

Seeing the forest through the trees

# THERAPEUTIC APPROACHES for HOSPITALIZED PATIENTS with COVID-19

## TWEETORIAL 1: SEVERITY ASSESSMENTS



### References

CME Info

[bit.ly/3JC64L9](https://bit.ly/3JC64L9)

🤔 Uncertain about staging pts w #COVID19?

📺 Join @DrOnyemaOgbuagu & @NidaQadirMD #MedTweertorial to answer your ?

🏆 **FREE** #CME credit [bit.ly/3JC64L9](https://bit.ly/3JC64L9)

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Faculty disclosures & important CME info

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## THERAPEUTIC APPROACHES for HOSPITALIZED PATIENTS with COVID-19

Tweertorial #1: Severity Assessments

Expiration: March 16, 2024

### Faculty Info and Disclosures

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Physician Continuing Medical Education: This activity has been approved for 0.25 AMA PRA Category 1 Credit™. This activity is jointly provided by National Jewish Health and Bonum CE. This program has been supported by an independent educational grant from Gilead Sciences, Inc.

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🤔 Pts w SARS-COV-2 experience wide range of asymp & pre-symp clinical symptoms from **0** symptoms to critical illness

Clin course defn'd by 2 phases:

- 1** early, replication phase
- 2** post-sx onset

⚠️ 2 stage illness by clin criteria...read on

**National Jewish Health**  
Breathing Science is Life.

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4/🔄 Variants & symptom 🧠 influences severity  
Assessment enriched by mult. factors

Severity determined by

- 🫁 Acute resp sx/O2/Vent Supp
- 🧠 Chest imaging abnormalities
- 🩸 Hemodynamics
- 🧩 Organ dysfunction

🧠 Despite limitations, SpO2 is 🔑 parameter for defn #COVID19 illness categories

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**ASSESSMENT ENRICHED BY:**

AGE GENDER OTHER RISK FACTORS

**PRESENTING SYMPTOMS**  
Cough Fever Shortness of Breath Respiratory Symptoms

**COMORBIDITIES**  
Obesity CVD CKD DM COPD CA HSCT

**COVID-19 CLASSIFIED AS:**  
Asymptomatic  
Mild  
Moderate  
Severe  
Critical

Argenziano MG, et al. BMJ 2020;369:m1996; Cascella M, et al. STATPEARLS. 2022 Jan; NIH COVID-19 Treatment Guidelines. September 26, 2022. Accessed February 7, 2023.

Ref #

5/#COVID19 Staging

✓ Asymp/Presymp: No clin sx

✓ Mild: w any COVID sx including 🤧, 🧠, sore throat, malaise, headache, 🩴 pain, 🤢, 🤮, diarrhea, 🤧 anosmia, 🗑️ dysgeusia  
🚫 resp distress or abN chest imaging

✓ Mod: Clin sx or radiological evidence of LRTD + 🧘 SpO2 ≥ 94% on room air

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#COVID19 Staging cont... 📖

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✓ Severe: Clin sx + SpO<sub>2</sub> <94% w/ marked tachypnea w/ resp freq > **30** breaths/min or > **50**% 🫁 involvement on CXR

✓ Critical: ⚠️ acute resp failure, septic shock +/- multiple org dysfunc

**COVID-19 STAGING**

- **ASYMPT** No clinical symptoms
- **MILD** Any COVID symptoms, NO SOB and NO abnormal chest imaging
- **MOD** Clinical symptoms or radiological evidence of LRTD + SpO<sub>2</sub> ≥94%
- **SEVERE** Clinical symptoms, SpO<sub>2</sub> <94%, and >30 breaths/min or pulm infiltrates >50%
- **CRITICAL** Acute resp failure, septic shock +/- multiple organ dysfunction

Cascella M, et al. STATPEARLS. 2022 Jan.; NIH. COVID-19 Treatment Guidelines. Updated August 8, 2022.

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Let's look @ a case:

- ✓ 67yo ♂ 🇺🇸?
- ✓ HTN, DM
- ✓ 🫁 infiltrates
- ✓ Prior contact w expsd, uninfected 🧑
- ✓ 📄 9 mo prior
- ✓ Dry 🗣️, fatigue 😞, 🌡️ 101F
- ✓ SOB 😞, but ❌ need for supp O<sub>2</sub>
- ✓ SpO<sub>2</sub> = 94% on room air
- ✓ + RT-PCR COVID test

How would you stage this pt?

- Mild
- Moderate
- Severe
- Critical

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👉 You said MODERATE ?

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🎯 Exactly, bc SpO2 + O2 requirements are the 🔑 for defining #COVID19 categories

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Pt shows evidence of less sev. disease + risk factors for progression 🙋

★ Chest radiograph shows bilateral infiltrates

★ Routine labs show 📈 white count

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⏪ back to the case...

Now the pt has an SpO2=94%  
Resp rate=35 😞 /min

What is the most appropriate next step to manage this pt? 🙋

- BS antibx
- Systemic CS
- Admit to hosp
- Start Paxlovid

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👉 Admit to 🏥 is correct!

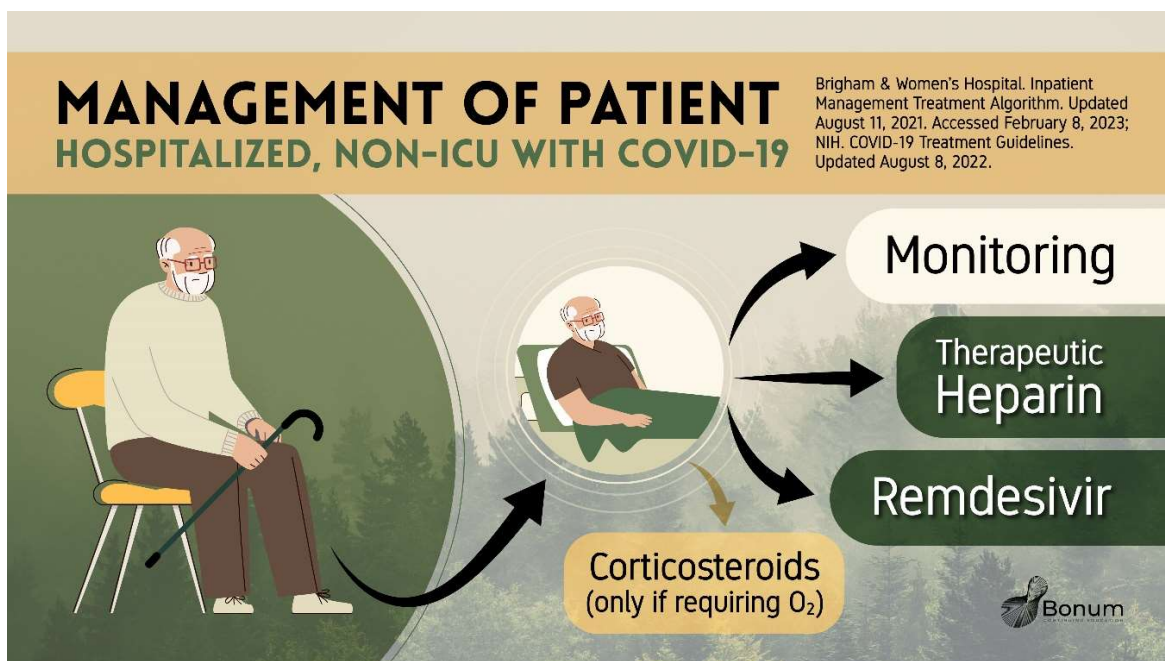
3

In add'n:

- ✓ Provide supportive tx
- ✓ Therapeutic heparin
- 🚫 dexamethasone/systemic CS
- ✓ To 📉 risk of progression: ➡ Remdesivir X 5 days for pt w/o O2 needs
- ✓ Monitor closely; advance to other tx if needed

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 RDV works best at sx onset

Time 2 recovery was:


✓  in pts randomized during first **10** days after sx onset (9d vs 15d; RRR 1.37, 95% CI 1.14 to 1.64)



✓ Not sig dif for  randomized > **10** days after sx onset (11d vs 15d; RRR 1.2, 95% CI, 0.94 to 1.52)



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 In later clin disease, SARS-COV-2 infection drives dysregulated immune/inflammatory response. Leads to:

-  Tissue damage
-  Thrombosis

 After  to hypoxemia/endothelial dysfunction, immunosuppressive, anti-inflammatory & antithrombotic tx are beneficial

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 Pt now requires O2: needs are HFNC, 40L/50%, and worsening infiltrates on CXR.

What is next step in pt mgmt? 

- DEX
- DEX + BAR
- DEX + RDV
- Empiric antibiotics

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 Bravo if you picked DEX + BAR !

 @NIH and @WHO recs for anti-inflammatories:

 Conv O2 = DEX

 HFNC O2, Vent, OR rapid  in O2 = add IL-6 or BAR to DEX

15/If pt cont. 2 worsen, may progress 2 ARDS & req mech. vent.

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ARDS criteria:

Acute (<1 wk) resp sx

Bilat 🫁 infiltrates

Resp fail. not solely attrib 2 fluid o/l

PaO<sub>2</sub>/FiO<sub>2</sub> < 300mm Hg

When PaO<sub>2</sub> 🚫 avail, ratio of SpO<sub>2</sub>/FiO<sub>2</sub> < 315 is sugg of ARDS

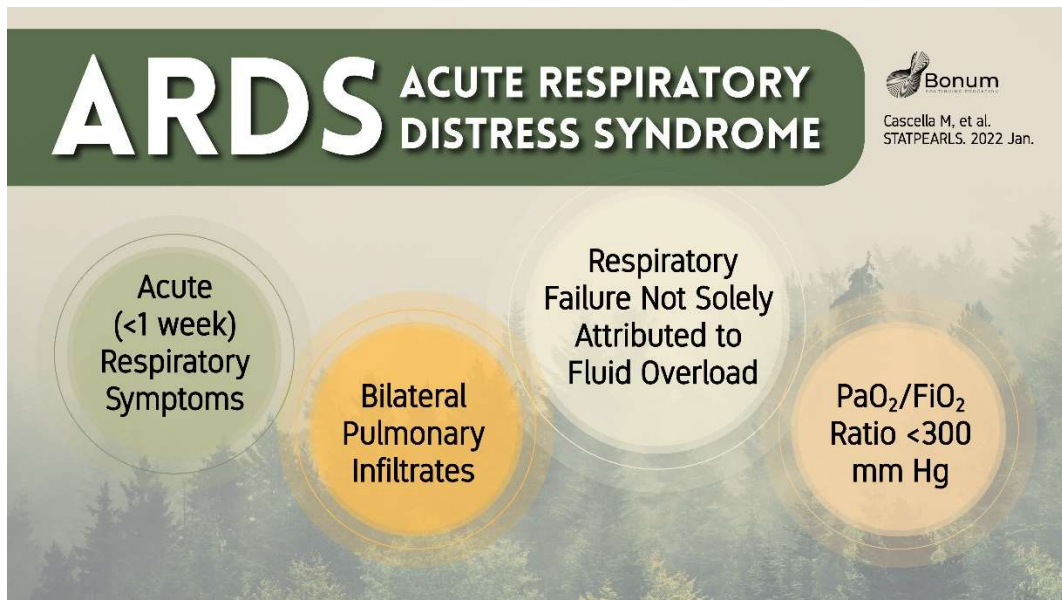
Risk of mortality ⬆️ w ARDS sev.

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⚠️ What are ARDS criteria? ⚠️



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🚫 Which is no longer recommended by the @WHO & @NIH for treatment of #COVID19?

- Immunomodulators
- Anti-inflammatory drugs
- Antivirals
- Targeted mAbs

	Ref #
18/@WHO & @NIH guidelines rec. against use of anti-SARS-CoV-2 mAbs due to #Omicron subvariant resistance	2
💎 Sickest pts typically develop severe dx 7-14 d s/p sx onset	3
💎 SARS-CoV-2 replication is greatest before/soon after sx onset	7
💎 Antiviral meds most effective during this stage	8

## 19/SUMMARY:

🔑 COVID sev determined by resp sx, deg of hypoxia, imaging abn, & organ dysfunction

🔑 Key staging parameter: SpO<sub>2</sub>/ O<sub>2</sub> needs

🔑 Antivirals work best at sx onset

🔑 Monoclonal Abs no longer recommended due to #Omicron subvariants

🔑 Base choice of anti-inflam med on dx sev

Claim your CME credit by completing the post-survey and evaluation. Link provided 🖱️

  
[bit.ly/3Fnp7Hw](https://bit.ly/3Fnp7Hw)

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