ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಸಂಖ್ಯೆ:ಆಕುಕ/09/ಪ್ರಕಾ/2022

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಸಚಿವಾಲಯ
ವಿಕಾಸ ಸೌಧ,
ಬೆಂಗಳೂರು, ದಿನಾಂಕ:11.01.2022

ಸುತ್ತೋಲೆ

ಕೋವಿಡ್-19 ರೋಗಿಗಳಿಗೆ ಚಿಕಿತ್ಸೆ ನೀಡಲು ಅನುಸರಿಸಬಹುದಾದ ಚಿಕಿತ್ಸಾ ಮಾರ್ಗಸೂಚಿ – Guidelines for Management of COVID-19 (Version 6.0) ನ್ನು ದಿ.05.12.2020 ರಂದು ನಡೆದ ಕ್ಲಿನಿಕಲ್ ಎಕ್ಸ್‌ಪರ್ಟ್ ಸಮಿತಿಯ ಸಭೆಯಲ್ಲಿ ಅನುಮೋದಿಸಿರುತ್ತಾರೆ **(ಪ್ರತಿ ಲಗತ್ತಿಸಿದೆ)**.

ಸದರಿ Guidelines for Management of COVID-19 (Version 6.0) ನ್ನು ಅನುಸರಿಸಲು ಕೋರಿದೆ.

(ಟಿ.ಕೆ.ಅನಿಲ್ ಕುಮಾರ್)
ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿಗಳು
ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಇಲಾಖೆ

ಇವರಿಗೆ:

1. ಎಲ್ಲಾ ಜಿಲ್ಲೆಗಳ ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು
2. ಮುಖ್ಯ ಕಾರ್ಯನಿರ್ವಹಣಾಧಿಕಾರಿಗಳು, ಎಲ್ಲಾ ಜಿಲ್ಲಾ ಪಂಚಾಯಿತಿಗಳು.
3. ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣಾಧಿಕಾರಿಗಳು, ಎಲ್ಲಾ ಜಿಲ್ಲೆಗಳು.
4. ಜಿಲ್ಲಾ ಶಸ್ತ್ರ ಚಿಕಿತ್ಸಕರು, ಎಲ್ಲಾ ಜಿಲ್ಲೆಗಳು.
5. ಜಿಲ್ಲಾ ಸರ್ವೇಕ್ಷಣಾಧಿಕಾರಿಗಳು, ಎಲ್ಲಾ ಜಿಲ್ಲೆಗಳು.
6. ಆಯುಕ್ತರು, ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಸೇವೆಗಳು, ಬೆಂಗಳೂರು.
7. ಅಭಿಯಾನ ನಿರ್ದೇಶಕರು, ರಾಷ್ಟ್ರೀಯ ಆರೋಗ್ಯ ಅಭಿಯಾನ, ಬೆಂಗಳೂರು.
8. ಕಾರ್ಯಕಾರಿ ನಿರ್ದೇಶಕರು, ಸುವರ್ಣ ಆರೋಗ್ಯ ಸುರಕ್ಷಾ ಟ್ರಸ್ಟ್.
9. ನಿರ್ದೇಶಕರು, ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಸೇವೆಗಳು, ಬೆಂಗಳೂರು.
10. ನಿರ್ದೇಶಕರು ವೈದ್ಯಕೀಯ ಶಿಕ್ಷಣ, ಬೆಂಗಳೂರು.
11. ಖಾಸಗಿ ವೈದ್ಯಕೀಯ ಕಾಲೇಜುಗಳ ಎಲ್ಲಾ ನಿರ್ದೇಶಕರುಗಳು ಮತ್ತು ವೈದ್ಯಕೀಯ ಅಧೀಕ್ಷಕರುಗಳು.

ಪ್ರತಿಯನ್ನು ಮಾಹಿತಿಗಾಗಿ ಸಲ್ಲಿಸಲಾಗಿದೆ:

1. ಸರ್ಕಾರದ ಪ್ರಧಾನ ಕಾರ್ಯದರ್ಶಿ, ವೈದ್ಯಕೀಯ ಶಿಕ್ಷಣ ಇಲಾಖೆ.
2. ಮುಖ್ಯ ಆಯುಕ್ತರು, ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು.
3. ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ ಇವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು.

COVID 19: CLINICAL EXPERT COMMITTEE KARNATAKA

Proceedings of the 2nd Meeting of State COVID 19 Clinical Expert Committee held on Wednesday 05/Jan/2022 at 8.00 pm by Zoom Video Conference

MEMBERS PARTICIPATED:

1. Dr Ravi K- HOD Department of Medicine BMCRI
2. Dr C N Manjunath- Director SJICR Bangalore
3. Dr C Nagaraj- Director Rajiv Gandhi Institute of Chest Disease
4. Dr K S Satish- Pulmonologist Vikram Fortis Hospital
5. Dr Balakrishna Shetty-Vice Chancellor, Siddhartha Institute of Medical College Tumkur
6. Dr Shashi Bhushan B L-HOD Pulmonology BMCRI
7. Dr Pradeep Rangappa- Intensive Care Physician Columbia Asia Hospital Bangalore
8. Dr Chandramouli K S- Professor Department of Medicine SJMC
9. Dr Ravindra Mehta-Pulmonologist Apollo Hospitals Bangalore
10. Dr Sunil Karanth- Intensivist Manipal Hospital Bangalore
11. Dr Basavaraj- Professor of Pediatrics IGICH Bangalore
12. Dr Savitha- HOD Department of OBG BMCRI
13. Dr V Bhadri Narayan- Professor of Anesthesiology, NIMHANS Bangalore
14. Dr GB Sattur – Senior Physician and Diabetologist, Hubli

SPECIAL INVITEES:

15. Mr. D Randeep, IAS – Commissioner, Health and Family Welfare, G.o.K
16. Smt. K.S Latha Kumari, IAS -KSMSCL, G.o.K
17. Dr M K Sudarshan – Chairman TAC Bangalore
18. Dr Ravi V- Senior Virologist and Nodal Officer Genomic Sequencing Bangalore

Dr K Ravi, Chairman welcomed all the members to the meeting.

AGENDA: Preparation of Revised Treatment Protocol for COVID-19

Agenda 1: Inclusion of Molnupiravir for treatment of Covid-19 patients.

Agenda 2: Recommendation of using Injection Remdesivir for 3 days in non-hospitalized high-risk individuals

Agenda 3: Home isolation / CCC for patients testing positive for covid-19 irrespective of the strain

Agenda 4: Revising Discharge Policy of international travelers.

COVID PROTOCOL

VERSION 6.0

05 JANUARY 2022

GOVERNMENT OF KARNATAKA

MANAGEMENT OF COVID-19:

ASYMPTOMATIC / MILD SYMPTOMATIC COVID-19 PATIENTS:

HOME ISOLATION:

Criteria for Mild cases:

Upper Respiratory tract symptoms (&/or fever) ***without*** shortness of breath/hypoxia.

PATIENTS ELIGIBLE FOR HOMECARE/HOME ISOLATION:

- The person shall be clinically assigned as asymptomatic/mild case through telephonic triage or by the health staff/medical officer/ physician.
- Such cases should have the requisite facility at their residence for self-isolation and also for quarantining the family contacts.
- Reassurance to positive patients regarding the New Variant of Covid-19 so as to ensure the confidence of the patient.
- A caregiver should be available to provide care on a 24 X 7 basis.
- A regular communication link between the caregiver and hospital is a prerequisite for the entire duration of home isolation/ home care.
- The person shall provide a signed undertaking for self-isolation/home care and follow guidelines of home isolation/home care
- The person shall agree to monitor his/her health and regularly inform their health status to the telemonitoring team/ medical officer/physician/ family doctor and District Surveillance Officer (DSO) for further follow up by the surveillance teams.
- Home isolation/home care shall not be applicable for pregnant women 2 weeks before expected date of delivery (EDD).
- Elderly patients aged more than 60 years and those with co-morbid conditions such as Hypertension, Diabetes, Heart disease, Chronic lung/liver/ kidney disease, Cerebrovascular disease etc. shall only be allowed home isolation after proper evaluation by the treating medical officer
- Patients suffering from immune compromised status (HIV, Transplant recipients, Cancer therapy etc.) are not recommended for home isolation and shall only be allowed home isolation after proper evaluation by the treating medical officer

MANAGEMENT OF ASYMPTOMATIC / MILD COVID-19 PATIENTS AT HOME

- Monitor Temperature and Oxygen Saturation 2 to 4 times per day (by applying a SpO2 probe to fingers).
- Maintain Adequate Hydration
- Monitor Blood Pressure and Vitals.
- Continue the medications for other co-morbid illness like Diabetes mellitus, Hypertension, Chronic Kidney disease, coronary artery disease etc.
- Perform 6-minute walk test and assess the fall in saturation

DRUG TREATMENT FOR PATIENTS WITH MILD COVID-19 CASES AT HOME:

1. **Home Isolation Kits** *(for 5 days)*, which contains:
   - Tab Paracetamol 650 mg four times a day for fever.
   - Immune Boosters like Vitamin C 500 mg 1-0-1 and Tab Zinc 50 mg 0-1-0
   - Tab Levocetirizine 10mg 0-0-1
   - Tab Pantoprazole 40mg 1-0-0 *(on empty stomach)*
2. Inhalational Budesonide (given via inhalers with spacer at a dose of 800 mcg twice daily for *5 days*) for Cough should be prescribed by the treating physician if required.
3. Continue the medications for other co-morbid illness like Diabetes mellitus, Hypertension, Chronic Kidney disease, coronary artery disease etc.
4. **STEROIDS ARE NOT INDICATED IN MILD CASES**
5. Red flags Signs should be monitored Vigorously.

MONITORING OF RED FLAG SIGNS

- Worsening of symptoms
- Shortness of breath/breathlessness
- Spo2< 94 % on any occasion

- Neutrophil/Lymphocyte Ratio (NLR) >3.5
- Resting heart rate >100 bpm.

WHEN TO DISCONTINUE HOME ISOLATION FOR ASYMPTOMATIC / MILD COVID-19 PATIENTS:

- Patient under home isolation will stand discharged and end isolation after ***7 Days*** (*Patients will be monitored for next 3 days via manual calling /IVRS if asymptomatic*) have passed from onset of symptoms (or from date of sampling for asymptomatic cases) and no fever for 3 days.
- *There is no need for testing RT-PCR after the home isolation period is over.*

COVID CARE CENTRE (CCC)

Patients who are not eligible for home isolation are advised to be managed at COVID CARE CENTRES (Govt / Pvt)

MANAGEMENT OF MILD COVID-19 PATIENTS AT COVID CARE CENTER (CCC):

- Monitor Temperature and Oxygen Saturation 2 to 4 times per day (by applying a SpO2 probe to fingers).
- Maintain Adequate Hydration
- Monitor Blood Pressure and Vitals.
- Continue the medications for other co-morbid illness like Diabetes mellitus, Hypertension, Chronic Kidney disease, coronary artery disease etc.
- Perform 6-minute walk test and assess the fall in saturation

DRUG TREATMENT FOR PATIENTS WITH MILD COVID-19 CASES AT CCC:

1. Tab Paracetamol 650 mg four times a day for fever.
2. Immune Boosters like Vitamin C 500 mg 1-0-1 and Tab Zinc 50 mg 0-1-0
3. Tab Levocetirizine 10mg 0-0-1

4. Tab Pantoprazole 40mg 1-0-0 *(on empty stomach)*

5. Inhalational Budesonide (given via inhalers with spacer at a dose of 800 mcg twice daily for 5 days) for Cough.

6. Inj. **REMDESIVIR** I.V **DAY 1**- 200mg, **DAY 2 & 3** – 100mg only for ***3 Days***

Indication:

1. High risk Individuals (Age >60years, Obesity, Diabetes Mellitus, Hypertension, coronary artery disease)

2. Only to be given in Covid Care Centre and Higher Centers.

3. Only to be given under supervision of Registered Medical practitioner.

Contraindication:

1. Renal or hepatic dysfunction (eGFR <30 ml/min/m2; AST/ALT >5 times ULN (Not an absolute contradiction)
2. Pregnancy or lactating females
3. Children (< 12 years of age)
4. Patients who are in home settings.

(Reference – Gottlieb et al. Early Remdesivir to Prevent Progression to Severe Covid-19 in Outpatients. N Engl J Med. 2021 Dec 22. Doi: 10.1056/NEJMoa2116846.)

-OR-

7. Cap. **MOLNUPIRAVIR** 800mg BD for **5 Days** (200mg X 4 Caps) *within **3 Days** of symptom onset.*

Indication: 1. High risk Individuals (Age >60years, Obesity, Diabetes Mellitus, Hypertension, Chronic Kidney disease, coronary artery disease)

2. Only to be given in Covid Care Centre and Higher Centers.

3. Only to be given under supervision of Registered Medical practitioner.

Contraindications: 1. Pregnancy (Causes teratogenicity in fetus)

2. Lactation (Risk of chondrodysplasia in growing infants)

3 To be used with caution in reproductive age group patients (risk of mutagenicity in both males and females)

Caution: 1. Contraception to be maintained for ***at least 3 months*** from the last day of Molnupiravir use in *both males and females.*

8. Continue the medications for other co-morbid illness like Diabetes mellitus, Hypertension, Chronic Kidney disease, coronary artery disease etc.
9. **STEROIDS ARE NOT INDICATED IN MILD CASES**
10. Red flags Signs should be monitored Vigorously.

MONITORING OF RED FLAG SIGNS

- Worsening of symptoms
- Shortness of breath/breathlessness
- Spo2< 94 % on any occasion
- Neutrophil/Lymphocyte Ratio (NLR) >3.5
- Resting heart rate >100 bpm.

WHEN TO DISCHARGE FOR MILD COVID-19 PATIENTS FROM CCC:

- Patient shall be discharged from CCC at the end of **5 days**, if patient is asymptomatic and advised *further 5 days of home quarantine* with strict Covid Appropriate Behavior (CAB) measures like masking, physical distancing.
- *There is no need for testing RT-PCR at the time of discharge from CCC.*
- At the end of 5 days, if asymptomatic – Patient can be released from Home Quarantine
- *There is no need for testing RT-PCR after the home quarantine period is over.*

For detailed information -

https://www.mohfw.gov.in/pdf/RevisedHomeIsolationGuidelines05012022.pdf -

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MANAGEMENT OF MODERATE COVID-19 PATIENTS:

Criteria for Moderate cases:

Any one of:

1. Respiratory rate > 24/min, breathlessness

2. SpO2: 90% to ≤ 93% on room air

All Moderate cases will be admitted in **DESIGNATED COVID HEALTH CENTRES (DCHC) / DESIGNATED COVID HOSPITALS (DCH)**

i. Monitor Temperature and Oxygen Saturation 2 to 4 times per day (by applying a SpO2 probe to fingers).

ii. Monitor Blood Pressure and Vitals

iii. Continue the medications for other co-morbid illness like Diabetes mellitus, Hypertension, Chronic Kidney disease, coronary artery disease etc.

iv. Adequate hydration to be ensured

v. Tab Paracetamol 650 mg four times a day for fever

vi. For persistent fever in spite the patient being on Paracetamol, **Tab NAPROXEN 500mg 1-0-1 for 2 days** can be taken *after consultation with the treating Physician.*

vii. **Oxygen Support:**

Target SpO2: 92-96% (88-92% in patients with COPD). The initial device chosen for administering oxygen (nasal prongs, simple face mask, or masks non-rebreathing reservoir bag) depends upon the severity of hypoxia and work of breathing. In general, If HFNC or simple nasal cannula is used, triple layered medical mask should be applied over it.

viii. **Anti-inflammatory Therapy:**

Consider *IV Methylprednisolone* 40mg OD ***OR*** equivalent dose of IV *Dexamethasone* 6mg OD usually for a duration of ***5 days***. Review the duration of administration as per clinical response. Patients may be initiated or switched to oral route if stable and/or improving.

ix. **Anticoagulation:**

Prophylactic dose of *Un-Fractionated Heparin (UFH) or Low Molecular Weight Heparin (LMWH)* (e.g., *enoxaparin 40mg OD Subcutaneous*)

There should be no contraindication or high risk of bleeding [Contraindications: End Stage Renal Disease (ESRD), active bleeding, emergency surgery]. Consider unfractionated heparin in ESRD.

x. **Antibiotics** should not be prescribed routinely *unless* there is clinical suspicion of a bacterial infection. Few patients with COVID-19 develop secondary bacterial infection. Consider empiric antibiotic therapy as per local antibiogram.

xi. **<u>Awake-Proning:</u> Should be encouraged in all patients who require supplemental oxygen therapy.**

Criteria to be fulfilled	Avoid Proning
• Normal mental status • Able to self-prone or change position with minimal assistance	• Hemodynamic instability • Close monitoring not possible

xii. **<u>Important considerations while Proning:</u>**

- Early self-proning in awake, non-intubated patients
- Any COVID-19 patient with respiratory embarrassment severe enough to be admitted to the hospital may be considered for rotation and early self-proning.
- Care must be taken to not disrupt the flow of oxygen during patient rotation
- Typical protocols include 30–120 minutes in prone position, followed by 30–120 minutes in left lateral decubitus, right lateral decubitus, and upright sitting position.

xiii. **Control of co-morbid condition in particular the glycemic control as per GOK Point of care approach version 4.0 (April 2021) Guidelines, and is available in the following Link**

xiv. **Monitoring:**

- Clinical Monitoring: Work of breathing, Hemodynamic instability, Change in oxygen requirement.
- Serial CXR. HRCT chest to be done ONLY If there is worsening.
- **Lab monitoring: CRP and D-dimer 48 to 72 hourly; CBC, RFT, LFT 24 to 48 hourly. CBC with differential count, Absolute Lymphocyte count daily.**
- Close monitoring of patients with moderate COVID-19 is required for signs or symptoms of disease progression.

xv. **DISCHARGE CRITERIA FOR MODERATE COVID-19 CASES:**

Moderate patients will be discharged after *10 days* of symptom onset if the following criteria are met:

- No Fever and No Symptom/s for the last 3 consecutive days before discharge (without antipyretics)
- Maintains saturation above 95% for the last 4 consecutive days (without oxygen support)
- Resolution of breathlessness.
- Resolution of clinical signs / symptoms (based on the report of investigations)
- Repeat inflammatory markers (Serum Ferritin, LDH, D-Dimer & CRP) at the time of discharge. These should be in normal range/decreasing trend.
- Patient shall be discharged ***only after 2 Negative RT-PCR reports 24 hours apart***. If the report is positive, the swab test shall be repeated after *48 hours*. If RT-PCR continues to remain positive repeatedly, ***discharge criteria will be decided at the treating Physician's discretion***.
- At the time of discharge, the patient shall be advised to *quarantine* himself/herself at home and self-monitor their health for further ***7 days.***

- Following discharge from the hospital, the district surveillance officer (DSO) shall follow up these persons at their homes for their health status. They shall be followed up by the telemonitoring team in the community and using the quarantine app.

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MANAGEMENT OF SEVERE COVID-19 PATIENTS:

Criteria for Severe cases:

Any one of:

1. Respiratory rate >30/min, breathlessness

2. SpO2 < 90% on room air

Early supportive therapy and monitoring:

i. Symptomatic treatment with Paracetamol and Antitussives to continue

ii. Maintain Euvolemia, use conservative fluid management in patients with Severe COVID when there is no evidence of shock.

iii. **Respiratory support:**

- Give supplemental oxygen therapy immediately to patients with Severe Covid and respiratory distress, hypoxemia, or shock: Initiate oxygen therapy at 5 L/min and titrate flow rates to reach target SpO2 ≥ 90% in non-pregnant adults and SpO2 ≥ 92- 96% in pregnant patients.

- Consider use of NIV/HFNC (Helmet or face mask interface depending on availability) in patients with increasing oxygen requirement, if work of breathing is increasing.

- Intubation should be prioritized in patients with high work of breathing /if NIV is not tolerated., presence of hemodynamic instability, altered mental status or multi-organ failure

- Use conventional ARDS protocol for ventilatory management.

- Use contact precautions when handling contaminated oxygen interfaces of patients with COVID – 19.

iv. **Anti-inflammatory Therapy**

Inj. *IV Methylprednisolone* 40mg OD ***OR*** equivalent dose of IV *Dexamethasone* 6mg OD usually for a duration ***5 Days*** *(Can be shifted over to oral steroids at the Physician's discretion if necessary)*

v. **Anticoagulation:**

Weight based intermediate dose of prophylactic unfractionated heparin or Low Molecular Weight Heparin (e.g., *Enoxaparin 40mg BD*). There should be no contraindication or high risk of bleeding.

**Contraindications:* End Stage Renal Disease (ESRD), active bleeding, emergency surgery

** Consider unfractionated heparin in ESRD

vi. **Monitoring:**

- Serial CXR. HRCT chest to be done ONLY if there is worsening.
- Lab monitoring: CRP and D-dimer 24-48 hourly; CBC, RFT, LFT daily.

Management of hypoxemic respiratory failure and ARDS, Management of septic shock and Other therapeutic measures are available in the MOHFW GOI Guidelines in the below link

https://www.mohfw.gov.in/pdf/RevisedNationalClinicalManagementGuidelineforCOVID1931032020.pdf

Investigational Therapies

At present, use of these therapies is based on limited available evidence. As the situation evolves, and when more data become available, the evidence will be accordingly incorporated, and recommendation upgraded. Currently, these drugs should only be used in a defined subgroup of patients:

A. **Remdesivir**

May be considered in patients (*as early as possible from the onset of symptom/s*) with moderate to severe disease (requiring supplemental oxygen) with none of the following contraindications:

- Renal or hepatic dysfunction (eGFR <30 ml/min/m2; AST/ALT >5 times ULN (Not an absolute contradiction)

- Pregnancy or lactating females
- Children (< 12 years of age)
- Patients who are in home settings.
- **Dose:** *200 mg IV on day 1 followed by 100 mg IV daily for 4 days (total 5 days)*

B.Tocilizumab (Off-label) may be considered when ALL OF THE BELOW CRITERIA ARE MET:

- Presence of severe disease (preferably within 24 to 48 hours of onset of severe disease/ICU admission).
- Significantly raised inflammatory markers (CRP &D-Dimer).
- Not improving despite use of steroids.
- No active bacterial/fungal/tubercular infection.
- **Recommended single dose:** *8mg/kg in 100 ml NS over 1 hour.*

DISCHARGE CRITERIA FOR SEVERE COVID-19 CASES:

Severe Cases including Immunocompromised (HIV patients, transplant recipients, malignancy) patients shall be discharged if following criteria are met:

- No Fever and No Symptom/s for the last 3 consecutive days before discharge (without antipyretics)
- Maintains saturation above 95% for the last 4 consecutive days (without oxygen support)
- Resolution of breathlessness.
- Resolution of clinical signs / symptoms (based on the report of investigations)
- Repeat inflammatory markers (Serum Ferritin, LDH, D-Dimer &CRP) at the time of discharge. These should be in normal range/decreasing trend.
- Patient shall be discharged only ***after 2 Negative RT-PCR reports 24 hours*** apart 3 days after being asymptomatic. *If the report is positive, the swab test shall be repeated after 48 hours.*

- If a patient *continues to remain COVID-19 positive* by RT-PCR ***even after the end of 14 days*** (repeat sample) **AND** ***ASYMPTOMATIC***, the probable reasons could be remnants of the dead viral RNA. Hence, the discharge criteria for these patients to be *decided at the treating Physician's discretion.*

- If a patient *continues to remain COVID-19 positive* by RT-PCR ***even after the end of 14 days*** (repeat sample) **AND** ***SYMPTOMATIC*** *(e.g.- Prolonged Intubation/NIV, Persistent febrile episodes, or due to complications arising out of Covid-19 infection)*, such patient will be *eligible for* ***DE-ISOLATION*** *based on Physician's discretion* (i.e., patient can be shifted from from isolation wards to non-isolation wards for continuation of treatment).

- At the time of discharge, the patient shall be advised to quarantine himself/herself at home and self-monitor their health for further *7* ***days.***

- Following discharge from the hospital, the district surveillance officer (DSO) shall follow up these persons at their homes for their health status. They shall be followed up by the telemonitoring team in the community and using the quarantine app.

- **Advice on discharge:**

ANTI-COAGULATION and ANTI-FIBROTICS – There are no clearcut indications from Govt of India Covid-19 Guidelines regarding use of such medications *post discharge*. Hence, needs complete evaluation and further studies.

Management of Post-COVID complications

The treating physicians are required to follow up recovered patients for post-COVID complications. They will follow the Post COVID management protocol available at: https://www.mohfw.gov.in/pdf/PostCOVID13092020.pdf.

COVID-19 VACCINATION POST-INFECTION:

Patients who were tested Covid-19 positive are advised to take the COVID -19 vaccination due after *3 months* of recovery.

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Management Protocol for COVID-19 - Revised Version 6.0

Ministry of Health & Family Welfare and Medical Education

Government of Karnataka

CLINICAL GUIDANCE FOR MANAGEMENT OF ADULT COVID-19 PATIENTS

06th Jan 2022

COVID-19 patient

Asymptomatic/Mild

Upper respiratory tract symptoms (&/or fever) WITHOUT shortness of breath or hypoxia

Home Isolation & Covid Care Centre

MAY DO:

- ✓ Physical distancing, indoor mask use, strict hand hygiene.
- ✓ Symptomatic management
  - Tab PARACETAMOL 650 mg QID for fever.
  - Inhalational BUDESONIDE via Inhaler + Spacer 800 mcg BD for 5 days for cough.
  - Tab VITAMIN C 500 mg 1-1-1 for 5-7 days.
  - Tab ZINC 50 mg OD for 5-7 days
  - Continue other medications for comorbid illnesses.
  - Red flag signs should be monitored vigorously.
- ✓ Monitor temperature and oxygen saturation (by applying a SpO2 probe to fingers).

MAY DO:

Therapies based on low certainty of evidence

- ✓ INJ REMDESVIR 200 mg IV ON Day 1 f/b 100 mg IV on Day 2 and 3. (Only at Covid Care Centre in high risk individuals*) under supervision -OR-
- ✓ Cap. MOLNUPIRAVIR 800 mg BD for 5 days (Only at Covid Care Centre in high risk individuals*) under supervision

Red flag signs:

- Difficulty in breathing (SpO2<94)
- High grade fever/severe cough particularly if lasting for >5 days
- N/L Ratio > 3 5 , Resting HR > 100
- Fall in SpO2 in 6 Minute Walk Test

*High risk for severe disease or mortality

- ✓ Age > 60 years
- ✓ Cardiovascular disease, hypertension, and CAD
- ✓ DM (Diabetes mellitus) and other immunocompromised states
- ✓ Chronic lung/kidney/liver disease
- ✓ Cerebrovascular disease
- ✓ Obesity

Moderate disease

Any one of:

1. Respiratory rate ≥ 24/min, breathlessness
2. SpO2: 90% to ≤ 93% on room air

ADMIT IN WARD

Oxygen Support

- ✓ Target SpO2 : 92-96% (88-92% in patients with COPD)
- ✓ Preferred devices for oxygenation: non-rebreathing face mask.
- ✓ Awake proning (as per GOK Point of Care approach V4.0) encouraged in all patients receiving supplemental oxygen therapy (sequential position changes every 2 hours).

Anti-inflammatory or immunomodulatory therapy

- Inj. Methylprednisolone 40 mg IV OD
  OR Inj. Dexamethasone 6 mg IV OD usually for a duration of 5 days
- Patients may be initiated or switched to oral route if stable and/ or improving at physician's discretion.

Anticoagulation

- Conventional dose prophylactic unfractionated heparin or Low Molecular Weight Heparin (weight based e.g., enoxaparin 40 mg SC OD). There should be no contraindication or high risk of bleeding.

Monitoring

- ✓ Clinical Monitoring: Work of breathing, Hemodynamic instability, Change in oxygen requirement.
- ✓ Serial CXR; HRCT chest to be done ONLY if there is worsening.
- ✓ Lab monitoring: CRP and D-dimer 48 to 72 hrly; CBC, KFT, LFT 24 to 48 hrly; IL-6 levels to be done if deteriorating (subject to availability).

Severe disease

Any one of:

1. Respiratory rate >30/min, breathlessness
2. SpO2 < 90% on room air

ADMIT IN ICU

Respiratory support

- Consider use of NIV (Helmet or face mask interface depending on availability) in patients with increasing oxygen requirement, if work of breathing is LOW.
- Consider use of HFNC in patients with increasing oxygen requirement.
- Intubation should be prioritized in patients with high work of breathing /if NIV is not tolerated.
- Use conventional ARDSnet protocol for ventilatory management.

Anti-inflammatory or immunomodulatory therapy

- Inj Methylprednisolone 40 mg IV OD
  OR Inj. Dexamethasone 6 mg IV OD usually for a duration 5 days.

Anticoagulation

- Weight based intermediate dose prophylactic unfractionated heparin or Low Molecular Weight Heparin (e.g., Enoxaparin 40 mg SC BD). There should be no contraindication or high risk of bleeding.

Supportive measures

- Maintain euvolemia (if available, use dynamic measures for assessing fluid responsiveness).
- If sepsis/septic shock: manage as per existing protocol and local antibiogram.

Monitoring

- Serial CXR; HRCT chest to be done ONLY if there is worsening.
- Lab monitoring: CRP and D-dimer 24-48 hourly; CBC, KFT, LFT daily; IL-6 to be done if deteriorating (subject to availability).

After clinical improvement, discharge as per revised discharge criteria.

Off label use (based on limited available evidence and only in specific circumstances):

- Remdesivir may be considered ONLY in patients with
  - No renal or hepatic dysfunction (eGFR <30 ml/min/m2, AST/ALT >5 times ULN) (for an absolute contradiction), AND
  - To be initiated at the earliest after onset of symptoms
    - Recommended dose: 200 mg IV on day 1 f/b 100 mg IV OD for next 4 days
- Tocilizumab (Off-label) may be considered when ALL OF THE BELOW CRITERIA ARE MET
  - Presence of severe disease (preferably within 24 to 48 hours of onset of severe disease/ ICU admission).
  - Significantly raised inflammatory markers (CRP &/or IL-6).
  - Not improving despite use of steroids.
  - No active bacterial/fungal/tubercular infection.
    - Recommended single dose: 4 to 6 mg/kg (400 mg in ≥90kg adult) in 100 ml NS over 1 hour.