

Covid-19

----- Guidance for practices



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Please be aware that this is a rapidly evolving situation.

The clinical course of Covid-19 – what do we know?

Epidemiology and aetiology

Covid-19 (SARS-CoV-2) is an RNA virus which is mostly transmitted through large droplets either through coughing or sneezing, although there is also the potential for airborne transmission in some studies. The virus can be transferred through fomites (objects) where the virus is reported to last up to hours or days, depending on the type of material, with potential transfer to a new host if they touch these objects and then touch the mucosal surfaces on their face.

The period of infectivity from studies seems to be up to eight days from the point of transmission. The World Health Organisation (WHO) advises 14 days of isolation for positive cases whilst current UK advice is self-isolation for 10 days if symptomatic. The mean incubation period is 5-7 days according to studies, with a range from 1-14 days. Increasing evidence is emerging regarding viral loads and shedding. There is evidence of asymptomatic transmission in the community, particularly in the pre-symptomatic phase of the illness. For the latest global figures please visit the John Hopkins [dedicated Covid-19 website](#).

Since the first case was identified, the rapid emergence of new cases, admissions to hospitals, and deaths required that public health focus on prevention through infection control measures, clinicians focus on diagnosis and supportive care, and medical scientists focus on the development of new vaccines and therapeutics. Attention is now turning towards an understanding of the natural course of Covid-19 in survivors and optimising follow up to prevent, identify and treat any undesirable long-term sequelae.

Presenting symptoms (from cases series)

The clinical presentation ranges in severity from mild cold-like symptoms to severe viral pneumonia.

Below are some of the most common presenting symptoms from case studies. Approximately 90% of patients present with more than one symptom, and 15% of patients present with fever, cough, and dyspnoea.

- Fever 83-98% of cases (less common in children and the elderly)
- Cough 57-82% of cases (less common in children)
- Dyspnoea 18-55% of cases (onset usually 5-8 days after other symptoms)
- Fatigue 29-69% of cases
- Myalgia 11-14% of cases
- Anorexia 40%
- Sputum production 26-33%

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- Sore throat 5-17% of cases
- GI symptoms 1-11% (likely underestimation)
- Anosmia/dysgeusia

The most prevalent comorbidities in patients with Covid-19 are hypertension, diabetes, cardiovascular disease, and respiratory disease. For more information see this [BMJ article on Covid-19 history and exam](#).

Severe cases can occur early in the disease course but clinical observations typically describe a two-step disease progression, starting with a mild-to-moderate presentation, followed by a secondary respiratory worsening 9-12 days after the first onset of the symptoms. Respiratory deterioration is concomitant with extension of ground-glass lung opacities on Chest CT scans, lymphocytopenia and high prothrombin time and D-dimer levels.

Complications of Covid-19

The main complications of Covid-19 which lead to mortality are severe viral pneumonia and acute respiratory distress syndrome (ARDS) which can come on suddenly after seemingly mild symptoms. Reports of 'cytokine' storms in some patients has also led to mortality. Further details regarding complications of covid-19 are detailed in this [BMJ Best Practice](#) article. The median time from onset of symptoms to hospital admission for severe illness is 7 days with 14% of patients with severe illness requiring oxygen therapy and 5% requiring admission to ITU for intensive support (usually respiratory or cardiovascular, although multi-organ failure is also seen). In the UK the current survival rate of those who are admitted to ITU is 50%, lower for those requiring invasive ventilation. NICE currently recommends basing decisions on [ITU admission](#) on clinical frailty scores.

There is increasing concern regarding a potential paediatric multisystem inflammatory syndrome associated with Covid-19. Although the number of cases is small, it is important to consider in children with a persistent fever and other associated features including rash or red eyes. [Further guidance is available from the RCPCH](#).

Prognosis and terminal symptoms

The most common terminal symptoms are fever, rigors, dyspnoea, cough, delirium and agitation. Importantly the terminal phase can be rapid, often just a few hours so, where possible, advance planning is helpful. The leading cause of death from studies is respiratory failure due to acute respiratory distress syndrome (ARDS).

Case fatality rates are difficult to calculate in the UK and worldwide due to differences in testing. Some population groups have a higher risk of dying from Covid-19 than others. This [King Fund article](#) examines how deaths from Covid-19 are counted and what the numbers show to date.

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Mortality rates are affected by:

- **Age:** mortality rates rise sharply with age.
- **Gender:** mortality rates are higher among men than women.
- **Co-morbidities:** mortality rates are significantly higher among people with pre-existing conditions such as dementia and Alzheimer's disease, heart disease, high blood pressure and diabetes.
- **Deprivation:** between 1 March and 30 June 2020 the mortality rate from Covid-19 was 120 per cent higher in the most deprived compared with the least deprived decile of areas. Rates were highest in London and the northern regions, and lowest in the South West. Nine of the ten local authorities with the highest mortality rates were in London (Brent, Newham, and Haringey being the highest).
- **Ethnicity:** people from some ethnic minority groups have a significantly higher risk of being diagnosed with Covid-19, developing serious complications and dying from it. Mortality among Black groups is almost double that of the white group; in males from Bangladeshi, Pakistani and Indian groups it is about 1.5 times higher.
- **Occupation:** mortality rates from Covid-19 are higher among people working in some public-facing occupations, such as nurses, social care workers, security guards, transport workers and sales and retail assistants.
- **Obesity:** excess weight is associated with an increased risk of a positive test for Covid-19, hospitalisation, severe disease and death.

Evidence regarding long term immunity and re-infection are inconclusive and current evidence suggests there is no reliable antibody test which can be used for the purposes of deciding someone is immune to Covid-19, although antibody tests to check for prior infection are available commercially and now through government testing.