic. *The Annals of Family Medicine*. 2020;18(4):349-354. doi:10.1370/afm.2557
- WHO Regional Office for the Western Pacific. (2020). Role of primary care in the COVID-19 response. <https://apps.who.int/iris/handle/10665/331921>.
- Primary Care and the COVID-19 Pandemic. *The Commonwealth Fund*. doi:<https://doi.org/10.26099/73k0-a831>
- AAFP Daily Research Briefs: <https://www.aafp.org/journals/afp/content/covid-briefs.html>

## Additional Resources:

- **National Institutes of Health (NIH)** - Coronavirus (COVID-19) Resources and Updates
- **World Health Organization (WHO)** - Coronavirus disease (COVID-19) Pandemic
- **American Academy of Family Physicians (AAFP)** - COVID-19: The Latest Updates
- **Society of Teachers of Family Medicine (STFM)** - Medical Education During the COVID-19 Pandemic
- **American Medical Association (AMA)** - COVID-19 (2019 Novel Coronavirus) Resource Center for Physicians
- **CDC COVID Screening Questions** (referenced under “Prevention” on COVID MediCard): <https://www.cdc.gov/screening/paper-version.pdf>
- **CDC COVID Weekly Summaries and Updates** - [https://www.cdc.gov/nchs/nvss/vsrr/covid\\_weekly/index.htm](https://www.cdc.gov/nchs/nvss/vsrr/covid_weekly/index.htm) and [https://gis.cdc.gov/grasp/covidnet/covid19\\_5.html](https://gis.cdc.gov/grasp/covidnet/covid19_5.html)
- **COVID-19 Health Literacy Project**- Downloadable factsheets in 30 languages, developed by Harvard Medical School students, vetted by faculty clinicians, in collaboration with Harvard Health Publishing

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