

# HIMALAYAN INSTITUTE OF MEDICAL SCIENCES SWAMI RAMA HIMALAYAN UNIVERSITY, JOLLY GRANT, DEHRADUN

## COVID 19 SYMPTOMS

**Last Year symptoms:** Fever, Difficulty in breathing, Cough, Chest Pain, Loss of smell(anosmia), Myalgia  
**Current symptoms:** In addition to above symptoms, new symptoms are either of any: only (headache, loose motions, body ache, weakness, uneasy feeling, vomiting, hearing problems)



Get Yourself tested for COVID 19 with RTPCR

RT PCR POSITIVE (CT<35)

**Asymptomatic-** Cases which are **laboratory confirmed** cases but **not having any symptoms** and have **oxygen saturation** at room air of **more than > 94%**.

**Mild-** Cases that have upper respiratory tract symptoms cough, cold (&/or fever) **without shortness of breath and maintain oxygen saturation at room air of more than 94%**.

**Moderate-** Cases having **symptoms (mainly breathlessness)**, plus any one of the following-

1. **Respiratory rate > 24/min**
2. **Pulse rate>110/min**
3. **Oxygen saturation at room air 90%-≤93%**

**Severe-** Cases having **symptoms (mainly breathlessness, Persistent pain/pressure in the chest, mental confusion or inability to arouse)**, plus any one of the following-

1. **Respiratory rate > 30/min**
2. **Pulse rate>110/min**
3. **Oxygen saturation at room air <90%**

**Loss of taste and smell is equivalent to Positive RT-PCR**

RT PCR NEGATIVE (CT>35)

Negative RT-PCR does not confirm absence of disease

If symptomatic

HRCT Chest

CO RADS SCORE

1. CO RADS 1- No
2. CO RADS 2- Low
3. CO RADS 3-Intermediate
4. CO RADS 4- High
5. CO RADS 5- Very high
6. CO RADS 6- Very high with PCR

CT SEVERITY SCORE

1. MILD- <8
2. MODERATE-9-15
3. SEVERE->15

# TREATMENT

## ASYMPTOMATIC/MILD CASES

### Home Isolation:

1. **\*Tab Ivermectin** (200 mcg/kg once a day, two hours after dinner) for 3 days.
  2. **Tab Azithromycin** 500 mg once a day for 3 days.
- OR**
3. **\*Tab Doxycycline** 100 mg twice a day for 5 days.
  4. **Tab. Paracetamol** 650 mg four times a day for 3 days if fever present otherwise SOS.
  5. **T. Pantoprazole 20mg once daily empty stomach**
  6. **Tab Ascorbic Acid** 500 mg three times a day for 10 days
  7. **Tab Zinc** 50 mg once a day for 10 days.
  8. **Sachet Cholecalciferol** 60K Unit once per week for 6 weeks.
  9. **Inhalational Budesonide** (given via inhalers with spacer at a dose of 800 mcg twice daily for 5 to 7 days) to be given if **symptoms** (fever and/or cough) are **persistent beyond 5 days of disease onset**.
  10. **Antitussive cough syrup three times a day (If Cough +) for 2weeks**
  11. **Tab Montelukast LC HS** (bedtime) (antiallergic) for 2weeks **(if cough +)**
  12. **Tab N- Acetylcysteine 600 mg thrice daily to be dissolved in half glass water (If cough +) for 2 weeks.**  
**\*Not to be given in Pregnancy.**

### Must Do in all cases:

1. Indoor mask, physical distancing, hand hygiene
2. Strict vital monitoring (SpO<sub>2</sub> 4hrly and temp)
3. Steam inhalation and Gargles with saline/betadine twice daily.
4. Maintain hydration by having warm drinks like warm water, soups etc.
5. High Protein diet
6. Awake Prone

## MODERATE CASES

### Admit in Ward:

#### **1. Oxygen Support**

- i. **Maintain SpO<sub>2</sub> at 92-96%** (In COPD pts- 88-92%)
- ii. Prefer using non rebreathing face mask
- iii. Awake **proning** (sequential position changes every 2 hours).

#### **2. Anti-inflammatory/Immunomodulator therapy**

- i. **Inj. Methylprednisolone** 0.5-1mg/kg in 2 divided doses (or equivalent dose of Dexamethasone) for 5-10 days (**Monitor Bl. sugar and BP especially in diabetics and hypertensives**).

#### **3. Anticoagulants**

- i. **Low molecular weight heparin** (Enoxaparin 0.5mg/kg per day SC) or **conventional dose prophylactic unfractionated heparin** for 5 days. (There should be no contraindications).

#### **4. Monitoring**

- i. Clinical- breathing (RR), hemodynamic instability, change in oxygen requirement **SpO<sub>2</sub>**.
- ii. Serial CXR, **HRCT chest (if condition is worsening)**.
- iii. **Lab monitoring- CRP, D-dimer** (Every 2-3 days), **CBC, KFT, LFT (Every 1-2days)**.

**IL6 levels if pts condition deteriorating.**

## SEVERE CASES

### Admit in ICU:

#### **Respiratory support**

- i. **Noninvasive Ventilation** (helmet or face mask interface depending on availability) in patients with increasing oxygen requirement if work of breathing is LOW.
- ii. **High Flow Nasal Cannula**, increasing oxygen requirement.
- iii. **Intubation/NIV** (if required).
- iv. Follow ARDS protocol for ventilatory management.

#### **Anti-inflammatory/immunomodulatory therapy**

- i. **Inj. Methylprednisolone** 0.5-1mg/kg in 2 divided doses (or equivalent dose of Dexamethasone) for 5-10 days (**Monitor Bl. sugar and BP especially in diabetics and hypertensives**).

#### **Anticoagulation**

- i. **Low molecular weight heparin** (Enoxaparin 0.5mg/kg per day SC) or **conventional dose prophylactic unfractionated heparin** for 5 days. (There should be no contraindications).

#### **Supportive measures**

- i. Use dynamic measures for assessing fluid responsiveness.
- ii. If sepsis/septic shock- manage accordingly on basis of antibiogram.

#### **Monitoring**

- i. **Serial CXR, HRCT chest** (if conditioned worsened).
- ii. **Lab monitoring- CRP, D-dimer** (Every 1-2days), **CBC, KFT, LFT (daily)**.

**IL6 levels if pts condition deteriorating.**

### High Risk cases:

1. Age > 60 years
2. Hypertension, Coronary heart disease, cardiovascular disease
3. Diabetes Mellitus
4. Immunocompromised states
5. Chronic lung disease, kidney disease, liver disease
6. Cerebrovascular disease
7. Obesity

### Off Label drugs used only in specific circumstances (with consensus of treating /team):

**\*To be given in Hospital Settings**

#### Remdesivir:

1. Moderate to severe disease
2. LFT/KFT within normal limits (eGFR < 30ml/min/m<sup>2</sup>, AST/ALT > 5 times ULN- not an absolute contraindication)
3. Patients who are within 10 days of onset of symptom/symptoms
4. Not used in mild cases, home isolation
5. **Recommended dose- 200mg IV on day 1 followed by 100 mg IV for next four days.**

**Toclizumab** (Consider only if all the below mentioned criteria are met):

1. Presence of severe disease (preferably within 24-48 hours of onset of severe disease/ICU admission)
2. Significantly raised inflammatory markers (CRP/IL-6)
3. Not improving despite use of steroids
4. No active bacterial/fungal/tubercular infection
5. **Recommended dose- 4-6mg/kg in 100ml NS over 1 hour.**

**Convalescent Plasma** (Consider only if all the below mentioned criteria are met):

1. Early moderate disease (**preferably within 7 days of symptom, no use after 7 days**)
2. Availability of high titre donor plasma (signal to cut-off ratio ≥ 3.5 or equivalent depending on the test kit being used.)

## Interpretation of COVID Investigations/ Reports

**\*Has to be correlated with the clinical condition of the patient & not in isolation.**

Category	CRP (mg/dl)
NORMAL	0-5
MILD	<26
MODERATE	26-100
SEVERE	>100

Category	IL6 (pg/ml)
NORMAL	0-7
MILD	<15
MODERATE	15-100
SEVERE	100-500
CRITICAL	>500

Category	D dimer (mcg/ml)
NORMAL	<0.5
MILD	0.5- <1
MODERATE-SEVERE	>1

Category	NLR ratio (Neutrophil to Lymphocyte ratio)
MILD	<3.5
MODERATE-SEVERE	>3.5

### **Proning for Selfcare**

- PRONING is the process of turning a patient with precise, safe motions, from their back onto their abdomen (stomach), so the individual is lying face down.
- It is extremely beneficial in COVID-19 patients with compromised breathing comfort, especially during home isolation.

### **Importance of Proning**

- Proning is required only when the patient feels difficulty in breathing and the SpO<sub>2</sub> decreases below 94 (less than 94).
- Regular monitoring of SpO<sub>2</sub>, along with other signs like temperature, blood pressure and blood sugar (if diabetic/on steroids), is important during home isolation.

### **Positioning of Pillow**

- One pillow below the neck
- One or two pillows below the chest through upper thighs
- Two pillows below the shins

### **For Self Proning**

- You will need 4-5 Pillows.
- Regular alterations in lying position.
- Best is to not spend more than 30 minutes in each position.

### **Caution**

- Avoid proning for an hour after meals.
- Maintain proning for only as much times as easily tolerable.
- One may prone for up to 16 hours a day, in multiple cycles, as felt comfortable.
- Pillows may be adjusted slightly to alter pressure areas and for comfort.
- Keep a track of any pressure sores or injuries, especially, around bony prominences.

### **Avoid Proning in conditions like**

- Pregnancy
- Deep venous thrombosis (Treated in less than 48 hours)
- Major cardiac conditions
- Unstable spine, femur, or pelvic fractures



These instructions are for patients who have been advised to undertake "Conscious Proning"

Please try to not spend a lot of time lying flat on your back. Lying on your stomach and in different positions will help your body to get air into all areas of your lungs.

It is recommended to change your position every 30 minutes to 2 hours rotating as below. Please note sitting up is better than lying on your back;

1. 30 minutes – 2 hours: lying fully prone on your stomach (bed flat)
2. 30 minutes – 2 hours: lying on your right side (bed flat)
3. 30 minutes – 2 hours: sitting up (30-60 degrees) by adjusting head of the bed
4. 30 minutes – 2 hours: lying on your left side (bed flat)
5. Then back to position 1 and continue to repeat the cycle.

**In pictures:**

1. 30 minutes – 2 hours: lying fully prone (bed flat)



4. 30 minutes – 2 hours: lying on your left side (bed flat)



2. 30 minutes – 2 hours: lying on your right side (bed flat)



5. Then back to Position 1. Lying fully prone (bed flat)



3. 30 minutes – 2 hours: sitting up (30-60 degrees) by adjusting head of the bed

