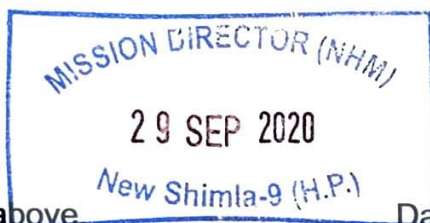




No. NHMHP-IDSP/1/2020-IDSP-Section-Part (4) -7138
National Health Mission
SDA Complex, Kasumpti, Shimla-9
Himachal Pradesh
Dated: Shimla-171009, the
Circular

As per the recommendations of State Level COVID Clinical team, management protocol for asymptomatic/mild categories of COVID 19 cases and guiding principles for use of high flow nasal cannula in respiratory failure in adult patients of COVID 19 are enclosed.

All the concerned to note and adhere to the guidelines with immediate effect for the management of COVID 19 patients in the State of Himachal Pradesh.



N. G. ... 29/9/20
Special Secretary (Health) cum
Mission Director, NHM
Himachal Pradesh, Shimla - 9

Endst. No. As above Dated Shimla-9 the
Copy to:

1. Special Secretary (Health-A) to the Government of Himachal Pradesh
2. All Deputy Commissioners, Himachal Pradesh.
3. Director Health Services, Himachal Pradesh.
4. Director Medical Education & Research, Himachal Pradesh.
5. All Chief Medical Officers, Himachal Pradesh.
6. All Nodal Officers, CCC/ DCHC/ DCH in Himachal Pradesh.
7. All the District Surveillance Officers in Himachal Pradesh.
8. State COVID Clinical Team
9. COVID Clinical Committee of all the Medical Colleges of Himachal Pradesh

N. G. ... 29/9/20
Special Secretary (Health) cum
Mission Director, NHM
Himachal Pradesh, Shimla - 9

Management protocol of Mild category COVID-19 infection

Management of asymptomatic COVID-19 positive case:

- Institutional/Home quarantine*
- Place patients in a well-ventilated single room
- Limit the movement of patients within house
- Minimize shared spaces and ensure that shared spaces are well-ventilated
- Visitors should not be allowed
- Hand hygiene to be performed after any type of contact with patients
- Use of medical masks by all family members including patients which should be changed daily
- Regular thrice a day oxygen saturation (SPO2) monitoring by pulse oximeter.
- **Antiviral treatment:**
 1. Tablet Ivermectin: 12 mg BID, 2 hours after meals for 5 days
Plus
Doxycycline 200 mg stat, then 100 mg BID for day 2 to day 5
OR
Tablet Favipiravir: 1800 mg BID on day 1 and 800 mg BID from Day 2 to day 14**
 2. Tab Zinc 50 mg OD
 3. Vitamin-C: 500 mg BID
 4. Vitamin-D3: 60,000 IU Once a week
 5. Use of other antibiotics as per indication

Management of mild COVID-19 positive case:

These 4 groups of mild cases should be managed at DCHC: #

Group A: Uncontrolled comorbidities such as Diabetes Mellitus, Hypertension, Chronic kidney disease, malignancy, COPD and age >60 years

Group B: Patients with alarmed clinical features: tachycardia, Hypotension, shortness of breathe on routine activities

1. Decreasing SpO₂ value if SpO₂ values are more than 94%
2. 6 minute walk test (SpO₂ falling <94%)

Group C: Elevated biomarkers after 5-7 days of developing symptoms: five-fold rise in CRP, Serum Ferritin, D-dimer, and absolute Neutrophil count: absolute lymphocyte counts ratio >3.5

Group D: Suggestive radiological findings done after 5-7 days of symptoms onset

Treatment:

1. Anti-viral treatment:

1 (a): Tab Hydroxychloroquine 400 mg BID for day 1, followed by 400 mg once a day from day 2 to day 5

Other antiviral treatment should be used only if there is contraindication of Hydroxychloroquine use

OR

1(b) Tablet Ivermectin: 12 mg BID for 5 days

Plus

Doxycycline 200 mg stat, then 100 mg BID for day 2 to day 5

1(c) Tablet Favipiravir^{**}: 1800 mg BID on day 1 and 800 mg BID on Day 2-14

(Prior to using favipiravir, pregnancy has to be ruled out in all females in reproductive age group. Favipiravir should not be used in pregnant and lactating females. Favipiravir should be stopped if SGPT >5 times upper limit of normal or if creatinine clearance is <30ml/min/m² or if there is doubling of creatinine from baseline without an alternative explanation)

2. Oseltamivir should be initiated in all symptomatic patients with influenza like illness till RTPCR/Antigen test result is obtained
Cap Oseltamavir 75mg BID for 5 days
3. Tab Zinc 50 mg OD
4. Vitamin-C: 500 mg BID
5. Vitamin-D3: 60,000 IU once a week
6. Use of other antibiotics as per indication
7. AVOID using NSAIDs other than Paracetamol unless absolutely necessary
8. AVOID using nebulized drugs to avoid aerosolization of virus, use MDI instead
9. Currently there are no data to support either starting or stopping ACEi /ARBs in any patients with COVID-19. ACEi /ARB may be continued in patients who are already on them. However, if acute kidney injury, hypotension or other contraindication develops, consider stopping them at that time.

Position statement of Ivermectin plus Doxycycline in COVID-19 infection:

The rational of use of combination of Ivermectin and Doxycycline is based upon the following documents.¹⁻⁴

1. Vora A, Arora VK, Behera D, Tripathy SK. White paper on Ivermectin as a potential therapy for COVID-19. *Indian J Tuberc.* 2020;67(3):448-451
2. Chowdhury A.T., Shahbaz M., Karim M.R., Islam J., Dan G., He S. A comparative observational study on Ivermectin-Doxycycline and Hydroxychloroquine-Azithromycin therapy on COVID19 patients [Preprint] 2020. <https://www.researchgate.net/publication/342159343>
3. Revised treatment protocol for COVID-19 patients vide no: HLA 274/22/116 dated 4/9/2020 Health & Family welfare Department, Government of Assam
4. Regarding use of Ivermectin in the treatment and prophylaxis of COVID-19 infection. Dated 06/08/2020. Health & Family welfare Department, Government of Uttar Pradesh vide no: 1621/five-5/2020

***Institutional/Home quarantine:**

Mild cases without comorbidities: if adequate facilities for isolation are available, should be home quarantined.

Mild cases with controlled comorbidities: Dedicated Covid care center

These 4 groups of COVID-19 patients (A,B,C,D): those with uncontrolled comorbidities or age >60 years, those with alarmed clinical signs, elevated biomarkers, and suggestive radiological findings should be managed at DCHC

** Weak recommendation



(Dr. Malay Sarkar)
Prof. and Head,
Dept. of Pulmonary Medicine,
IGMC, Shimla



(Dr. Ashwani K. Sood)
Prof. and Head,
Dept. of Pediatrics,
IGMC, Shimla



(Dr. Sanjay Mahajan)
Associate Professor,
Dept. of Medicine,
IGMC, Shimla

Guiding Principles for Use of High Flow Nasal Cannula in Respiratory Failure in Adult Patients with COVID-19

- COVID-19 patients might develop hypoxic respiratory failure.
- Early recognition and referral of patients with worsening respiratory function while on conventional oxygen therapies such as simple face masks are important to ensure timely and safe escalation of respiratory support.

High Flow Nasal cannula (HFNC)

- High Flow Nasal Cannula (HFNC) is a non-invasive respiratory support.
- Early recognition and referral of patients with worsening respiratory function while on conventional oxygen therapies such as simple face masks are important to ensure timely and safe escalation of respiratory support.
- High Flow Nasal Cannula (HFNC) is a non-invasive respiratory support.

Indication of HFNC

- Acute hypoxic respiratory failure $PO_2/FiO_2 < 300$ mmHg.
- Need for medium & high concentration O_2 therapy
- Post extubation support.
- Treatment and prevention of postoperative respiratory failure.
- During intubation (pre-oxygenation for intubation)
- Patients with do-not-intubate (DNI) status and respiratory failure.

Initiation

- Explain
- Start with lower flow (20-35L/min)
- Ensure tubing support not to pull on nasal cannula
- FiO_2 as needed from 21-100%
- Encourage nasal breathing with closed mouth
- Flow increased in increments of 5L/min according to patient needs
- On weaning off : decrease FiO_2 first then flow

Contraindications of HFNC

- Low level of consciousness with Glasgow Coma Scale score < 9 (HFNC can be used in these patients to facilitate intubation)
- Abnormalities or surgery of the face, nose, or airway that preclude an appropriate-fitting nasal cannula
- Post CPR or respiratory arrest
- Hemodynamic instability requiring more than one vasopressor
- Multi-organ failure

General HFNC rules of use

- HCWs should use airborne protection (max. PPEs with N-95 masks & eye protection).
- The patient should be treated in a negative pressure room otherwise in a closed room (with HEPA Filter) if no negative pressure room is available.
- It is advisable to wear surgical mask/ N95 on top of HFNC by patient
- It can be used in Critical Care Units, ED, & General wards.
- HFNC does no role for patients with an indication for immediate intubation
- Frequent clinical (with venous/ arterial blood gases as indicated) evaluation every 1-2 hours to ensure efficacy and safety. The patient on HFNC should be monitored for

complications which are relatively rare and include:

- abdominal distension
- aspiration
- barotraumas

HFNO application & setting

- HFNO application decisions are made according to patient conditions and the need for monitoring and or intervention.
- Clinicians should remain vigilant to signs of respiratory failure that necessitate intubation and mechanical ventilation.
- It is recommended that targeted patients wear surgical face mask.
- Set flow rate first at 30-60 L/minute or the maximum flow rate provided by the HFNC machine or tolerated by the patient (Note: maximize the flow rate first in an attempt to keep the set FiO₂ ≤ 60%).
- Set FiO₂ (range: 21 to 100%) to target SpO₂ 92-96% (SaO₂ > 94% for pregnant women)
- Use heated and humidified gases. If the HFNC machine allows adjust temperature between 31 and 37 ° C to achieve patient's comfort (lower temperature usually leads to more comfort when high flow is used).
- The flow rate can be subsequently increased in 5-10 L/min increments if:
 - Respiratory rate fails to improve.
 - Oxygenation fails to adequately improve.
 - Breathing remains laboured.

Weaning of HFNC:

- When O₂ goals are achieved and the patient is clinically
- Improving (decrease in respiratory rate and respiratory distress): reduce FiO₂ gradually by 5-10% every 2-4 hours.
- Switching to conventional O₂ therapy should be considered when FiO₂ < 35% and flow < 20 L/min.

Signs of Failure of HFNO

Any one of the following

- Increase respiratory rate
- Presence of thoraco-abdominal asynchrony as early as 15-30 minutes after the beginning of HFNC therapy
- Failure to adequately improve oxygenation within 2 hours after the initiation of HFN

Decisions for intubation:

- Intubation should be done if no response to HFNC