

GRAND ROUNDS

Challenges in the Management of COVID-19: Case-Based Presentations



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CME/ABIM Credit



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ED COVID Decision Making— Evolution over 2 months

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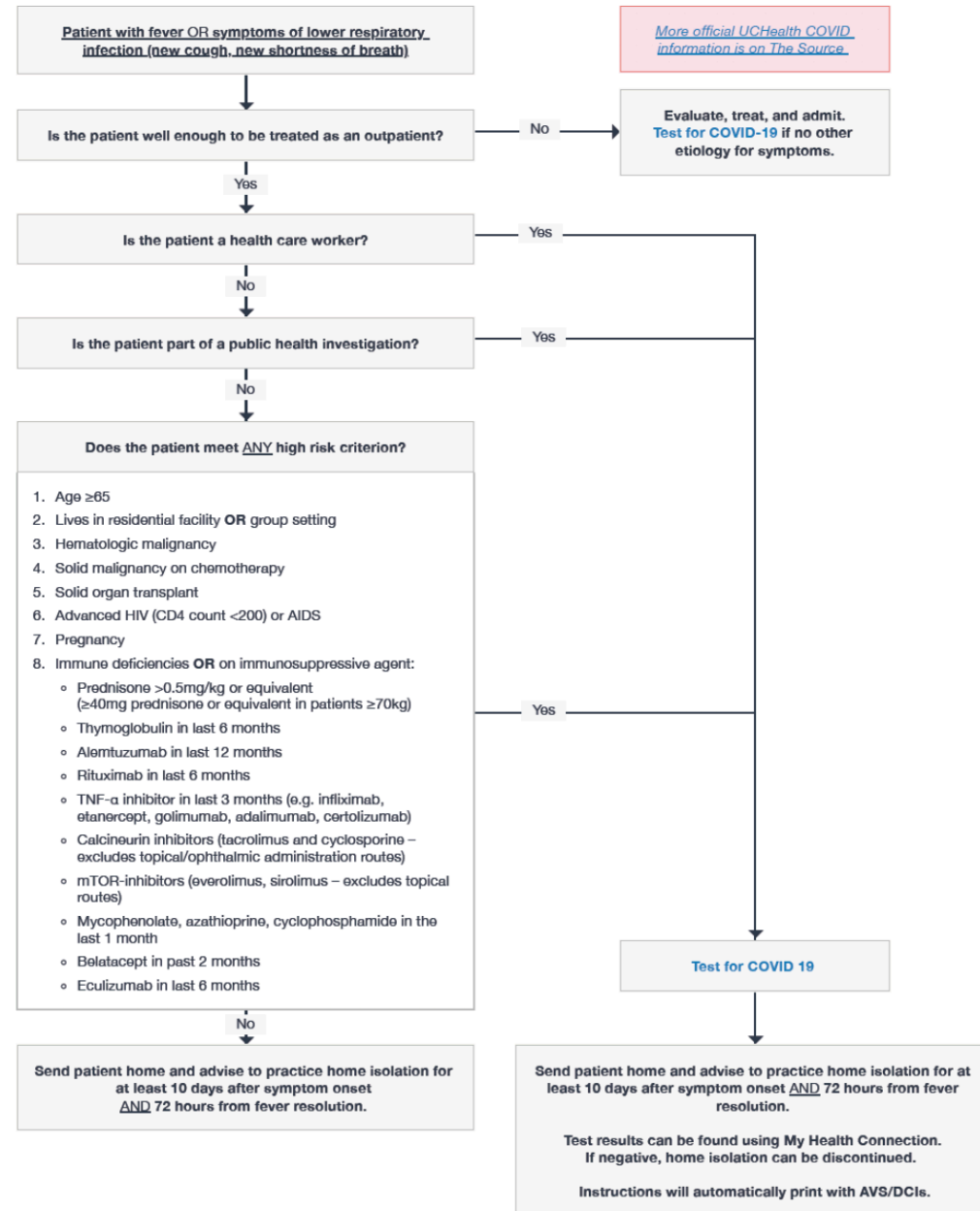
4/29/20



ED timeline

- **3/5 --- first positive in CO;** airborne transmission
- 3/10 --- Epic COVID test not available in Epic except for ID; tests still being sent to CDPHE (TAT 5-14 days)
- 3/12 --- **droplet + contact + eye for COVID patients,** except during aerosol-generating procedures; MDI shortage
- 3/13 --- **ED surge plans** specific to COVID developed; ED volumes not up (or down) yet
- 3/14 --- **ED pathway for testing-**(questions to prevent testing “inappropriate patients”); RVP being sent with every test. If RVP neg, COVID “excluded” and COVID test not sent. Admit when RVP back.

Early testing algorithm



Early COVID order

Symptoms of acute respiratory infection? (e.g. fever, new cough, new shortness of breath)

Symptom Onset Date:

Outpatient, High risk patient population? (see COVID page on The Source)

Outpatient, Healthcare worker?

Outpatient, Part of public health investigation?

Severe symptoms requiring hospitalization without other identified cause?

Order Inquiry

Quir A	Stat	Order Date	P	Specimens	Order	Procedure	Standing Freque	Order Commi	Lab Status	uch ris order re	Exp Col Date/Time
					Lab						
		03/14/2...			SARS CoV-2 NAAT	LAB1890			Needs to...		03/14/2020 1451
		03/14/2...			Respiratory Viral Panel by PCR	LAB5187			Needs to...		03/14/2020 1451

ED timeline

- 3/20 --- “Special Precautions for Intubation of a COVID-19 patient” document created
- 3/22 --- first conversations about testing first responders
- 3/24 --- developed process to **admit pts < 30 yo to CHCO**
- 3/26 --- marketing creates outpatient handouts in English and Spanish
- 3/26 --- **ED census down by 40%**
- 3/28 --- **Cephied testing goes live**; hold patients in ED until COVID test is back

Iterative COVID test

1 Symptomatic ED admission or hospitalized patient?
 Yes No

2 Symptomatic ED patient who will discharge or outpatient?
 Yes No

3 History of recent travel?
 Yes No

4 Close contact with laboratory confirmed case within 14 days?
 Yes No

When "Symptomatic ED admission or hospitalized patient" is answered "Yes", these questions cascade.

Symptomatic ED admission or hospitalized patient?
 Yes No → Cepheid/Alere

Immunocompromised patient?
 Yes No → Adds RVP

1 Brief description

When "Symptomatic ED patient who will discharge or outpatient" is answered "Yes", these questions cascade.

Symptomatic ED patient who will discharge or outpatient?
 Yes No

Immunocompromised patient?
 Yes No → Adds RVP

1 Brief description

Patient unable to socially distance?
 Yes No → Cepheid/Alere

2 Homeless?
 Yes No

3 Living in a group setting?
 Yes No

Healthcare worker?
 Yes No

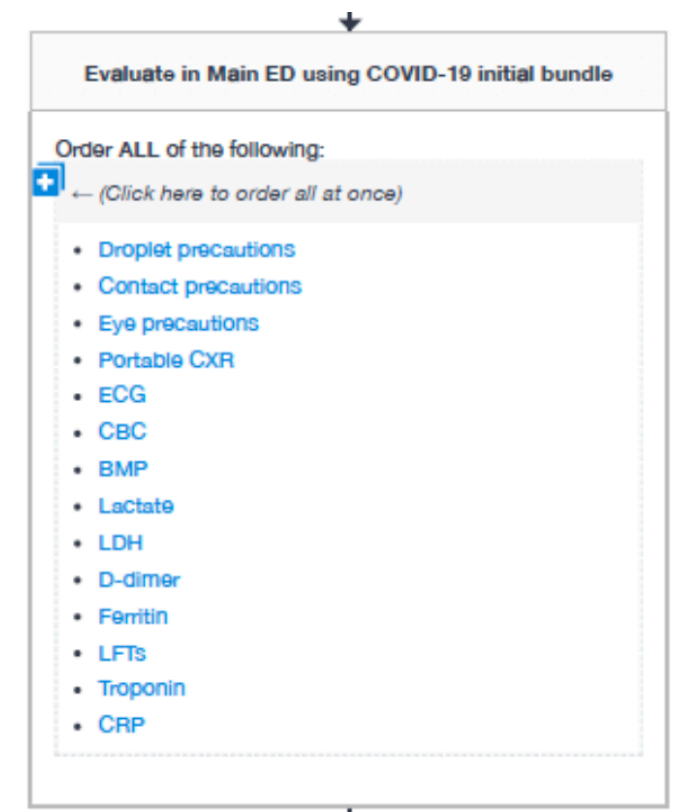
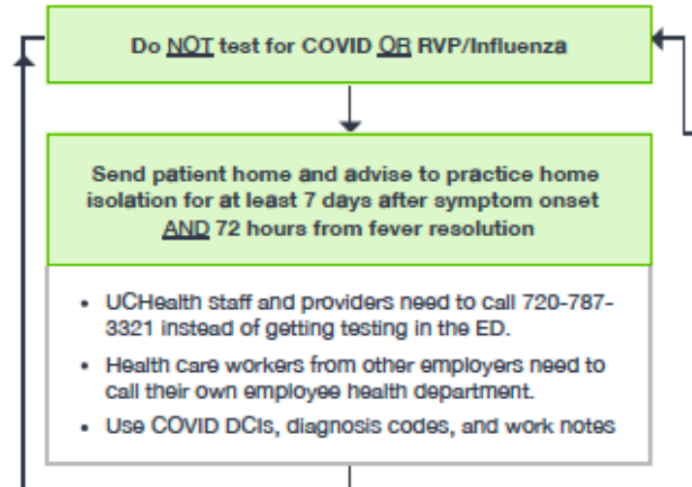
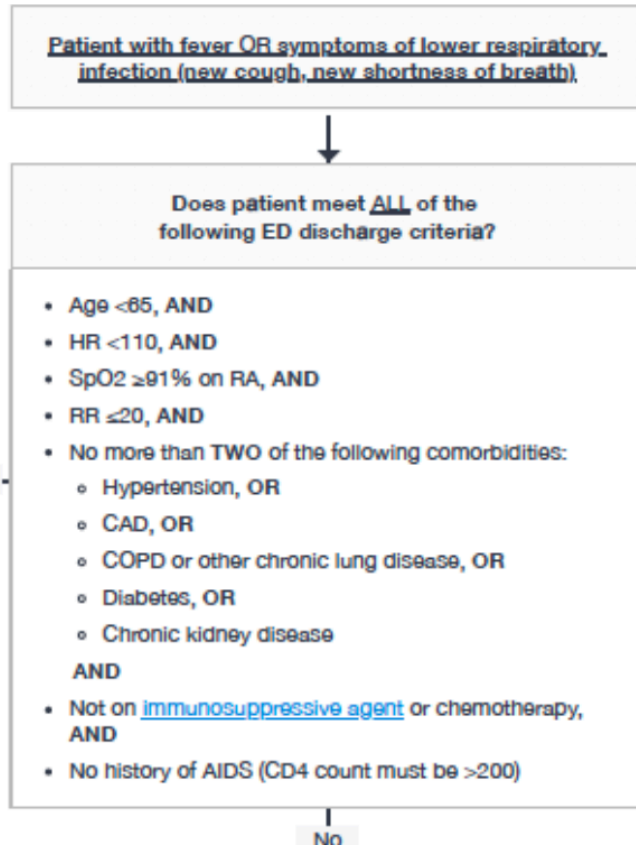
****If the all Cepheid/Alere questions are answered as "No", the test goes to UCH Roche.**

ED timeline

- 3/28 --- any intubation system-wide be performed by an operator wearing a PAPR, gown, and double gloves
- 3/28 --- no longer awaiting RVP results due co-infection
- 3/30 --- ED pathway for initial evaluation and management; who can be safely discharged? considering calling back patients q day for 5 days

Evidence Free Zone





First iteration of ED evaluation pathway

ED timeline

- 3/30 --- shut down one of the ED night shifts
- 3/31 --- starting to talk about **scarcity**
- 4/2 --- consider proning awake patients
- 4/5 --- **expanded outpatient COVID testing criteria**
 - immunocompromised patients and symptomatic homeless patient
 - concerns about Cepheid rapid results—lots of retesting

ED timeline

- 4/6 --- arranged for **vendor to give O2 for home from ED**
- 4/6 --- **resuscitation appropriateness pathway**
- 4/7 --- **sending admissions to VA**
- 4/7 --- shut down morning intake and ST
- 4/8 --- **Alere testing started**
- 4/8 --- **acute phase reactants removed from ED pathway**

ED timeline

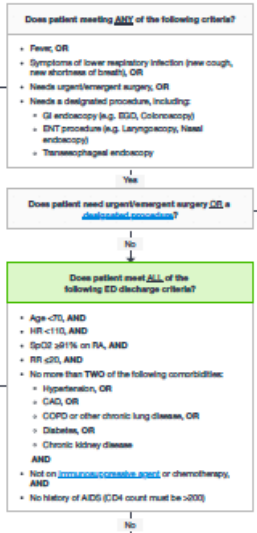
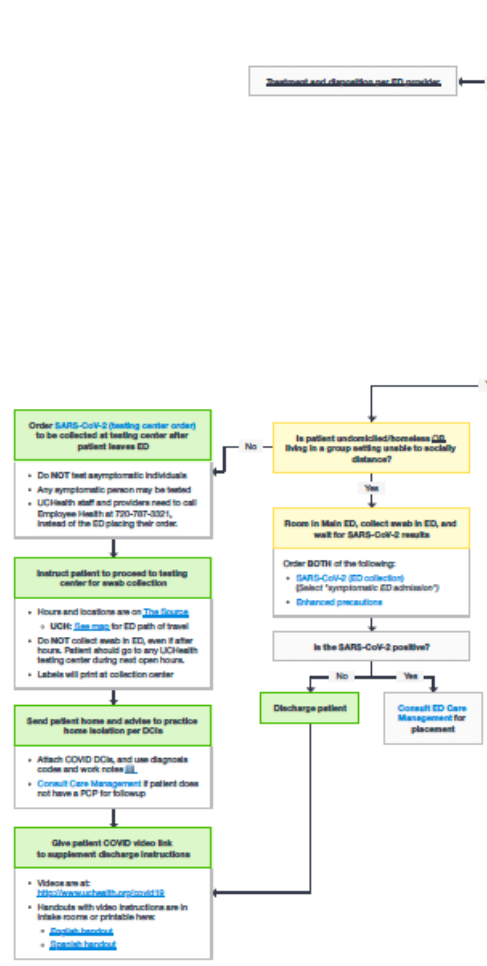
- 4/10 --- fentanyl and midazolam shortages; **Cephied tests are as sensitive/specific as Roche**
- 4/10 --- **testing asymptomatic patients going to cath lab and IR**
- 4/13 --- **all risk stratification blood tests moved to consider ordering from ED pathway**
- 4/15 --- **expanded outpatient testing to all symptomatic patients; increased age ok to dc home to 70 yo**
- 4/16 --- **oxygenation rec's change to reflect intubation based on WOB not hypoxemia**

ED timeline

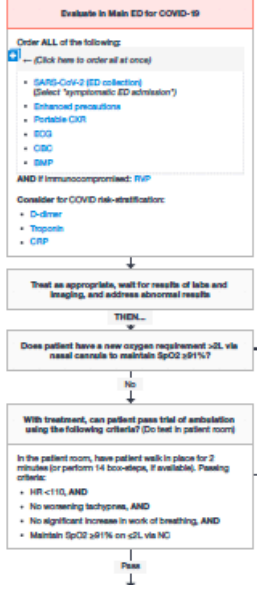
- 4/16 --- UV reprocessing starts
- 4/22 --- **Alere testing abandoned**
- 4/23 --- **pre op/procedural testing** for asymptomatic patients added to ED pathway
- 4/25 --- running out of rapid turn around tests
- 4/27 --- elective surgeries resume
- 4/29 --- ????????

ED evaluation pathway-current

Discharge arm



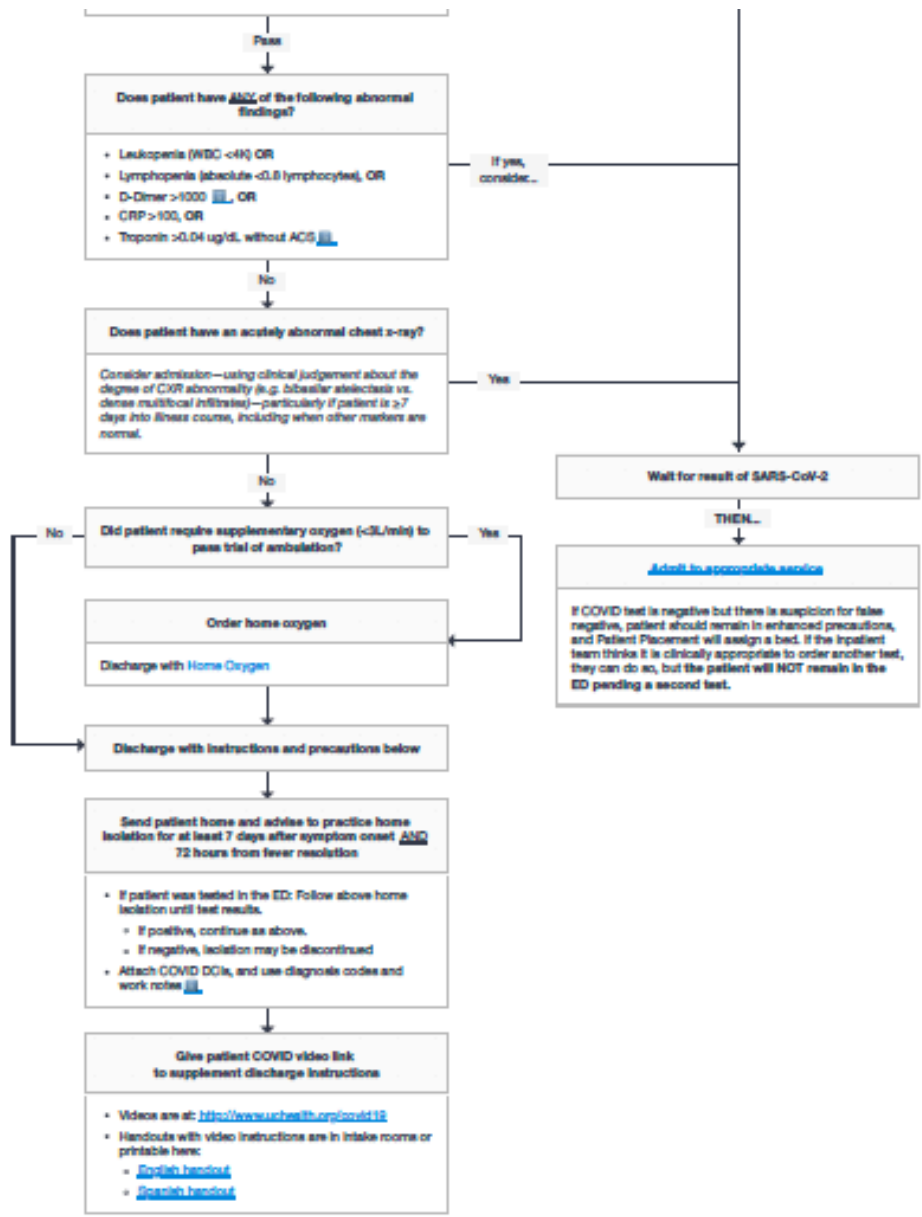
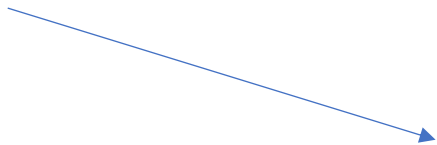
Pre-op testing arm



ED Evaluation arm

ED evaluation pathway-current

Disposition decision making arm



Not all heroes wear capes.

Some wear masks.

