

MATH+ HOSPITAL TREATMENT PROTOCOL FOR COVID-19

MEDICATION	INDICATION/INITIATION	RECOMMENDED DOSING	TITRATION/DURATION
METHYLPREDNISOLONE	A. <i>Upon oxygen requirement or abnormal chest X-ray</i>	Preferred: 80 mg IV bolus, then 40 mg IV twice daily Alternate: 80 mg / 240 ml normal saline IV infusion at 10 ml/hr Follow COVID-19 Respiratory Failure protocol (see flccc.net/respiratory-support-c19/)	A1. If no improvement in oxygenation in 2–4 days, double dose to 160 mg/daily. A2. Upon need for $FiO_2 > 0.6$ or ICU, escalate to “Pulse Dose” below (B) A3. Once off IMV, NPPV, or High flow O_2 , decrease to 20 mg twice daily. Once off O_2 , then taper with 20 mg/day × 5 days then 10 mg/day × 5 days
	B. <i>Refractory Illness/ Cytokine Storm</i>	“Pulse” dose with 125–250 mg IV every 6 hours	Continue × 3 days then decrease to 160 mg IV/ daily dose above, taper according to oxygen requirement (A). If no response or CRP/Ferritin high/rising, consider mega-dose IV ascorbic acid and/or “Therapeutic Plasma Exchange” below
ASCORBIC ACID	$O_2 < 4 L$ on hospital ward	500–1000 mg oral every 6 hours	Until discharge
	$O_2 > 4 L$ or in ICU	50 mg/kg IV every 6 hours	Up to 7 days or until discharge from ICU, then switch to oral dose above
	<i>If in ICU and not improving</i>	Consider mega-doses: 25 grams IV twice daily for 3 days	Completion of 3 days of therapy
THIAMINE	<i>ICU patients</i>	200 mg IV twice daily	Up to 7 days or until discharge from ICU
HEPARIN (LMWH)	<i>Upon admission to hospital</i>	1 mg/kg twice daily – Monitor anti-Xa levels, target 0.6–1.1 IU/ml	Until discharge then start DOAC at half dose × 4 weeks
IVERMECTIN * <i>(a core medication)</i>	<i>Upon admission to hospital and/or ICU</i>	0.4–0.6 mg/kg per dose – daily (Take with or after meals)	For 5 days or until recovered
Fluvoxamine	<i>Hospitalized patients</i>	50 mg PO twice daily	10–14 days
Cyproheptadine	<i>If any of: 1) on fluvoxamine, 2) hypoxemic, 3) tachypneic/respiratory distress, 4) oliguric/kidney injury</i>	8 mg – 3 x daily	until discharge, slow taper once sustained improvements noted
Anti-Androgen Therapy	<i>Hospitalized patients (Men only)</i>	Dutasteride 0.5 mg daily or Finasteride 5 mg daily	until fully recovered
Vitamin D	<i>Hospitalized patients</i>	Calcifediol preferred: 0.5 mg PO day 1, then 0.2 mg PO day 2 and weekly thereafter Cholecalciferol: 20,000–60,000 IU single dose PO then 20,000 IU weekly	Until discharge
Atorvastatin	<i>ICU Patients</i>	80 mg PO daily	Until discharge
Melatonin	<i>Hospitalized patients</i>	6–12 mg PO at night	Until discharge
Zinc	<i>Hospitalized patients</i>	75–100 mg PO daily	Until discharge
Famotidine	<i>Hospitalized Patients</i>	40–80 mg PO twice daily	Until discharge
Therapeutic Plasma Exchange	<i>Patients refractory to pulse dose steroids</i>	5 sessions, every other day	Completion of 5 exchanges

Legend: CRP = C-Reactive Protein, DOAC = direct oral anti-coagulant, FiO_2 = Fraction of inspired oxygen, ICU = Intensive Care Unit, IMV = Invasive Mechanical Ventilation, IU = International units, IV = intravenous, NIPPV = Non-Invasive Positive Pressure Ventilation, O_2 = oxygen, PO (per os) = oral administration

* The safety of ivermectin in pregnancy has not been established thus treatment decisions require an assessment of the risks vs. benefits in a given clinical situation.

For **optional medicines** and an overview of the developments in prevention and treatment of COVID-19, please visit flccc.net/optional-medicines

For updates, references and more information on **MATH+** (Hospital Treatment Protocol for COVID-19) and on our **I-MASK+** (Prevention & Early Outpatient Treatment Protocol for COVID-19) please see

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TO CONTROL INFLAMMATION & EXCESS CLOTTING

In all COVID-19 hospitalized patients, the therapeutic focus must be placed on early intervention utilizing powerful, evidence-based therapies to counteract:

- The overwhelming and damaging inflammatory response
- The systemic and severe hyper-coagulable state causing organ damage

By initiating the protocol soon after a patient meets criteria for oxygen supplementation, the need for mechanical ventilators and ICU beds will decrease dramatically.

TREATMENT OF LOW OXYGEN

- If patient has low oxygen saturation on nasal cannula, initiate heated high flow nasal cannula.
- Do not hesitate to increase flow limits as needed.
- Avoid early intubation that is based solely on oxygen requirements. Allow “permissive hypoxemia” as tolerated.
- Intubate only if patient demonstrates excessive work of breathing.
- Utilize “prone positioning” to help improve oxygen saturation.

ABOUT THE MATH+ HOSPITAL TREATMENT PROTOCOL FOR COVID-19

Our **MATH+** protocol is designed for hospitalized patients, to counter the body’s overwhelming inflammatory response to the SARS-CoV-2 virus. The protocol is based on numerous medical journal publications over decades. It is the hyper-inflammation, not the virus itself, that damages the lungs and other organs and ultimately causes death in COVID-19. We have found the **MATH+** protocol to be a highly effective combination therapy in controlling this extreme inflammatory response and we have now added ivermectin as a core component given the profound emerging efficacy data in hospitalized patients reviewed here (www.flccc.net/flccc-ivermectin-review-covid-19).

The steroid **Methylprednisolone** is a key component, increasing numbers of studies (see <https://flccc.net/medical-evidence>) show its profound effectiveness in COVID-19, which is made more potent when administered intravenously with high doses of the antioxidant **Ascorbic acid** given that the two medicines have multiple synergistic physiologic effects. **Thiamine** is given to optimize cellular oxygen utilization and energy consumption, protecting the heart, brain, and immune system. The

anticoagulant **Heparin** is important for preventing and dissolving blood clots that appear with a very high frequency in patients not given blood thinners. The **+** sign indicates several important co-interventions that have strong physiologic rationale and an excellent safety profile. It also indicates that we plan to adapt the protocol as our insights and the published medical evidence evolve.

Timing is a critical factor in the successful treatment of COVID-19. Patients must go to the hospital as soon as they experience difficulty breathing or have a low oxygen level. The **MATH+** protocol then should be administered soon after a patient meets criteria for oxygen supplementation (within the first hours after arrival in the hospital), in order to achieve maximal efficacy as delayed therapy has led to complications such as the need for mechanical ventilation.

If administered early, this formula of FDA-approved, safe, inexpensive, and readily available drugs can eliminate the need for ICU beds and mechanical ventilators and return patients to health.

DISCLAIMER

This protocol is solely for educational purposes regarding potentially beneficial therapies for COVID-19. Never disregard professional medical advice because of something you have read on our website and releases. It is not intended to be a substitute for professional medical advice, diagnosis, or treatment in regards to any patient. Treatment for an individual patient should rely on the judgement of your physician or other qualified health provider. Always seek their advice with any questions you may have regarding your health or medical condition.

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