Severity	Evidence of	Criteria
Non-severe (mild disease)		Symptomatic patients meeting the case definition for COVID-19, i.e., • Experiencing fever (83–99%) • Cough (59–82%) • Fatigue (44–70%) • Anorexia (40–84%) • Shortness of breath (31–40%) • Myalgias (11–35%) and other non-specific symptoms, such as: • Sore throat • Nasal congestion • Headache • Diarrhoea • Nausea and vomiting Without evidence of viral pneumonia or hypoxia.
Non-severe (moderate disease)	Pneumonia	**Adolescent or adult** with clinical signs of pneumonia (fever, cough, dyspnoea, fast breathing) but no signs of severe pneumonia, including SpO_2 ≥ 90% on room air. **Child** with cough or difficulty breathing + fast breathing and/or chest in-drawing and no signs of severe pneumonia. Fast breathing: • < 2 months: ≥ 60 breaths/min; • 2–11 months: ≥ 50; • 1–5 years: ≥ 40. The diagnosis can be made on clinical grounds; chest imaging (radiograph, CT scan, and ultrasound) may assist in diagnosis and identify or exclude pulmonary complications. **Caution:** The oxygen saturation threshold of 90% to define severe COVID-19 is arbitrary and should be interpreted cautiously. For example, clinicians must use their judgment to determine whether a low oxygen saturation is a sign of severity or is normal for a given patient with chronic lung disease. Similarly, a saturation between 90–94% on room air may be abnormal (in patient with normal lungs) and can be an early sign of severe

		disease, mainly if patient is on a downward trend. Generally, if there is any doubt, the panel suggested erring on the side of considering the illness as severe.
Severe disease	Severe Pneumonia	**Adolescent or adult** with clinical signs of pneumonia (fever, cough, dyspnoea) plus one of the following: • Respiratory rate > 30 breaths/min, • Severe respiratory distress, or • SpO_2 < 90% on room air. **Child:** with clinical signs of pneumonia (cough or difficulty breathing + fast breathing or chest wall in-drawing) plus at least one of the following: • SpO_2 < 90% • Very severe chest in-drawing, grunting, central cyanosis, or presence of any other general danger sign (inability to breastfeed or drink, lethargy or unconsciousness or convulsions). The diagnosis can be made on clinical grounds; chest imaging (radiograph, CT scan, and ultrasound) may assist in diagnosis and identify or exclude pulmonary complications.
Critical disease	Acute Respiratory Distress syndrome	**Onset:** within 1 week of a known clinical insult (i.e. pneumonia) or new or worsening respiratory symptoms. **Chest imaging:** Radiograph, CT scan or lung ultrasound showing bilateral opacities, not fully explained by volume overload, lobar or lung collapse, or nodules. **Origin of pulmonary infiltrates:** Respiratory failure not fully explained by cardiac failure or fluid overload. Need objective assessment (e.g. echocardiography) to exclude hydrostatic cause of infiltrates/oedema if no risk factors present.

Oxygenation impairment in adults:

Air blood gases (ABG) available

- Mild ARDS: 200 mmHg < PaO2/FiO2 ≤ 300 mmHg (with PEEP or CPAP ≥ 5 cmH_2O)
- Moderate ARDS: 100 mmHg < PaO2/FiO2 ≤ 200 mmHg (with PEEP ≥ 5 cmH_2O)
- Severe ARDS: PaO2/FiO2 ≤ 100 mmHg (with PEEP ≥ 5 cmH_2O).

ABG not available (Kigali modification)

- SpO2/FiO2 < 315 suggests ARDS (including non-ventilated patients)

Oxygen impairment in children: Note OI and OSI*. Use OI when available.

If PaO_2 not available, wean FiO_2 to maintain SpO2 ≤ 97% to calculate OSI or SpO2/FiO2 ratio:

- Bilevel (NIV or CPAP) ≥ 5 cmH2O via full face mask: PaO2/FiO2 ≤ 300 mmHg or SpO2/FiO2 ≤ 264
- Mild ARDS (invasively ventilated): 4 ≤ OI < 8 or 5 ≤ OSI < 7.5
- Moderate ARDS (invasively ventilated): 8 ≤ OI < 16 or 7.5 ≤ OSI < 12.3
- Severe ARDS (invasively ventilated): OI ≥ 16 or OSI ≥12.3.

*Oxygenation Index (OI) is an invasive measurement of the severity of hypoxaemic respiratory failure and may be used to predict outcomes in paediatric patients. It is calculated as follows: percentage of fraction of inhaled oxygen multiplied by the mean airway pressure (in mmHg), divided by the partial pressure of arterial oxygen (in mmHg), divided by the partial pressure of arterial oxygen (in mmHg).

Oxygen Saturation Index (OSI) is a non-invasive measurement and has been shown to be a reliable surrogate marker of OI in children and adults with respiratory failure. OSI replaces PaO_2 with oxygen

		saturation as measured by pulse oximetry (SpO_2) in the OI equation.
	Sepsis	**Adults:** Acute life-threatening organ dysfunction caused by a dysregulated host response to suspect or proven infection. Signs of organ dysfunction include: • Altered mental status (delirium), • Difficult or fast breathing, • Low oxygen saturation, • Reduced urinary output, • Fast heart rate, • Weak pulse, • Cold extremities or low blood pressure, • Skin mottling, • Laboratory evidence of coagulopathy, • Thrombocytopenia, • Acidosis, • High lactate or • Hyperbilirubinaemia. **Children:** Suspected or proven infection and ≥ 2 age-based systemic inflammatory response syndrome (SIRS) criteria* of which one must be abnormal temperature or white blood cell count. Note: *SIRS criteria: • Abnormal temperature (> 38.5 °C or < 36 °C); • Tachycardia for age or bradycardia for age if < 1 year; • Tachypnoea for age or need for mechanical ventilation; • Abnormal white blood cell count for age or > 10% bands.
	Septic shock	**Adults:** Persistent hypotension despite volume resuscitation, requiring vasopressor to maintain MAP ≥ 65 mmHg and serum lactate level > 2 mmol/L.

		Children: Any hypotension (SBP < 5th centile or 2SD below normal for age) or two or three of the following: • Altered mental status; • Bradycardia or Tachycardia (HR < 90 beats/min [bpm] or < 160 bpm in infants and heart rate < 70 bpm or > 150 bpm in children); • Prolonged capillary refill (> 2 sec) or • Weak pulse; • Fast breathing; • Mottled or cool skin or • Petechial or purpuric rash; • High lactate; • Reduced urine output; • Hyperthermia or hypothermia.
	Acute thrombosis	Acute venous thromboembolism (i.e. pulmonary embolism), acute coronary syndrome, acute stroke.
	MIS-C	Preliminary case definition: Children and adolescents 0–19 years of age with fever ≥ 3 days AND two of the following: • Rash or bilateral non purulent conjunctivitis or • Muco-cutaneous inflammation signs (oral, hands or feet); • Hypotension or shock; • Features of myocardial dysfunction, • Pericarditis, • Valvulitis, or coronary abnormalities (including ECHO findings or elevated troponin/NT-proBNP); • Evidence of coagulopathy (PT, PTT, elevated D-dimers); • Acute gastrointestinal problems (diarrhoea, vomiting or abdominal pain); AND elevated markers of inflammation such as • ESR, • C-reactive protein, or • Procalcitonin AND no other obvious microbial cause of shock syndrome

		AND evidence of COVID-19 (RT-PCR, antigen test or serology positive), or likely contact with patients with COVID-19.

Table showing detailed clinical criteria for defining the severity of Covid-19 disease.

Source: https://app.magicapp.org/#/guideline/j1WBYn

Abbreviations:

BP = Blood pressure.

BPM = Beats per minute.

CPAP = Continuous positive airway pressure.

CT = Computed tomography

FiO_2 = Fraction of inspired oxygen

MAP = Mean arterial pressure

NIV = Mon-invasive ventilation

OI = Oxygenation Index

OSI = Oxygenation Index using SpO_2

PaO_2 = Partial pressure arterial oxygen

PEEP = Positive end-expiratory pressure

SBP = Systolic blood pressure

SD = Standard deviation

SIRS = Systemic inflammatory response syndrome

SOFA = Sequential organ failure assessment

SpO_2 = Oxygen saturation.