

**CORONAVIRUS DISEASE 2019
(COVID-2019):
SUMMARY & PATIENT DISCUSSIONS**

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Conflict of Interest Disclosure
I have no conflicts and nothing to disclose.



Learning Objectives

- 1) Background information on Coronavirus
- 2) Current status of COVID-19 outbreak
- 3) At-risk populations
- 4) Discussions with your patients: risk and prevention



Emerging Respiratory Viruses

70-90% of emerging and reemerging diseases are of zoonotic origin¹

Timeline of emerging viruses:

- 2002: Severe Acute Respiratory Syndrome coronavirus (SARS-CoV)
- 2009: H1N1 Influenza
- 2012: Middle East Respiratory Syndrome coronavirus (MERS-CoV)
- 2019: Novel coronavirus (2019-nCoV)

Risk factors for emergence and spread of respiratory viruses:

- Population growth
- Climate change
- Increasing urbanization
- International travel



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Coronavirus Disease 2019 (COVID-19)

Zoonotic respiratory-borne viral infection caused by **2019-nCoV** from the genus *Betacoronavirus*, like SARS and MERS-CoV.

- International Committee on Taxonomy of Viruses recognizes 2019-nCoV as a sister to SARS-CoV and now designates it as "**SARS-CoV-2**".²

Virology: enveloped, positive-sense, ss-RNA virus.

Virulence: spike protein binds ACE2 receptor on host cell.³

Spread: respiratory droplets and contaminated surfaces.⁴

Incubation period: estimated at 5 days, some sources range 2-11 days.⁵



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Current Status of Outbreak

(JAMA) Clinical characteristics of 138 hospitalized pts with 2019 nCoV infected PNA in Wuhan, China

- Median age 56 years
- 54.3% male
- 26.1% ended up in ICU for complications including ARDS, arrhythmia, AKI, and shock
- 41% infected by hospital-related transmission
- 4.3% mortality

Diagnosis: RT-PCR of throat swab.

Symptoms: fever, fatigue, dry cough, myalgias, dyspnea.⁶

- Other less common sx include headache, dizziness, abdominal pain, n/v/d

Treatment: supportive care.



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Discussions with Your Patients

COVID 19 Confirmed Cases in the U.S. ≈ 35.

- Travel-related: 12
- Close contacts of returned travelers from Wuhan: 2
- Repatriated from Wuhan: 3
- *Diamond Princess* Cruise Ship: 18

Currently, *immediate* health risk from COVID-19 considered low for general American public. However it may cause a pandemic and that would increase the risk assessment. ⁷

97.2% cases (77,150 of 79,360) based in Mainland China. ⁸



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Discussions with Your Patients

Seasonal Influenza Epidemic:

- 9.3 - 49 million illnesses each year in the US since 2010. ⁹
- 12,000 deaths (2011-12) to 79,000 deaths (2017-18)
- 2018-2019 vaccine prevented est. 4.4 million flu illnesses, 58,000 hospitalizations, 3,500 flu deaths. ¹⁰

Much more likely source of preventable infectious disease



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Discussions with Your Patients

Emphasize importance of prevention:

- CDC-recommended vaccines
- Stay home if you're sick (and wear a mask around others)
- Good hand hygiene - soap & water at least 20 seconds, alcohol-based hand sanitizer
- Good respiratory hygiene - cover coughs and sneezes, wash or sanitize your hands
- Clean frequently touched surfaces with soap and water or bleach and water solution



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