



SOUTH AFRICAN PRIMARY HEALTHCARE LEVEL ESSENTIAL MEDICINES LIST CHAPTER 10: INFECTIONS AND RELATED CONDITIONS NEMLC RECOMMENDATIONS FOR MEDICINE MANAGEMENT (2020)

Medicine amendment recommendations, with supporting evidence and rationale are listed below. Kindly review the medicine amendments in the context of the complete chapter for infections and related conditions. Note: The PHC chapter has been updated to align to previous NEMLC recommendations as well as the recent NEMLC-approved Adult Hospital Level STGs and EML, 2019 edition.

A: NEW STANDARD TREATMENT GUIDELINES

Table with 4 columns: SECTION, CONDITION, MEDICINE MANAGEMENT, MEDICINE ADDED. Row 1: 10.19, Emerging respiratory pathogens, e.g. COVID-19: coronavirus disease-19; Middle east respiratory syndrome coronavirus infection: MERS COV, No, n/a. Row 2: 10.19.1, COVID-19: coronavirus disease-19, Yes, Paracetamol, oral.

10.19 EMERGING RESPIRATORY PATHOGENS, e.g. COVID-19: CORONAVIRUS DISEASE-19; MIDDLE EAST RESPIRATORY SYNDROME CORONAVIRUS INFECTION: MERS COV

The following STG was included in the chapter, aligned with NICD Guidelines1, and the Adult Hospital Level STGs (2019)2:

Note: notifiable medical conditions.

Consult the most recent guidelines from the National Department of Health or NICD.

Description

Viral respiratory illness caused by coronaviruses, including Middle East respiratory syndrome (MERS-CoV), severe acute respiratory syndrome (SARS) and severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). SARS-CoV-2 causes coronavirus infectious disease-2019 (COVID-19). Individuals present with a wide spectrum of clinical presentation ranging from asymptomatic infection to acute upper respiratory illness, and rapidly progressing lower respiratory illness; respiratory failure, septic shock and multi-organ failure resulting in death.

A typical presentation includes:

- » fever (>38°C), chills or rigors, cough, shortness of breath

Presentation may include:

- » hemoptysis, sore throat, myalgias, diarrhoea, vomiting, abdominal pain

Complications:

- » severe pneumonia » acute renal failure » ARDS » refractory hypoxaemia

General measures

All suspected, probable cases and contacts must be discussed and managed in consultation with the regional virologist or infectious diseases specialist at the referral centre.

Transfer of patients will only occur once all relevant arrangements have been made to limit further exposure to a potential contagious and life threatening agent.

Droplet precautions should be added to the standard precautions. Airborne precautions should be applied when performing aerosol-generating procedures.

Isolate suspected symptomatic cases at all times.

If MERS coronavirus is suspected, isolate patient to limit further exposure.

Management

Treatment

1 NICD: Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Guidelines, June 2016.

2 Adult Hospital Level STGs and EML, 2019

Treatment is supportive.
No antiviral agents or vaccines are currently available.
Management of contact: consult with NICD and isolate contact.
Record and follow-up all patient contacts.

Prevention

Handwashing and the careful disposal of materials infected with nasal secretions. Antiseptic/disinfectant solutions: chloroxynol, benzalkonium chloride, and cetrimide. Chlorhexidine has been shown to be ineffective.

Referral

All cases, after consultation with infectious diseases and NICD.

10.19.1 COVID-19: CORONAVIRUS DISEASE-19

The following STG was developed, aligned with NDoH/NICD Guidelines³. In addition, the STG had been circulated to the NICD for comment.

Temperature criterion: Furthermore, NEMLC recommended that temperature be removed as a criteria for management of mild COVID-19 at home (for age >12 years), as this was not considered to be helpful as this applies to all infections. Derived from the Interagency Integrated Triage Tool (developed in a collaboration among WHO, ICRC, and Médecins Sans Frontières) to provide an integrated set of protocols for routine facility-based triage for adults and children, as well as for pre-hospital and surge triage (a validated triage tool, but not specific for COVID-19).

Evidence is limited on the use of body temperature as a screening tool to determine severity, and it is uncertain as to whether body temperature correlates with risk of mortality^{4 5 6}. Concerns were also raised of unnecessary referral of patients from primary care facilities to hospital.

Recommendation: Body temperature criterion was deleted for screening for mild disease that can be managed at home from moderate-to-severe disease requiring management at hospital.

Rationale: Evidence is limited on the use of body temperature as a screening tool to determine severity, and it is uncertain as to whether body temperature correlates with risk of mortality. There may be harms associated with unnecessary referral of patients to hospital for further management of COVID-19.

Level of Evidence: III Cohort studies, Expert option

Note: notifiable medical condition.

Consult the most recent NICD guidelines on the clinical management of suspected or confirmed Covid-19 disease available at: <https://www.nicd.ac.za/diseases-a-z-index/covid-19/covid-19-guidelines/>

Description

- » Viral respiratory illness caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). SARS-CoV-2 causes coronavirus infectious disease-2019 (COVID-19).
 - » The mean incubation period is 4-5 days but may be up to 14 days. Patients may however be infectious for 2-3 days prior to the onset of symptoms.
 - » The elderly are at high risk for severe COVID-19 disease. Other risk factors include cardiopulmonary comorbidities, obesity, HIV, and diabetes mellitus.
 - » Covid-19 presents as an asymptomatic infection; or as a respiratory tract infection that may range from mild to severe, with atypical manifestations such as diarrhoea, skin manifestations, hyperglycaemic syndromes and large vessel strokes.
- » A suspected Covid-19 case includes any person presenting with an acute (≤ 14 days) respiratory tract infection or other clinical illness compatible with Covid-19, or an asymptomatic person who is a close contact to a confirmed case.
 - » In the context of Covid-19, the key respiratory syndrome consists of ANY of:
 - Cough
 - Sore throat
 - Shortness of breath

³ NICD: Middle East Respiratory Syndrome Coronavirus (MERS-CoV) Guidelines, June 2016.

⁴ Tharakan S, Nomoto K, Miyashita S, Ishikawa K. Body temperature correlates with mortality in COVID-19 patients. Crit Care. 2020 Jun 5;24(1):298. <https://pubmed.ncbi.nlm.nih.gov/32503659/>

⁵ Clift AK, Coupland CAC, Keogh RH, et al. Living risk prediction algorithm (QCOVID) for risk of hospital admission and mortality from coronavirus 19 in adults: national derivation and validation cohort study. BMJ. 2020 Oct 20;371:m3731. <https://pubmed.ncbi.nlm.nih.gov/33082154/>

⁶ Liang W, Liang H, Ou L, et al; China Medical Treatment Expert Group for COVID-19. Development and Validation of a Clinical Risk Score to Predict the Occurrence of Critical Illness in Hospitalized Patients With COVID-19. JAMA Intern Med. 2020 Aug 1;180(8):1081-1089. <https://pubmed.ncbi.nlm.nih.gov/32396163/>

- Anosmia (loss of smell) or dysgeusia (loss of taste)
- » This may present with or without other symptoms (such as fever, weakness, myalgia or diarrhoea).

Testing

- » PCR-based tests are recommended for the diagnosis of acute Covid-19 infection. Upper respiratory tract (nasopharyngeal or oropharyngeal) samples should be sent on all patients. Sputum can be sent when available.
- » A single positive PCR test is sufficient proof of Covid-19 infection.
- » Due to poor sensitivity within the first 1-2 weeks after symptom onset, serology (antibody test) is not recommended for the diagnosis of acute Covid-19 infection.
- » All healthcare workers should wear appropriate personal protective equipment (PPE) for both contact and respiratory precautions when obtaining specimens
- » Record and report and notify all confirmed Covid-19 cases

General measures

- » Manage patients who are asymptomatic or who meet criteria for mild disease at home, provided they can safely self-isolate and seek urgent health care if required.
- » Give strict advice to patients who self-isolate at home and how to reduce possible transmission to others.

Criteria for management at home (for age >12 years):

Mild disease:

- » SpO₂ ≥95%
- » Respiratory rate <25 breaths/minute
- » HR <120 beats/minute
- » Mental status normal

Able to safely self-isolate:

- » Separate bedroom available for patient to self-isolate in
- » Able to maintain physical distancing at home
- » Able to maintain hand hygiene
- » Patient able to contact, and return to, healthcare facility in case of deterioration

Medicine treatment

Paracetamol is recommended for symptomatic treatment of patients with pain in preference to nonsteroidal anti-inflammatory drugs (NSAIDs).

Children

- Paracetamol, oral, 10–15 mg/kg/dose 6 hourly when required. See dosing table, pg 23.8.

Adults

- Paracetamol, oral, 1 g 4–6 hourly when required.
 - Maximum dose: 15 mg/kg/dose.
 - Maximum dose: 4 g in 24 hours.

Note:

- » Any deterioration in the ability to perform activities of daily living at home as a result of dyspnoea should prompt re-evaluation at a healthcare facility.
- » Corticosteroids should not be used for the treatment of Covid-19 in patients who do not require supplemental oxygen or mechanical ventilation. However, systemic corticosteroids should not be withheld from patients who require them for another reason such as an acute exacerbation of asthma or chronic obstructive pulmonary disease.

COVID-19 HOTLINE NUMBERS

Clinicians: 080011131

Public: 080002999

<http://www.nicd.ac.za/>; <https://sacoronavirus.co.za/>

Infection Prevention and Control (IPC)

- » Practice hand hygiene.
- » Use healthcare worker PPE: gloves, gown (or apron), and a medical mask.
- » Practice safe waste management.
- » Use either disposable or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers). If equipment needs to be shared among patients, clean and disinfect between each patient use.
- » Limit patient movement within the institution and ensure that patients wear medical masks when outside their rooms.

Comprehensive national IPC guidelines for Covid-19 are available at the NICD's website: <https://www.nicd.ac.za/diseases-a-z-index/covid-19/covid-19-guidelines/>

Referral

All cases who do not meet the criteria for management at home.

Level of Evidence: III Guidelines⁷

⁷ Covid-19: National Institute for Communicable diseases. Clinical management of suspected or confirmed Covid-19 disease

B: AMENDMENTS TO MEDICINE TREATMENT

SECTION	MEDICINE	ADDED/DELETED/AMENDED
10.13 Shingles (Herpes zoster)	Antiviral (active against herpes zoster)	Added as therapeutic class
	Aciclovir, oral	Retained as the example of antiviral therapeutic class (listed in STG)
	Valaciclovir, oral	Added as a therapeutic alternative
	Famciclovir, oral	Added as a therapeutic alternative
10.14 Tick bite fever	Doxycycline, oral	Directions for use amended

10.13 SHINGLES (HERPES)

Antiviral (active against herpes zoster): added as therapeutic class

Aciclovir, oral: retained as the example of antiviral therapeutic class (listed in STG)

Valaciclovir, oral: added as a therapeutic alternative

Famciclovir, oral: added as a therapeutic alternative

Aciclovir, oral:

Evidence⁸ was reviewed in the previous Adult Hospital Level STGs and EML, 2015 edition review cycle, but it is noted that aciclovir has the largest evidence base and is the cheapest antiviral agent:

The following therapeutic agents are recommended for use in adults (excluding pregnancy and children⁹), with aciclovir listed as the example of class:

Medicine (INN)	Strength	Unit	ROA	Dosing interval (times per day)	DDD	Unit	Course (days)	ATC	Total price for course of therapy	MSH drug price indicator, 2015 ¹⁰ (Price for course of therapy)
Aciclovir	800	mg	oral	4	3200	mg	7	J05AB01	R40.32*	R 26.32***
Valaciclovir	1000	mg	oral	3	3000	mg	7	J05AB11	R459.40**	R 357.80****
Famciclovir	250	mg	oral	3	750	mg	7	J05AB09	R662.40**	n/a

* Contract circular HP02-2019AI (Aciclovir 400 mg tabs, 60 = R43.20)

** SEP database, 7 February 2020 - 60% of SEP (cheapest generic), accessed 7 February 2020. <https://mpr.code4sa.org/>

***SUDANMSF - CIF: Aciclovir 400 mg - \$0.0310/tab-cap i.e. R0.470/tab-cap

****OECS/PPS - CIF: Valaciclovir 500 mg - \$0.5625/tab-cap i.e. R8.519/tab-cap

ROA=route of administration

Level of Evidence: I Systematic review

10.14 TICK BITE FEVER

Doxycycline, oral: directions for use amended

The following was amended, aligned with CDC Guidelines¹¹:

- Doxycycline, oral, 100 mg 12 hourly, for at least 3 days after the fever subsides with clinical improvement.
- Maximum duration of treatment is 7 days.

Level of Evidence: III Guidelines.

Referral

Version 5 (24th August 2020). <https://www.nicd.ac.za/diseases-a-z-index/covid-19/covid-19-guidelines/clinical-management-of-suspected-or-confirmed-covid-19-disease/>

⁸ McDonald EM, De Kock J, Ram FS. Antivirals for management of herpes zoster including ophthalmicus: a systematic review of high-quality randomized controlled trials. *Antiviral Therapy* 2012; 17(2): 255-264. <https://www.ncbi.nlm.nih.gov/pubmed/22300753>

⁹ Acyclovir versus Valaciclovir for Herpes Virus in Children and Pregnant Women: A Review of the Clinical Evidence and Guidelines [Internet]. Ottawa (ON): Canadian Agency for Drugs and Technologies in Health; 2014 Sep 5. Available from <http://www.ncbi.nlm.nih.gov/books/NBK253720/>

¹⁰ MSH International drug price indicator guide, 2015. <https://www.msh.org/resources/international-drug-price-indicator-guide>

¹¹ Chapman AS, Bakken JS, Folk SM, Paddock CD, Bloch KC, Krusell A, Sexton DJ, Buckingham SC, Marshall GS, Storch GA, Dasch GA, McQuiston JH, Swerdlow DL, Dumler SJ, Nicholson WL, Walker DH, Eremeeva ME, Ohl CA; Tickborne Rickettsial Diseases Working Group; CDC. Diagnosis and management of tickborne rickettsial diseases: Rocky Mountain spotted fever, ehrlichioses, and anaplasmosis--United States: a practical guide for physicians and other health-care and public health professionals. *MMWR Recomm Rep.* 2006 Mar 31;55(RR-4):1-27. <https://www.ncbi.nlm.nih.gov/pubmed/16572105>

The following referral criteria was added, aligned with above-mentioned CDC Guidelines and Adult Hospital Level STGs and EML (2019):

REFERRAL

- » Patients unable to take oral therapy.
- » Patients not responding to adequate therapy, e.g. fever persisting for > 48 hours after initiation of treatment.
- » Patients with complications.
- » Patients with severe tick bite fever.