COVID-19

What you need to know
Contents

- Background
- Symptoms and Transmission
- Clinical Definition and Classification
- Update on Worldwide Spread
- Measures to Prevent Spread
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Background

- For humans a coronavirus is typically benign; causing 25% of common colds.

  - First mutation: A coronavirus from bats that mutated, infecting pangolins (what is known as a scaly anteater).
  - Second mutation: Late 2019; started infecting humans, COVID-19, first seen in Wuhan, China.
  - It has now become a pandemic (i.e., a worldwide epidemic).
COVID-19 - Stands for “coronavirus disease identified in 2019.”
Caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).
Genetically similar to the SARS coronavirus, SARS-CoV (outbreak of 2002)
Based on current data, infection is mild or moderate in about 80% of cases.

Distinguishing symptoms: fever, cough (dry), shortness of breath.

Complications: From severe fever to pneumonia, acute respiratory distress syndrome (ARDS), and shock.
## Symptoms: Cold vs Flu vs COVID-19

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>COLD</th>
<th>FLU</th>
<th>COVID-19*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>Rare</td>
<td>High</td>
<td>Common</td>
</tr>
<tr>
<td>Headache</td>
<td>Rare</td>
<td>Intense</td>
<td>Sometimes</td>
</tr>
<tr>
<td>General Aches and Pains</td>
<td>Slight</td>
<td>Common</td>
<td>Sometimes</td>
</tr>
<tr>
<td>Fatigue, Weakness</td>
<td>Slight</td>
<td>Common</td>
<td>Sometimes</td>
</tr>
<tr>
<td>Extreme Exhaustion</td>
<td>Never</td>
<td>Common</td>
<td>Sometimes</td>
</tr>
<tr>
<td>Stuffy Nose</td>
<td>Common</td>
<td>Sometimes</td>
<td>Rare</td>
</tr>
<tr>
<td>Sneezing</td>
<td>Common</td>
<td>Sometimes</td>
<td>Rare</td>
</tr>
<tr>
<td>Sore Throat</td>
<td>Common</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>Cough</td>
<td>Mild to moderate</td>
<td>Common</td>
<td>Common *</td>
</tr>
<tr>
<td>Runny nose</td>
<td>Common</td>
<td>Sometimes</td>
<td>Rare</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>No</td>
<td>Sometimes</td>
<td>Sometimes</td>
</tr>
<tr>
<td>Shortness of Breath</td>
<td>Rare</td>
<td>Rare</td>
<td>In serious infections</td>
</tr>
</tbody>
</table>

* Dry Cough
Onset of COVID-19

• **Incubation**: about 5 days. Median time from onset of symptoms, including fever (in 98% of patients), cough (75%), myalgia or fatigue (44%) and others.

• **ARDS** – Acute respiratory distress syndrome

• **Presymptomatic people**: Those who are asymptomatic or presymptomatic (i.e., during the incubation period) *can* infect others.

• **Children**: So far considered at lower risk, but unclear whether they can infect others.
How Contagious Is the Coronavirus?

Average number of people infected by an individual with . . .

Spread: From Person to Person

• **Droplets**: Released when someone sick with COVID-19 sneezes, coughs, or talks, they can land on the mouths or noses of people nearby.

• **Contact**: Close contact with someone sick with the virus.
COVID-19 mainly spreads from person to person

But it can also be left on objects and surfaces...

- tissue
- doorknobs
- digital devices
- laptop and mouse
- pens
- lift buttons

So if you touch something contaminated and then touch your face or another’s face, you might all fall ill.
# How Long Does the Virus Last?

SARS-CoV-2 needs a living host to reproduce in. A new study weighed in.

<table>
<thead>
<tr>
<th>Surface</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>As aerosol in the air*</td>
<td>Up to 3 hrs</td>
</tr>
<tr>
<td>On copper</td>
<td>Up to 4 hrs</td>
</tr>
<tr>
<td>On cardboard</td>
<td>Up to 24 hrs</td>
</tr>
<tr>
<td>On plastic</td>
<td>2 - 3 days</td>
</tr>
<tr>
<td>On stainless steel</td>
<td>2 - 3 days</td>
</tr>
</tbody>
</table>


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Confirmed COVID-19 Cases Are Climbing Exponentially.

*It took months to reach 100,000 cases, but only 12 days to surpass 200,000.*

Source: Data compiled by Bloomberg.

*Healthier Lives Worldwide*
Helping Prevent Transmission

- Stay home, and self-isolate if you experience flu-like symptoms or you are at risk (e.g., older or with comorbidities)
- Practice social distancing: stay at least 6 feet (2 meters) from other people
- Avoid travel to outbreak areas and stay away from crowded places
- Masks are now recommended, provided they are available to healthcare workers first and foremost
- Clean and sterilize surfaces
- Careful, frequent and thorough hand washing
- Avoid touching your face
The Math Behind Social Distancing

Nonpharmaceutical Interventions
- Self quarantine
- Social distancing
- Case isolation
- Closure of Schools and universities
- Hand hygiene
- Masks
Summary

• **Cause:** The SARS-CoV-2 virus causes COVID-19.

• **Transmission:** The virus travels in respiratory droplets and enters the body via the mouth, nose, or eyes.

• **Symptoms:** The virus can cause fever, cough, and shortness of breath.

• **Dangers:** COVID-19 can progress to a severe state with pneumonia, ARDS, and shock.

• **Highest risk:** The elderly and those with other serious health conditions are most at risk.

• **Treatments:** The focus is on supportive care.

• **Vaccine:** There is currently no vaccine.

• **Prevention:** Prevention, the best strategy to avoid infection, is through:
  - Careful handwashing.
  - No travel to outbreak areas and crowded places.
  - Do not touch your face.
  - Use of personal protective equipment (for HCW).
Selected References

- [https://experience.arcgis.com/experience/685doace521648f8a5beeeeee1b9125cd](https://experience.arcgis.com/experience/685doace521648f8a5beeeeee1b9125cd)
- [https://www.youtube.com/watch?v=JKpVMivbTfg](https://www.youtube.com/watch?v=JKpVMivbTfg)
- [https://www.youtube.com/watch?v=BEkrm6EwUyU&feature=youtu.be](https://www.youtube.com/watch?v=BEkrm6EwUyU&feature=youtu.be)
Thank You!

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