

Rapid review of COVID-19

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Bottom line

Cough, fever, and dyspnea are the most common symptoms of COVID-19. At least 80% of cases are clinically mild, 10% are hospitalized, and 25% of those admitted require intensive care. Mortality risk factors include long-term care residence, age older than 65, comorbid illnesses, and COVID-19-associated cardiac injury. Case reports suggest asymptomatic transmission in 6% to 13% of cases; modeling suggests considerably higher rates. When entire populations are tested, about 50% of patients who test positive are asymptomatic at testing.

Evidence

Epidemiology: Evidence primarily comes from case reports from countries with early COVID-19 experience. North American evidence is emerging.

- Case numbers and fatality rates vary depending on testing protocols, access to testing or care, length of time since illness (patient) or outbreak (population) started, and transparency and accuracy of reporting.¹

Presenting symptoms:

- Cough, fever, and dyspnea are most common.^{1,3}
- Lymphopenia is present in 75% to 90% of admitted patients.^{1,4}
- Chest x-ray findings: local or bilateral shadows, or ground-glass opacity.^{1,2}
- Atypical symptoms (eg, gastrointestinal) have been reported.^{1,2}

Asymptomatic transmission: The mean incubation period (time from being infected to becoming symptomatic) is about 5 days but might take up to 14 days.⁵

- Infected individuals can transmit the virus about 4 to 8 days after becoming infected.⁵

–Case reports: 6% to 13% of transmission occurs in people who are asymptomatic (including those who remain asymptomatic and those who develop symptoms after testing).⁵ Modeling suggests higher rates (23% to 68%).⁵

–Evidence limitations⁵:

—Difference between asymptomatic (test positive but never become symptomatic) and presymptomatic (test positive early and later develop symptoms) often not clearly reported; recall bias of symptoms, dates, and exposures; assumption that symptomatic exposure “trumps” asymptomatic transmission; and assumption that all who test positive are infectious.

- Viral loads of asymptomatic and symptomatic patients appear similar.⁵

–Viral load is highest at symptom onset or in the first week.⁵
 Clinical course: Overall, 80% of detected cases are mild.¹ This will rise as testing protocols expand.

- When entire populations are tested, about 50% of patients who test positive are asymptomatic at testing.^{5,6}
- In North America,¹ about 10% of cases are hospitalized; 25% of admitted patients require intensive care support.^{1,3}
- If requiring admission, mean time from symptom onset to hospitalization is 4 to 7 days^{1,3}; illness onset to intensive care admission is 5 to 12 days¹; and mean hospital stay (survival or death) is about 2 weeks.¹

Mortality risk factors:

- Long-term care residents: mortality rate in facilities with outbreaks is about 30%.^{1,6}
- Age: Patients 65 years and older have a 2 to 6 times higher death rate than those younger than 65.^{1,7} In Italy, 96% of deaths were in patients aged 60 and older.¹
- Comorbidities:
 - Mean number of comorbid conditions¹ is 2.7 (eg, cardiovascular disease, diabetes, chronic obstructive pulmonary disease, hypertension^{1,7}).
 - Less than 1% of deaths in Italy occurred in patients without comorbidities.¹
- Patients with COVID-19-associated cardiac injury^{1,3} had a mortality rate greater than 50%.^{1,8}

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Competing interests
 None declared

The opinions expressed in Tools for Practice articles are those of the authors and do not necessarily mirror the perspective and policy of the Alberta College of Family Physicians.

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