UP STATE COVID-19 Management Protocol

Categorize based on Severity of Illness

Management at Triage (Presumptive and RT PCR Negative patients)	Mild	Moderate	Severe
Fever, and cough, constitutional symptoms, SpO2 > 94 % on Room Air) and Normal CXR		Fever, and cough, constitutional symptoms, SPO2 ≤ 94 % on Room Air, uncontrolled co-morbid condition [1], Exercise SPO2 > 4%, Drop in SPO2 > 4% from baseline with any 2 of lab criteria: CRP > 50 < 100, Ferritin > 500 < 1000, D-dimers – 500 – 1000 ng/ml, IL-6: 5 - 10 times ULN OR CT SS[4]: 8 – 17	Respiratory distress requiring assisted ventilation RR ≥ 30/min, SPO2 ≤ 90% on Room Air with any 2 of lab criteria: CRP > 100, Ferritin > 1000, D-dimers > 1000 ng/ml, IL-6 > 10 times ULN OR CT SS[4] >17

• COVID-19 should be suspected as a possible etiology in all patients with SARI
• Standard IPC[2] measures
• Immediate sample collection should be done and sent for COVID 19 testing by True Nat and RT-PCR
• If RT-PCR is positive the patient should be transferred to ICU or Isolation ward as applicable
• Baseline CBC, RFT, LFT, RBS, PT/INR, CXR, Urine R/M, LDH, Ferritin, CRP, procalcitonin, d-dimers, fibrinogen should be obtained.
• Broad spectrum antibiotics according to underlying comorbidity and local policy
• Oxygen supplementation should be started with nasal prongs. If unable to maintain saturation high flow delivery devices should be used
• All patients with suggestive history and ILI and hypoxemic respiratory failure should undergo an HRCT thorax and CORADS scoring should be done. In CORAD ≥ 4: empirical Remdesivir 200 mg IV on Day 1 then 100 mg IV OD x 4days, prophylactic dose anticoagulation with LMWH (Enoxaparin/ Dalteparin) and Dexamethasone 0.1 - 0.2 mg/kg OD may be started awaiting RT-PCR reports
• Tab Zinc 50 mg BD, Tab Vit C 500mg TDS
• Symptomatic treatment for cough and fever (bronchodilators, mucolytic, paracetamol)
• Monitor closely for warning signs: Chest pain, dyspnoea, tachypnoea, cyanosis, altered mentation
• Institute mechanical ventilation with conventional ARDS NET protocol
	• Home Isolation
	• Standard IPC[2] measures
	• Awake Proning
	• **Pharmacological therapy**
	  • Tab Ivermectin 12mg OD x 3days with Tab. Azithromycin 500 OD Day 1 to 3
	  • Tab Doxycycline 100 mg BD Day 4 to 7
	  • Vitamin C 500mg TDS PO
	  • Zinc 50 mg BD PO
	  • Vit D 60,000 IU PO daily for 5 days
	• Plenty of fluids, Pulse oximetry, Temperature monitoring
	• If the patient is persistently febrile and SpO2 < 94% for at least ½ hour measured in two different fingers use of glucocorticoids may be advocated for 3—7 days
	• The molecules of choice are
	  • Tab. Dexamethasone 6mg OD OR
	  • Tab. Methylprednisolone 32mg OD OR
	  • Tab. Prednisolone 40mg OD
	• If condition doesn't improve in 24 hours nearest COVID hospital should be contacted
	• Patients with risk factors for severe illness (Uncontrolled DM, ESRD, Decompensated CLD) should be monitored closely
	• Any worsening symptoms (such as mental confusion, difficulty breathing, persistent pain or pressure in the chest, bluish coloration of face/lips, dehydration, decreased urine output, etc.), they should be immediately referred for hospitalization.
		• Admit in ICU/HDU, oxygen support through nasal cannulae or high flow delivery systems if needed
		• Target SpO2: 92-96% (88-92% in COPD).
		• Awake proning should be done in all who tolerate it.
		• Follow CRP, D-dimer & Ferritin, Fibrinogen, Procalcitonin every 48-72 hourly; CBC, KFT/LFT daily
		• **Pharmacological therapy**
		  • Inj. Remdesivir 200 mg IV on Day 1 followed by 100mg OD for 4 days.
		  • IV methylprednisolone 0.5 - 1 mg/kg or dexamethasone 0.1- 0.2 mg/kg for 7 - 10 days (within 48 hours of admission)
		  • Prophylactic dose of UFH[2] or LMWH[2] (e.g., enoxaparin 40 mg per day SC)[3]
		  • Control of co-morbid condition
		  • **Newer anti-inflammatory therapies like **Baricitinib with** Remdesivir may be considered in patients with progressive disease to prevent intubation and mechanically ventilation
		  • **Consider anti-inflammatory therapy with anti-IL-6 (Tocilizumab); if Ferritin or IL-6 doubles within 24 hours along with clinical and physiological signs of deterioration after ruling out clinically significant secondary bacterial or fungal infection
		  • Antibiotics if suspecting infection according to local policy and control of co-morbid condition.
		• 2-Deoxy D-Glucose in a dose -63 mg/kg/day may be given only in trial based settings.
		• Convalescent plasma if presenting within 7 days of illness
		• **Monitor for: Increased WOB, Hemodynamic instability , Increase in oxygen requirement**
			• Admit to ICU
			• Cautious trial of CPAP/NIV, HFNC to prevent intubation
			• Pharmacological therapy
			  • Inj. Remdesivir 200 mg IV on Day 1 followed by 100mg OD for 4 days
			  • Corticosteroids and anti-inflammatory therapy
			  • IV methylprednisolone 1 to 2 mg/kg OR Dexamethasone 0.2 to 0.4 mg/kg for 7 – 10 days Dose may be tapered according to radiological involvement and clinical recovery
			  • ** **Consider anti-inflammatory therapy with anti-IL-6 OR Methylprednisolone pulse (250mg for 3days) or JAK 1/2 inhibitor therapy** in patients with progressive disease and signs of cytokine storm after ruling out clinically significant secondary bacterial or fungal infection.
			  • Therapeutic dose of UFH[2] or LMWH[2] (after excluding coagulopathy or thrombocytopenia or high risk of bleeding[3]
			  • Inj. Thiamine 100 mg IV OD, Inj. Vit C 1.5gm IV 6 hourly if evidence of shock
			  • IVIG in a dose of 0.5gm/kg x 3days may be iven in severe cases as a rescue. Therapy.
			• Follow CRP, D-dimer & Ferritin, Fibrinogen, Procalcitonin daily
			• Mechanical ventilation if unable to maintain saturation, increased work of breathing or development of hemodynamic instability
			  • Conventional ARDS Net strategy
			  • Conservative fluid strategy
			  • Proning, recruitment manoeuvres
			• Management of septic shock as per SSC guidelines and local antibiotic policy

Testing
While attending suspect case as per above protocol based on clinical assessment, testing shall be resorted to and if negative—manage in Non-Covid facility according to clinical diagnosis

Discharge
After clinical improvement, discharge according to state discharge policy

1. High risk patients for Severe Disease
   - Age > 60 years
   - HTN, Diabetets Mellitus and other immunocompromising conditions.
   - Chronic lung, kidney or liver disease
   - Cerebrovascular disease
   - Obesity BMI > 25 kg/m^2

2. IPC: Infection prevention and control; LMWH: Low Molecular Weight Heparin: if no contraindication or high risk of bleeding: UFH: Unfractionated Heparin
3. Risk of Bleeding: Use validated score for assessing bleeding risk (e.g. HAS-BLED Score), Use D-Dimer and SIC for further risk stratification (SIC score ≥ 24 portends high thrombotic risk)
4. CTSS: CT Severity Score

**** Informed consent mandatory before use of off label drugs and should be administered under expert supervision**