Clinical management of COVID-19

Interim guidance
27 May 2020

World Health Organization

This document is the update of an interim guidance originally published under the title “Clinical management of severe acute respiratory infection (SARI) when COVID-19 disease is suspected” on 13 March 2020.

WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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Contents

Foreword

The *Strategic preparedness and response plan* outlines WHO's strategic objectives to end the COVID-19 pandemic and assists national stakeholders with developing a structured approach to their response. The World Health Organization's (WHO) main objectives for COVID-19 are to:

1) slow and stop transmission;

2) provide optimized care for all patients; and

3) minimize the impact of the epidemic on health systems, social services and economic activity.

To achieve these objectives, the WHO *Operational considerations for case management of COVID-19 in health facility and community* describes key actions that should be taken in each transmission scenario: no cases; sporadic cases; clusters of cases; and community transmission, in order to enable timely surge of clinical and public health operations.

This guidance, *Clinical management of COVID-19,* is based on the above strategic priorities, and is intended for clinicians involved in the care of patients with suspected or confirmed COVID-19. It is not meant to replace clinical judgment or specialist consultation but rather to strengthen frontline clinical management. Considerations for special and vulnerable populations, such as paediatric patients, older people and pregnant women, are highlighted throughout the text.

In this document we refer to the **COVID-19 care pathway (Appendix 1).** This describes a coordinated and multidisciplinary care pathway that a patient enters after s/he is **screened to be a suspect COVID-19 case,** and follows the continuum of their care until release from the pathway. The objective is to ensure delivery of safe and quality care while stopping onwards viral transmission. All others enter the health system in the non-COVID-19 pathway. For the most up-to-date technical guidance related to the COVID-19 response, visit WHO Country & Technical Guidance *(1)*.

Methods

The original version of this document was developed in consultation with the International Forum for Acute Care Trialists (InFACT), International Severe Acute Respiratory and Emerging Infection Consortium (ISARIC) and the Surviving Sepsis Campaign. This is the third edition (version 1.3) of this document, which was originally adapted from *Clinical management of severe acute respiratory infection when Middle East respiratory syndrome coronavirus (MERS-CoV) infection is suspected* (WHO, 2019).

For the development of the third version of the COVID-19 clinical guidance, we assembled a formal Guideline Development Group (GDG) comprising individuals with broad expertise spanning multiple specialties and all regions. Confidentiality and declarations of interest were collected and reviewed and no conflict of interest was identified.

Because of the accelerated timeline and very broad scope of the guideline, it was not feasible to undertake a formal GRADE process (PICO questions; systematic reviews; formal documentation of values and preferences and incorporation of considerations of costs, resources, and feasibility). The topics for consideration originated in the WHO interim guidance for MERS, but for COVID-19 were greatly expanded to reflect the full spectrum of illness, from screening to rehabilitation. Published evidence was synthesized under the coordination of the Science Division in rapid systematic reviews, which were pre-circulated to the GDG. The WHO Steering Committee initially drafted the recommendations about interventions based on these reviews and input from expert clinicians participating in twice-weekly clinical network teleconferences. The GDG held four virtual meetings via

teleconference (total of 12 hours) to discuss all previous and new recommendations. Suggested revisions were incorporated into the guidance. Consensus was achieved for all recommendations presented in the final version.

The direction and strength of recommendations are presented using symbols rather than formal GRADE terminology (strong and conditional recommendations with grading of certainty of evidence, or best practice statements).

The GREEN symbol denotes a strong recommendation or a best practice statement in favour of an intervention.

The RED symbol denotes a recommendation or a best practice statement against an intervention.

The YELLOW symbol denotes a conditional recommendation in favour of an intervention, or a recommendation where special care is required in implementation.

This guidance has been significantly expanded to meet the needs of front-line clinicians caring for patients with COVID-19 to ensure quality care. The following sections are entirely new: COVID-19 care pathway, treatment of acute and chronic infections, management of neurological and mental manifestations, noncommunicable diseases, rehabilitation, palliative care, ethical priniciples, and reporting of death. The remaining sections have been substantially expanded. Though not intended to be an exhaustive list, the following bullets highlight some key changes:

- Discontinue transmission-based precautions (including isolation) and release from the COVID-19 care pathway: **For symptomatic patients: 10 days after symptom onset, plus at least 3 days without symptoms (without fever and respiratory symptoms).**
- Treatment of acute co-infections: **For suspected or confirmed mild COVID-19, against the use of antibiotic therapy or prophylaxis. For suspected or confirmed moderate COVID-19, that antibiotics should not be prescribed unless there is clinical suspicion of a bacterial infection.**
- Prevention of complications: **In patients (adults and adolescents) hospitalized with COVID-19, use pharmacological prophylaxis, such as low molecular weight heparin (e.g. enoxaparin), according to local and international standards, to prevent venous thromboembolism, when not contraindicated. For those with contraindications, use mechanical prophylaxis (intermittent pneumatic compression devices).**

And, importantly, key previous recommendations that remain are:

- Antivirals, immunomodulators and other adjunctive therapies: **WHO recommends that the listed drugs not be administered as treatment or prophylaxis for COVID-19, outside the context of clinical trials.**
- Corticosteroids and COVID-19: **WHO recommends against the routine use of systemic corticosteroids for treatment of viral pneumonia.**

Developed by a multidisciplinary panel of health care providers with experience in the clinical management of patients with COVID-19 and other viral infections, including severe acute respiratory virus (SARS) and Middle East respiratory virus (MERS), as well as sepsis and

acute respiratory distress syndrome (ARDS), this guidance should serve as a foundation for optimized clinical care to ensure the best possible chance for survival. The guidance stresses the importance of using investigational therapeutic interventions as part of randomized controlled trials (RCTs) *(2-4)*. For queries, please email: EDCARN@who.int with "COVID-19 clinical question" in the subject line.

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Abbreviations

ALIMA	Alliance for International Medical Action
ALT	alanine aminotransferase
ARDS	acute respiratory distress syndrome
AWaRe	Access, Watch or Reserve (antibiotics)
BiPAP	bilevel positive airway pressure
BP	blood pressure
bpm	beats per minute
COPD	chronic obstructive pulmonary disease
CPAP	continuous positive airway pressure
CRF	case record form
CT	computed tomography
DIC	disseminated intravascular coagulation
ECMO	extracorporeal membrane oxygenation
FiO_2	fraction of inspired oxygen
GDG	Guideline Development Group
GI	gastrointestinal
HFNO	high-flow nasal oxygen
HIV	human immunodeficiency virus
ICU	intensive care unit
IFRC	International Federation of Red Cross and Red Crescent Societies
InFACT	International Forum for Acute Care Trialists
IPC	infection prevention and control
IQR	interquartile range
ISARIC	International Severe Acute Respiratory and emerging Infection Consortium
LRT	lower respiratory tract
LTCF	long-term care facility
MAP	mean arterial pressure
MERS-CoV	Middle East respiratory syndrome coronavirus
MHPSS	mental health and psychosocial support
NCD	noncommunicable disease
NICD	National Institute for Communicable Diseases (South Africa)
NIV	non-invasive ventilation
OI	Oxygenation Index
OSI	Oxygenation Index using SpO_2
PaO_2	partial pressure arterial oxygen
PBW	predicted body weight
PEEP	positive end-expiratory pressure
PICS	post-intensive care syndrome
PPE	personal protective equipment
PUI	person/patient under investigation