

Outpatient Management of COVID 19

Cases, resources, & best practices
Kenny Pettersen

12/24/2020



LAX Airport  @flyLAXairport · 1h

...

The first batch of COVID-19 vaccine has arrived in Los Angeles at LAX. This is a major milestone for science, our country and our community. Thank you to all those who made this delivery possible, and are part of the incredible effort to distribute vaccines around the world.



 100

 1.6K

 4.9K



Objectives

- Improve competency in outpatient management
 - Prevention & recognition of severe illness
 - Hospital discharge follow-up
- Preventing disease transmission
- Optimal resource utilization

Outpatient Management of COVID-19

PPE in Clinic

- If suspected COVID patient in a room: use N95, gown, gloves, and face shield or goggles
- Surgical face-mask and face shield or goggles for all other routine patients ([DHS EP](#))

Clinical Presentation

- [Symptoms](#) (decreasing freq): cough (50%), fvr, chills, myalgia, fatigue, HA, SOB, sore throat, loss taste/smell, N/V/D
- Onset ~ 5d from exposure (range 2-14d)
- Hypoxemia ~ 5-10d since mild sx onset
- Risk: + contact, work, no phys distance/mask
- Sev disease: [Age](#), DM2, CKD, obesity, immunosuppressed, CA, cardiopulm disease, cirrhosis, ESRD, smoking, HTN, pregnancy

Testing

- Symptomatic, patient **on campus**: Call UC ext (clinic M x74546), warm handoff + pt escort
- Symptomatic, patient **off campus**:
 - ✓ Clinical eval + test: Send pt to resp UC Ext (M-F until 4p); pt reports sx & requests "urgent care" at triage; warm handoff to UC ext provider x74546 (ED if after hrs)
 - ✓ Test only: order "AMB COVID test"; RN/CMA schedules drive-thru test Mon-Fri 8-11a (no same day appts); for after hrs, refer to resp UC ext, ED, or county test site
 - ✓ Counsel safe transport, mask, distancing
- Asymptomatic:
 - ✓ DHS not offering testing
 - ✓ May sign up for city testing site at 211 or [corona-virus.la](#)
- [Serology testing](#) generally not recommended but available for select cases

Triage

- ED/911 if: SOB, CP, confusion, other emergent sx. Provider should sign out to ED if possible.

Home Treatment

- Acetaminophen, ibuprofen for fevers
- Cough syrup and other OTC meds
- Hydration
- Consider azithromycin if PNA suspected

O2

- If on home O2
 - ✓ SpO2 goal 92-94%
 - ✓ Go to ED if need >4L O2 or HR > 110
 - ✓ Vendor: usually CalOx (323) 255-5175
- Atelectasis prevention
 - ✓ Self-proning ([DHS handout](#))
 - ✓ Max time out of bed, deep breathing

Follow up & Precautions

- Primary care f/u within 3 days of ED discharge
 - ✓ Symptoms
 - ✓ Review isolation/quarantine instructions
 - ✓ ED precautions
- OV Adult Primary Care Clinics: 747-210-8000
- DHS nurse advise 7a-7p 7d/wk: 844-804-0055

Other Resources

- LAC Mental Health Access 1-800-854-7771
- Substance use hotline 1-844-804-7500
- LADPH [COVID-19 Social Resources](#) or [LA 211](#)
- LADPH [Healthcare Provider Hub](#)
- DHS [COVID-19 Sharepoint & Expected Practices](#)
- [Emp Health](#) x73403 [Exposure](#) and [Testing](#) EPs
- [Infection Control](#) x73624

Isolation of Sick (or pending results)

- If positive or symptomatic and pending result
- LADPH [Isolation Handout](#)
- [Staying home instructions](#)
 - ✓ Use private room/bathroom if possible
 - ✓ Wear mask (surgical preferred)
 - ✓ Maintain 6+ ft if using shared space
 - ✓ Disinfect common surfaces, freq hand hygiene
 - ✓ Avoid sharing objects
 - ✓ No visitors
 - ✓ Only leave for essential medical care
- Call 211 if unable to isolate or need essential services (hotel room, food delivery, etc)
- May [D/C isolation](#) when:
 - ✓ Minimum 10d since sx onset AND > 24 hrs no fever w/o meds AND significantly improved sx
 - ✓ Minimum 20d if sev illness (>6L O2, VTE, shock, or multiorgan dysfunction) or sev immunocompromised (on chemo, HIV CD4 < 200, Pred > 20mg/day 14d+)
 - ✓ Asymptomatic: > 10d since first positive test

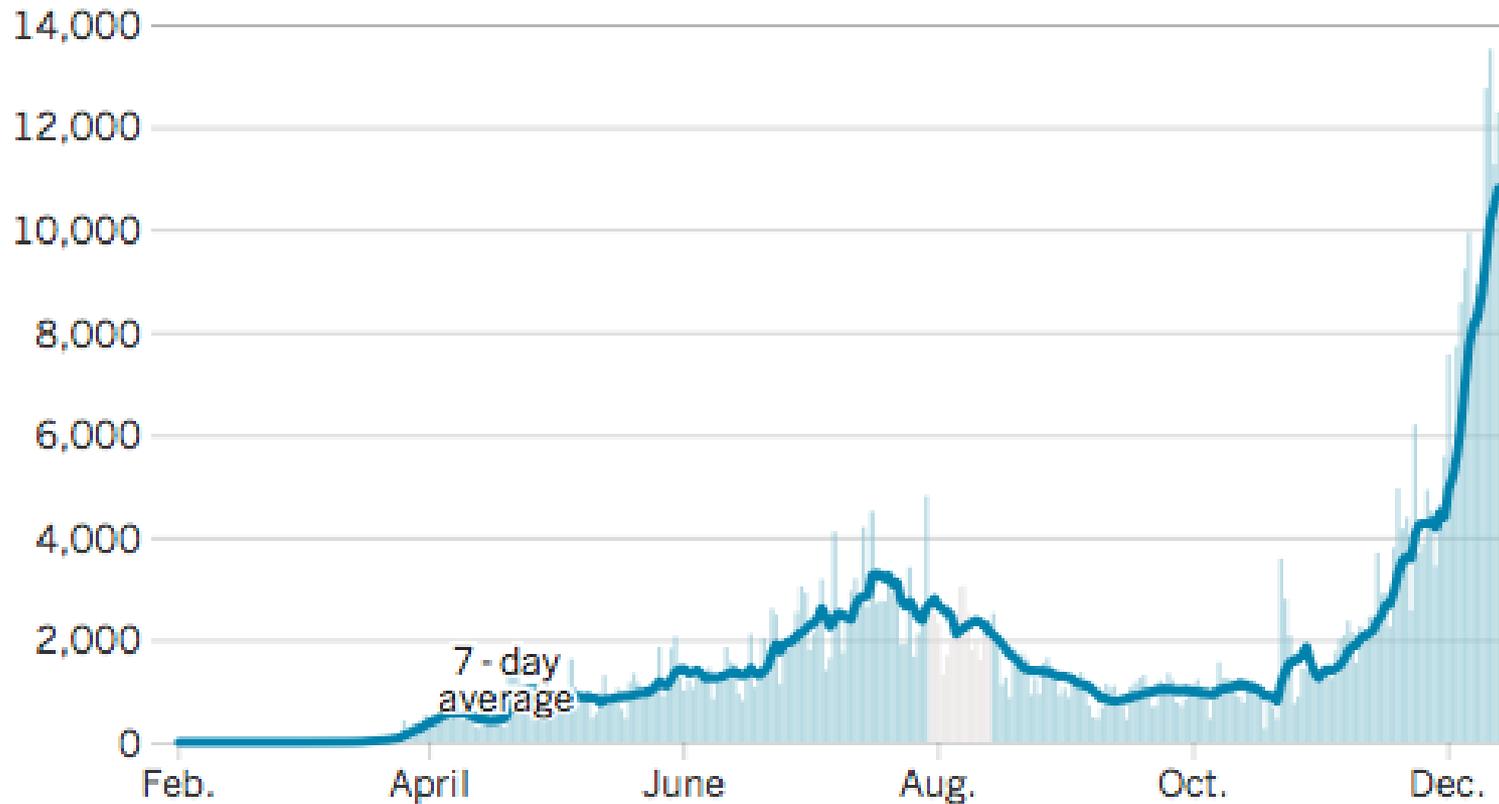
Quarantine of Close Contacts

- *Positive patents should call LADPH contact tracer at 833-540-0473 (8a-830p 7d/wk)*
- LADPH [Quarantine Handout](#)
- Quarantine close contacts (of positive cases)
 - ✓ Close contact = within 6 ft of pt 15+ min or any contact w/ body fluids (ie coughed on)
 - ✓ Duration = 14d since last contact w/ pt (incl 48h prior to sx onset), even if close contact tests neg
 - ✓ See "staying home instructions" above
- Free testing via [corona-virus.la](#) or 211 (*doesn't shorten quarantine*); asymptomatic close contacts should wait ~ 5d since last contact to test
- Contact LADPH if concern for outbreak (workplace, SNF, public gathering): 213-240-7941 (M-F, 8a-5p)

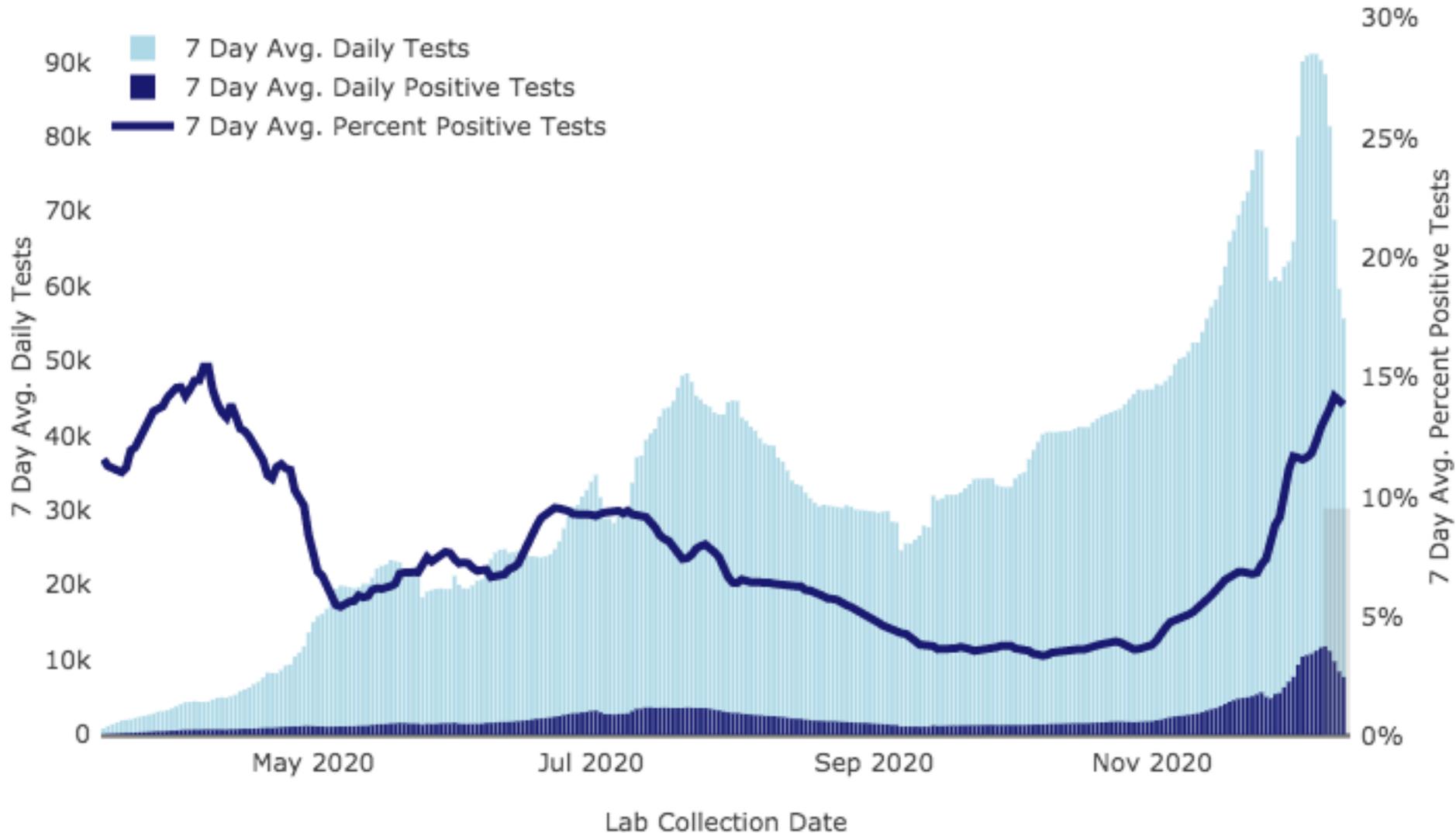
Disclaimer: The above are general guidelines and suggestions; please refer to most updated DHS expected practice and your local policies, which supersede this abbreviated guidance

LA County Cases

New cases by day

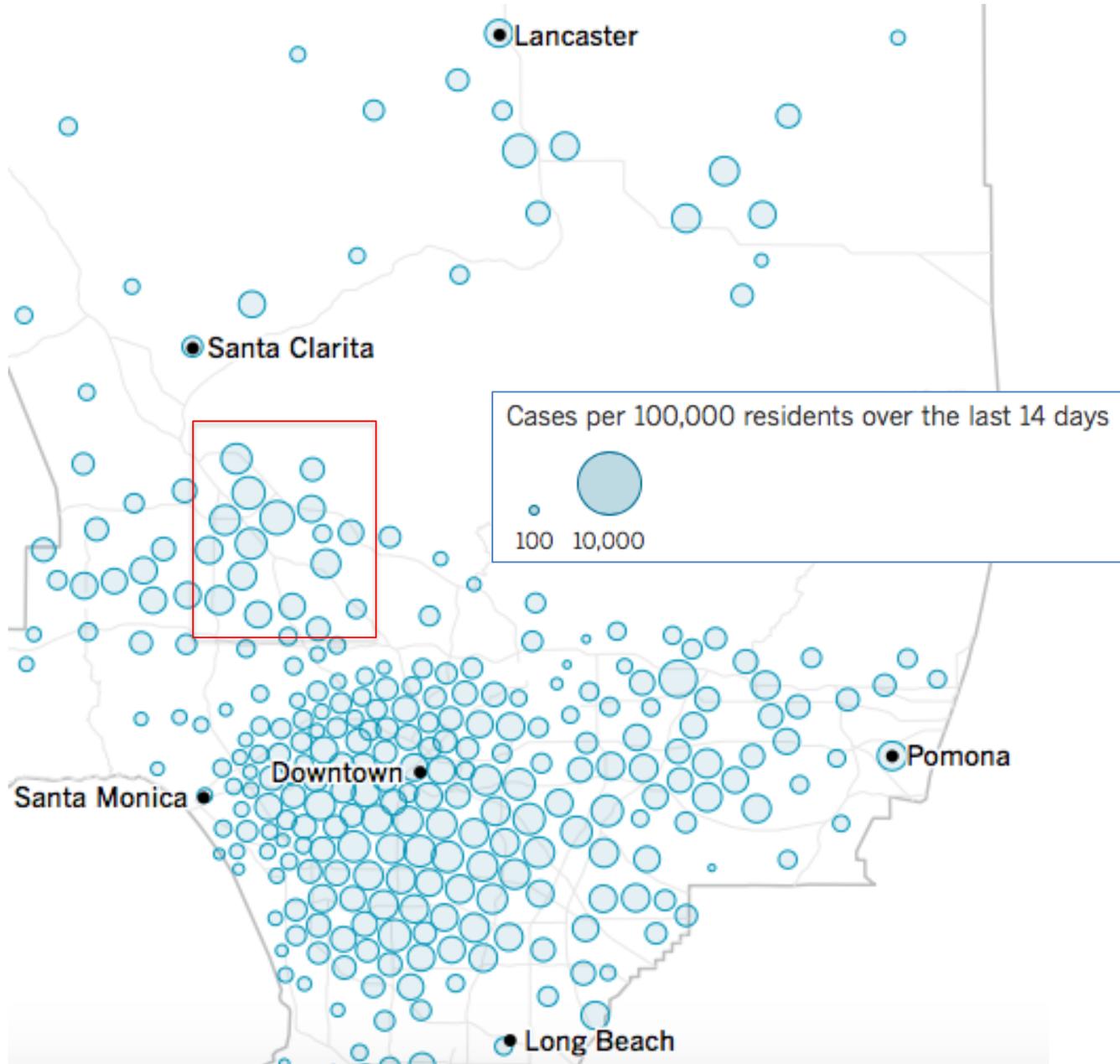


LA County Test Positivity



LA County Hot Spots

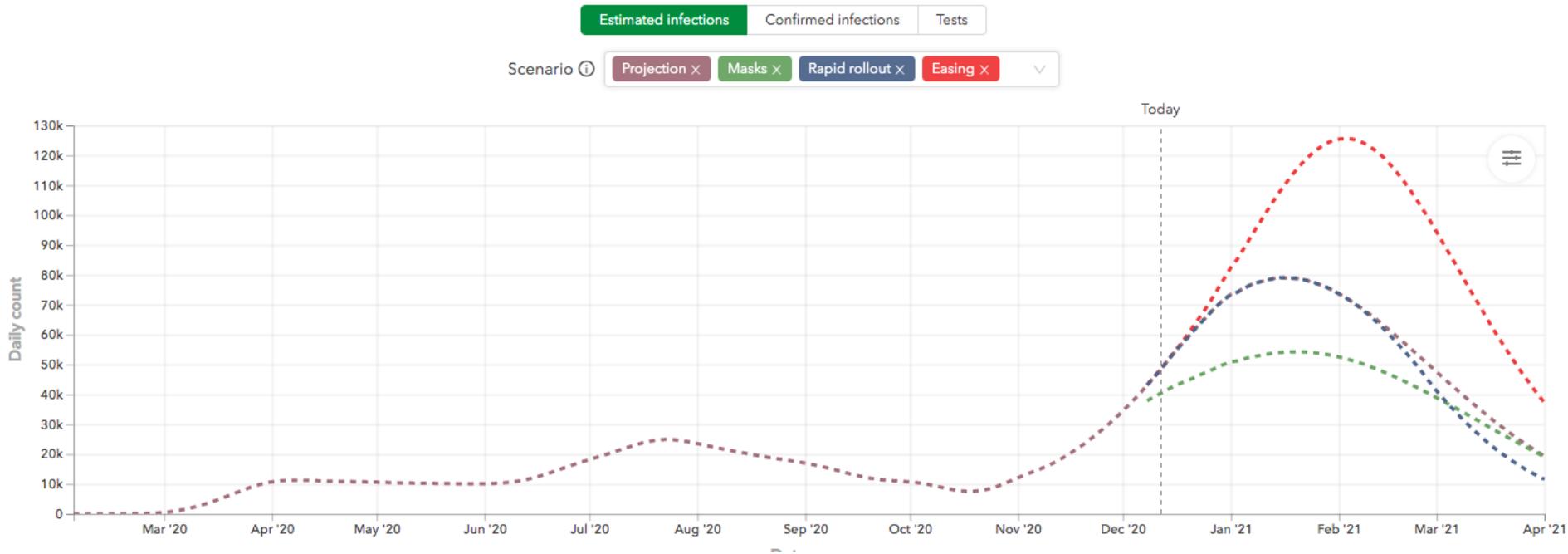
East SF
Valley
highest
per capita



| Area | Cases | Per 100k | Last 14 days | ▼ Per 100k | New cases | |
|-------------------------------------|--------|----------|--------------|------------|-----------|---------------|
| | | | | | Fewer | More |
| Unincorporated - Duarte | 425 | 9,598 | 151 | 3,410 | | Mar 16 Dec 13 |
| Athens Village | 490 | 10,006 | 131 | 2,675 | | |
| Pacoima | 7,675 | 9,970 | 2,050 | 2,663 | | |
| San Fernando | 2,213 | 8,992 | 605 | 2,458 | | |
| Sunrise Village | 106 | 8,179 | 31 | 2,392 | | |
| Desert View Highlands | 154 | 6,177 | 59 | 2,367 | | |
| East Los Angeles | 11,680 | 9,324 | 2,897 | 2,313 | | |
| Unincorporated - Florence-Firestone | 6,211 | 9,599 | 1,456 | 2,250 | | |
| Arleta | 3,086 | 8,979 | 767 | 2,232 | | |
| Pico Rivera | 5,064 | 7,878 | 1,432 | 2,228 | | |
| Vermont Square | 629 | 8,215 | 169 | 2,207 | | |
| Florence-Firestone | 4,207 | 8,867 | 1,042 | 2,196 | | |
| Commerce | 1,149 | 8,792 | 286 | 2,188 | | |
| Walnut Park | 1,317 | 8,158 | 351 | 2,174 | | |
| Sylmar | 7,044 | 8,549 | 1,785 | 2,166 | | |

~1/40 people in our surrounding communities tested positive for COVID past 2 wks

CA Projections: peak mid-January?

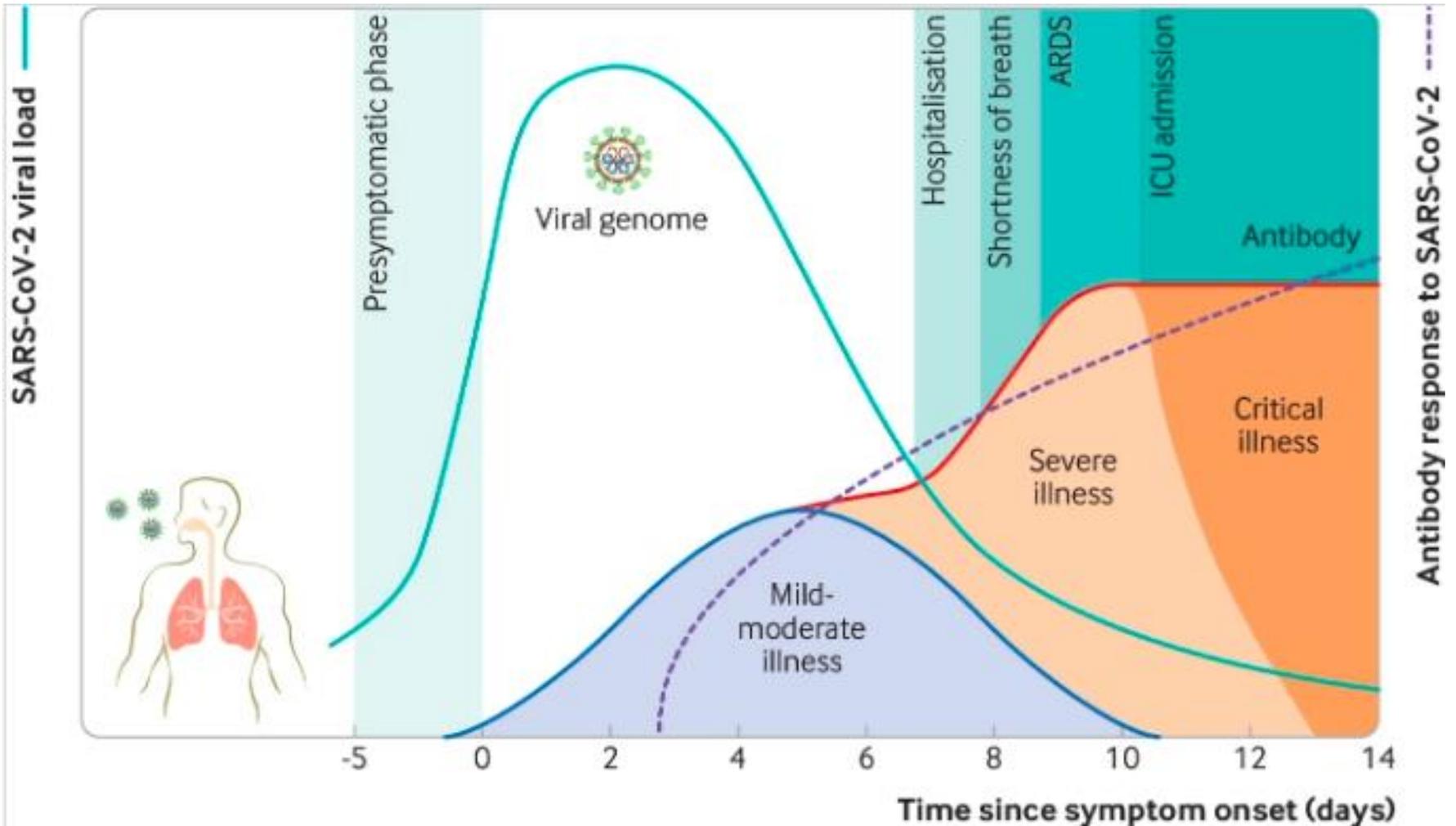


IHME Model

Among Healthcare Workers, Family and Primary Care Doctors May Have Been Most at Risk of Dying from COVID-19

Penn-led study suggest workers in hospital settings may be better protected from COVID-19 than the general population

July 28, 2020



How not to get infected before your mRNA vaccine

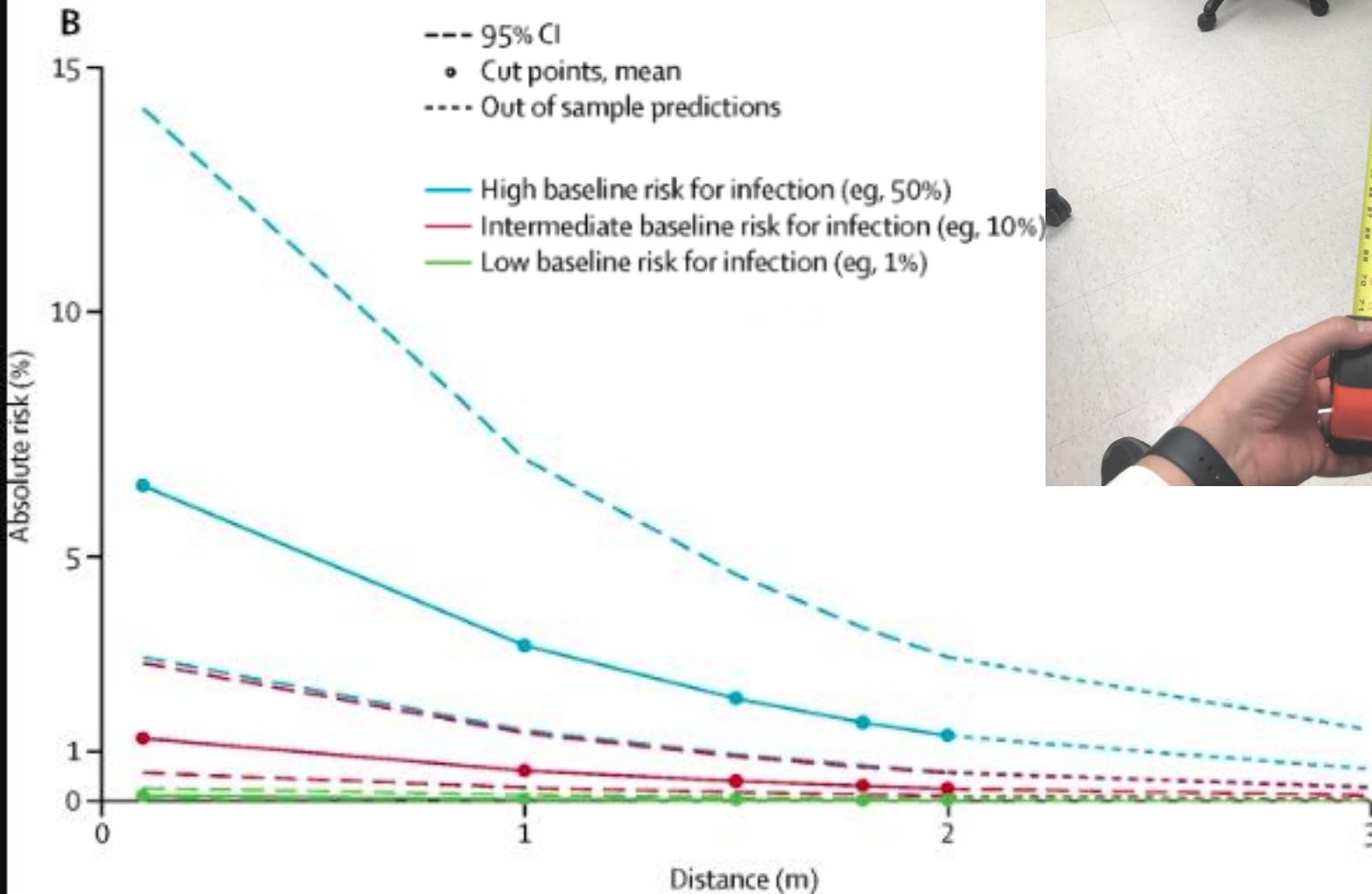
- Mask (tight fit) ~ 64% lower risk
- Face shield/eye protection ~ 64% lower risk
- Maximize distance from others
- 70% reduction if >3 ft vs < 3 ft
- Minimize time in room (50% less time ~ 50% lower risk)
- COVID doesn't care if you're eating

Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis

Derek K Chu, Elie A Akl, Stephanie Duda, Karla Solo, Sally Yaacoub, Holger J Schünemann, on behalf of the COVID-19 Systematic Urgent Review Group Effort (SURGE) study authors*

| | Studies and participants | Relative effect (95% CI) |
|---|--|---|
| Physical distance ≥ 1 m vs < 1 m | Nine adjusted studies (n=7782); 29 unadjusted studies (n=10 736) | aOR 0.18 (0.09 to 0.38); unadjusted RR 0.30 (95% CI 0.20 to 0.44) |
| Face mask vs no face mask | Ten adjusted studies (n=2647); 29 unadjusted studies (n=10 170) | aOR 0.15 (0.07 to 0.34); unadjusted RR 0.34 (95% CI 0.26 to 0.45) |
| Eye protection (faceshield, goggles) vs no eye protection | 13 unadjusted studies (n=3713) | Unadjusted RR 0.34 (0.22 to 0.52)¶ |

Physical distancing



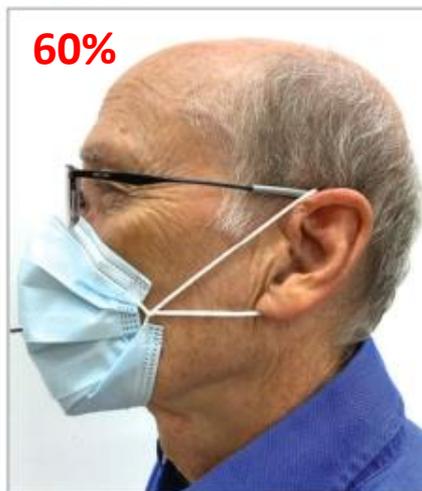
Evaluation of Cloth Masks and Modified Procedure Masks as Personal Protective Equipment for the Public During the COVID-19 Pandemic

Figure 2. Medical Procedure Mask and Modifications Designed to Enhance Mask Fit or Comfort for the Wearer

A Medical procedure mask



B Tied ear loops and tucked in side pleats



C 3-D-printed ear guard



D Claw-type hair clip



E Three ganged rubber bands



F Segment of nylon hosiery



98%



Face Shields



Protects eyes
AND fewer particles
encounter your face mask

Massachusetts hospital COVID-19 outbreak may be tied to employees eating together

Kelly Gooch - Wednesday, October 28th, 2020 [Print](#) | [Email](#)

Mayo Clinic: 900 employees at top US hospital catch Covid-19 in two weeks

More than 900 employees at Mayo Clinic, a top research hospital that is based in Rochester, Minnesota, have contracted Covid-19 in the last two weeks.

At a press briefing on Tuesday, Dr Amy Williams, dean of clinical practice at the hospital, said that the vast majority of staff who were infected - 93% - were not infected at work, according to the [St Paul Pioneer Press](#). Most of those who were infected at work contracted the virus while eating without a mask during their breaks, Williams said.

Case 1

WMP message

41F DM2, BMI 55, asthma

“I think I have COVID. I have all the symptoms on this picture.”

COVID-19
Coronavirus Symptoms

World Health Organization
12 November 2020

SERIOUS COVID-19 SYMPTOMS REQUIRING IMMEDIATE MEDICAL CARE

- If you develop any of these symptoms, call your healthcare provider or health facility and seek medical care immediately.
- This is not an exhaustive list. These are the most common symptoms of serious illness, but you could get very sick with other symptoms – if you have any questions, call for help immediately.

MOST COMMON SYMPTOMS

- Shortness of breath/ Difficulty breathing
- Loss of speech or mobility or confusion
- Chest pain
- Fever
- Cough
- Tiredness
- Loss of taste or smell

LESS COMMON SYMPTOMS

- Sore throat
- Headache
- Aches and pains
- Diarrhea
- A rash on the skin or discolouration of fingers or toes
- Red or irritated eyes

Case 1

41F DM2, BMI 55, asthma

Phone call @ 8pm:

- Day 4 dry cough, diarrhea, sore throat
- No sick contacts
- SOB “like my asthma” at night, inadequate improvement after albuterol
- Husband and other roommate asymptomatic

Case 1

41F DM2, BMI 55, asthma, 4d covid sx

Dispo:

- A. Home w/ OV drive thru test
- B. Home w/ City drive thru test
- C. Respiratory UCC
- D. ED

Triage

1. What is the patients risk for severe illness?
2. How concerning are the symptoms?

Comorbidities the CDC classifies as established or possible risk factors for severe COVID-19 [1,2]

| Established risk factors |
|---|
| ■ Cancer |
| ■ Chronic kidney disease |
| ■ Chronic obstructive pulmonary disease |
| ■ Immunocompromised state from solid organ transplant |
| ■ Obesity (body mass index ≥ 30 kg/m ²) |
| ■ Pregnancy |
| ■ Serious cardiovascular disease |
| ● Heart failure |
| ● Coronary artery disease |
| ● Cardiomyopathies |
| ■ Sickle cell disease |
| ■ Smoking |
| ■ Type 2 diabetes mellitus |
| Possible risk factors |
| ■ Asthma (moderate to severe) |
| ■ Cerebrovascular disease |
| ■ Cystic fibrosis |
| ■ Hypertension or high blood pressure |
| ■ Immunocompromised state from hematopoietic cell transplant, HIV, use of corticosteroids or other immunosuppressing agents, other immunodeficiencies |
| ■ Liver disease |
| ■ Neurologic conditions, such as dementia |
| ■ Overweight (body mass index ≥ 25 but < 30 kg/m ²) |
| ■ Pulmonary fibrosis (having damaged or scarred lung tissue) |

Triage

- Dyspnea evaluation questions:
 - What activities could you previously do that now make you out of breath?
 - Worsened in recent days?
 - Breathing harder or faster when sitting still?
 - Does walking make you feel dizzy?

Triage

- Dyspnea
 - Mild: Rarely present with normal daily activities
 - Moderate: Frequently with normal daily activities
 - Severe: Unable to speak complete sentences, unable to do things like toileting or dressing

Dyspnea with cough alone is expected

Triage

- In person (Respiratory UCC extension)
 - Mild dyspnea + SpO₂ 91-94%
 - Mild dyspnea + significant risk factor
 - Moderate dyspnea any patient
 - Other symptoms warranting in-person eval
- ED
 - Severe dyspnea or SpO₂ < 91%
 - Other reasons for ED

Case 1

41F DM2, BMI 55, asthma, 4d covid sx

Dispo:

- A. Home w/ OV drive thru test
- B. Home w/ City drive thru test
- C. Respiratory UCC
- D. ED

Case 1

41F DM2, BMI 55, asthma, 4d covid sx

Dispo:

- A. Home w/ OV drive thru test
- B. Home w/ City drive thru test
- C. Respiratory UCC**
- D. ED

Case 1

41F DM2, BMI 55, asthma, 4d covid sx

- Seen at resp UCC next morning
- SpO2 99%, lungs clear
- Sent home w/ instructions
- COVID + 4 hrs later

Case 1

41F DM2, BMI 55, asthma, COVID +, day 5

Main concern is nighttime coughing

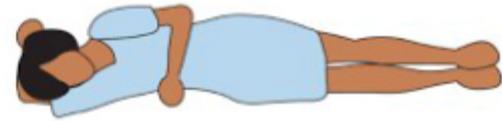
- Albuterol inhaler
- Mucinex PM
- APAP prn
- Proning instructions, deep breathing exercises, ambulation
 - Low evidence outside of ICU patients with ARDS

Self-proning

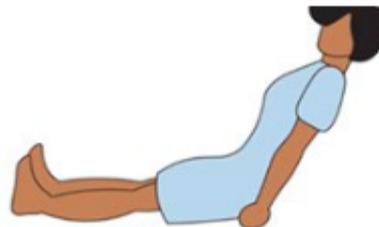
1. Lie on Belly
(30 minutes - 2 hours)



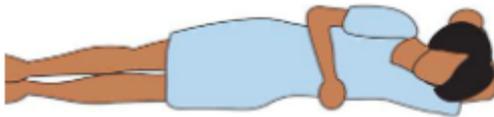
2. Lie on Right Side
(30 minutes - 2 hours)



3. Sit Up
(30 minutes - 2 hours)



4. Lie on Left Side
(30 minutes - 2 hours)



Deep Breathing Exercises

Breathing exercises that may help with dyspnea^[1]

Pursed lip breathing exercises:

- Sitting upright or slightly reclining, relax your neck and shoulder muscles.
- With your mouth closed, inhale through the nose for 2 seconds, as if smelling a flower.
- Exhale slowly (for 4 seconds if possible) through pursed lips, as if blowing out birthday candles.
- Repeat inhalation and exhalation cycles for 2 minutes, several times a day and when needed.

Deep breathing exercises:

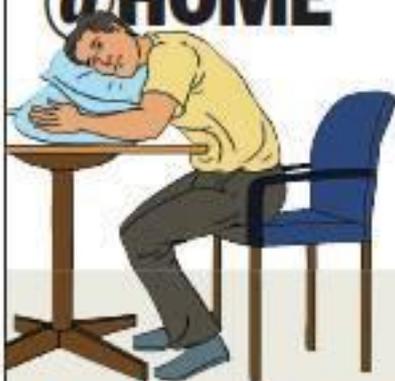
- Recline in bed or on a sofa with a pillow under your head and knees. If reclining is not possible, this may be done while sitting upright.
- Place one hand on your belly, the other hand on your chest.
- Slowly inhale through your nose; let your lungs fill with air, allowing your belly to rise. (The hand on the belly should move more than the hand on the chest.)
- Breathe out through your nose, and as you exhale, feel your belly lower.
- Repeat the inhalation and exhalation cycles for 2 to 5 minutes several times a day and when needed.

Reference:

1. American Lung Association. Breathing exercises. Available at: <https://www.lung.org/lung-health-diseases/wellness/breathing-exercises> (Accessed on August 3, 2020).

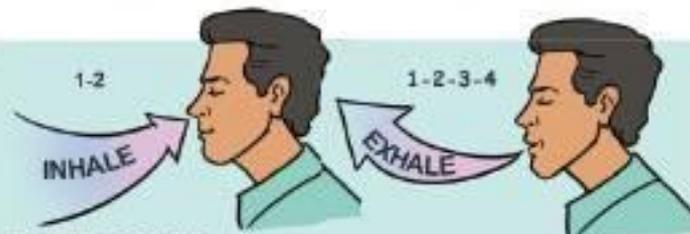
RELIEVING BREATHLESSNESS

@HOME



IF YOU FEEL OUT OF BREATH, ADOPT ANY OF THESE POSITIONS

- Sit leaning slightly forward, resting your elbows on your knees
- Sit on a chair leaning forward, taking a pillow for support
- Stand, leaning forward slightly
- Stand with your back to the wall



EXERCISES

It is important that you breathe deeply. Take slow deep breaths through your nose and breathe out through your mouth, pursing your lips

- 1 Breathe in slowly through the nostrils to the count of 1-2 (not deep, a normal breath)
- 2 Purse your lips (like blowing out a candle), breathe out slowly through your pursued lips to the count of 1-2-3-4

BELLY BREATHING

- It's breathing using the diaphragm
- Sit relaxed/lie on your back with a pillow below your knees
- Put your hand on your stomach
- Imagine it is like a balloon. Breathe in through your nose, your hands will move out as if it's on a balloon
- When you breathe out through your mouth, your hand will move inside



BODY POSITIONS TO BREATHE BETTER

- 1 Prone (sleeping on the stomach)
 - 2 Sleeping on the right side, keeping a hand below your head
 - 3 Sitting up at 60-90° angle
 - 4 Sleeping on the left side, keeping a hand below your head
- Maintain these positions for at least for 30 minutes
 - Keep changing positions
 - Sleeping on the stomach helps your lungs breathe better

Based on the physiotherapy manual prepared by experts. Kindly consult your physician/physiotherapist before practice

Isolation instructions

- Use private room/bathroom if possible
- Wear mask (surgical preferred)
- Maintain 6+ ft if using shared space
- Disinfect common surfaces, freq hand hygiene
- Avoid sharing objects
- No visitors
- Only leave for essential medical care

**Call 211 if unable to isolate or need essential services (hotel room, food delivery, etc)*

***Positive patents should call LADPH contact tracer at 833-540-0473 (8a-830p 7d/wk)*

Case 1

41F DM2, BMI 55, asthma, COVID +, day 5

“Are there any antibiotics or vitamins I should be taking?”

Early outpatient treatment

Early Outpatient Treatment Protocol

| | |
|-------------------------|--|
| Vitamin C + Quercetin | 2,000 mg 2-3 x daily and Quercetin 250 mg PO BID |
| Vitamin D3 | 4,000 IU/day |
| Zinc | 200 mg/day (OVMC: zinc gluconate 50 mg tablet; zinc sulfate: 220 mg) |
| Aspirin | 325 mg/day (unless contraindicated) |
| Melatonin (long acting) | 10 mg before bedtime (start at 2 mg QHS and gradually ↑ dose) |
| Famotidine (Pepcid) | 20-40 mg PO BID |

Early outpatient treatment

Early Outpatient Treatment Protocol

| | |
|-------------------------|--|
| Vitamin C + Quercetin | 2,000 mg 2-3 x daily and Quercetin 250 mg PO BID |
| Vitamin D3 | 4,000 IU/day |
| Zinc | 200 mg/day (OVMC: zinc gluconate 50 mg tablet; zinc sulfate: 220 mg) |
| Aspirin | 325 mg/day (unless contraindicated) |
| Melatonin (long acting) | 10 mg before bedtime (start at 2 mg QHS and gradually ↑ dose) |
| Famotidine (Pepcid) | 20-40 mg PO BID |

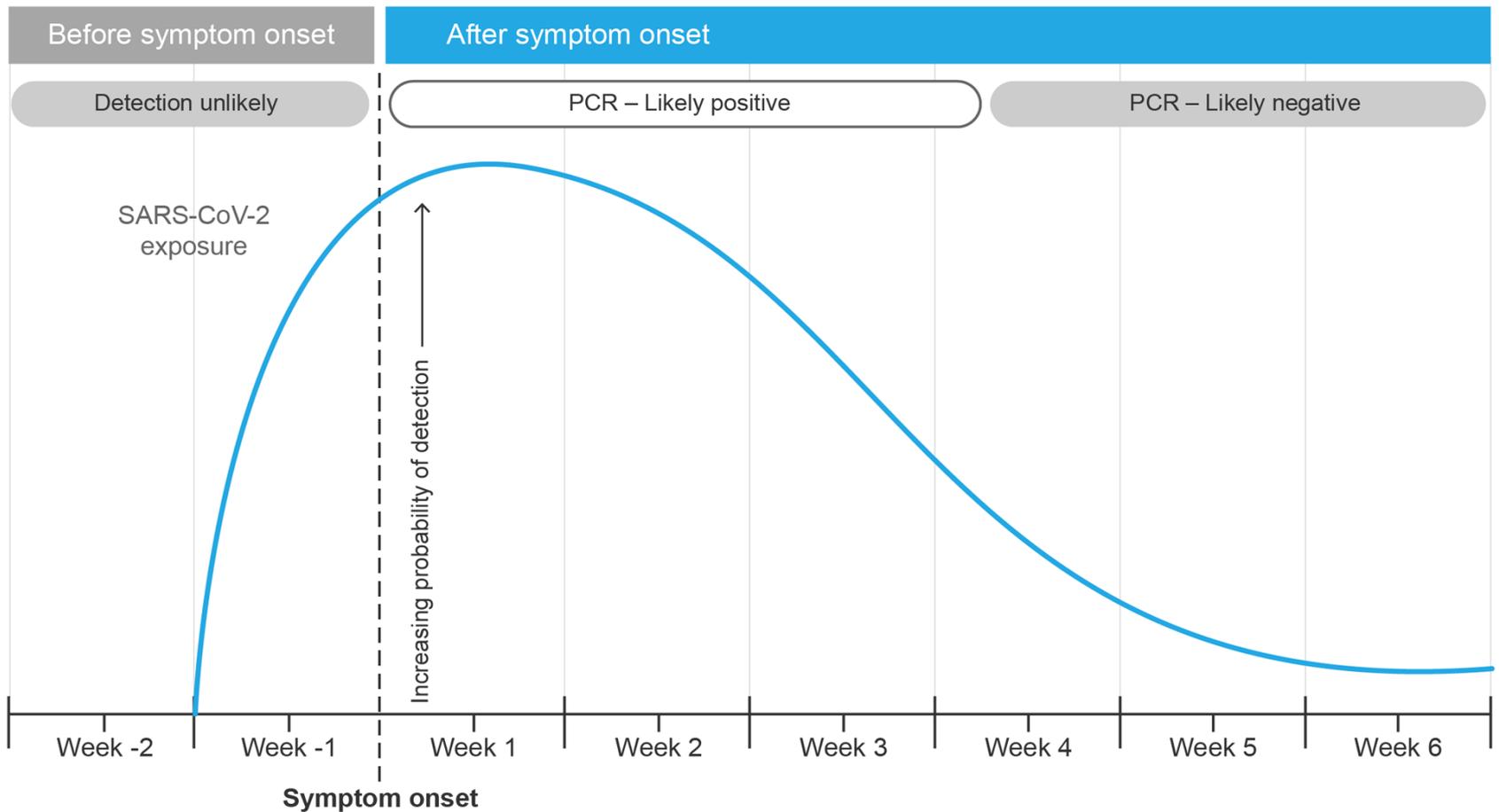
- Considerations:
 - Availability of med at home vs risk of close contact getting
 - Time on the phone better spent on precautions, social resources?
- My take for patients or friends/relatives who ask for advice
 - Vit D, C, Zinc probably very low risk, more common in med cabinet
 - Aspirin may carry risks without clear evidence; consider if other VTE risk factors?
 - Melatonin → if trouble sleeping?
 - Famotidine?

Case 1

41F DM2, BMI 55, asthma, COVID +, day 5

“When can should I get tested again?”

SARS-CoV2 PCR Positivity



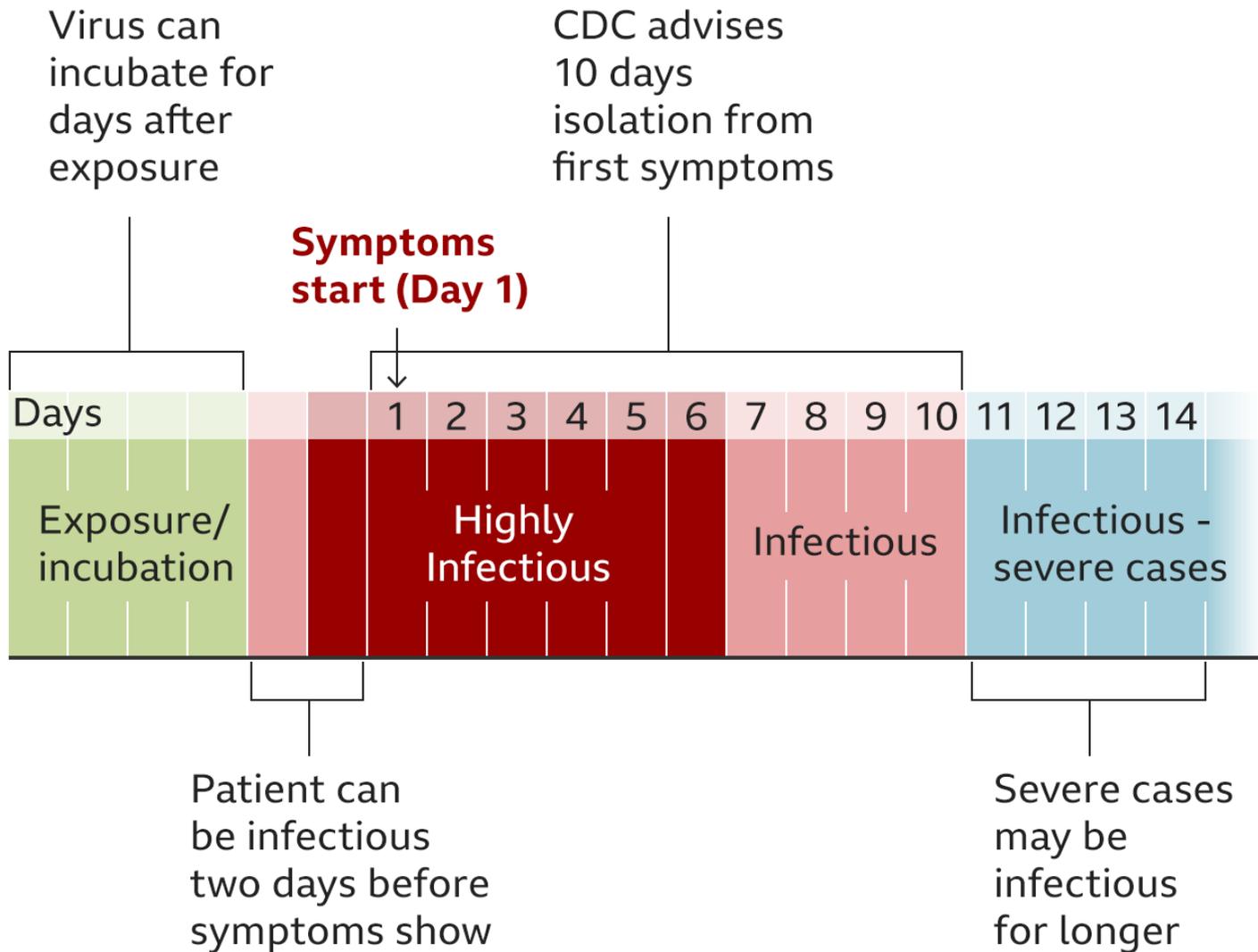
— Nasopharyngeal swab

Case 1

41F DM2, BMI 55, asthma, COVID +, day 5

“When can I go back to work?”

Coronavirus - when do symptoms start and how long does risk of infecting others last?



D/C Isolation

- Minimum 10d since sx onset
 - AND > 24 hrs no fever w/o meds
 - AND significantly improved sx
- Minimum 20d
 - if sev illness: >6L O₂, VTE, shock, or multiorgan dysfunction)
 - or sev immunocompromised: on chemo, HIV CD4 < 200, Pred > 20mg/day 14d+
- Asymptomatic: > 10d since first positive test

Quarantine of close contacts

She lives in 2 BR apartment with husband and friend, both asymptomatic.

1. Are they close contacts?
2. How long do they need to quarantine
3. Should they be tested? How/when?

Quarantine of close contacts

- Close contact = within 6 ft of pt 15+ min or any contact w/ body fluids (ie coughed on)
- Duration = 14d since last contact w/ pt (incl 48h prior to sx onset)
- CDC caveats when 14 days not possible
 - 10 days since last close contact
 - Or 7+ days since last contact AND negative test after 5 days

**LADPH and DHS guidelines still say 14 days

If you test positive for COVID-19:

- **Stay home except to get medical care and separate yourself from others until:**

- At least 10 days have passed since your symptoms first appeared, and
- You have had no fever for at least 24 hours, and
- Your symptoms have improved.

- **The public health department will contact you to follow-up. It is important to take this call.**

Public Health will ask:

1. About the places you have been.
2. The people you have been around while you were infectious.

- **The people you tell us about will be contacted but will not be told your name or contact information. They will also be asked to stay home to help prevent others from getting sick.**

If you get a call from Public Health it will show on your phone as **LA PublicHealth** or **1-(833) 641-0305.**

If you have been in contact with someone with COVID-19:

- **Remain home for 14 days after your last contact with the person who had COVID-19.**
- **The Public Health department will call you to follow-up. It is important to take this call.**

Public Health will ask:

1. If you are experiencing any symptoms or if you have been tested.
2. About places that you may have been to.

- **In order to avoid you getting mixed up with another person, please provide them with your complete and correct information.**
- **They may call you more than once to check how you are doing during your 14 days at home.**
- **They will provide you with information on next steps based on your responses.**
- **They will also provide you with information on how to access services like testing for COVID-19 or how to find a doctor if you don't already have one.**





Resources

Category
Search

Food
Services

Small
Business
Resources

Housing
Services

Everything
Else

Mental
Health
Services

CATEGORY SEARCH

211 LA has developed a Category Search specifically for COVID-19 related information and services. This search will include resources for a wide range of topics, all of which can support those impacted by the novel coronavirus.

Access this search tool [HERE](#).

You may also search for COVID-19 specific information and services by selecting the "Coronavirus" checkbox in the search filter tool.

How to follow up?

- Self care w/ precautions only
 - No dyspnea and no risk factors for severe disease
- Telehealth follow-up
 - Pts with mild dyspnea at presentation
 - Pts with any risk factors for severe disease

Telehealth follow-up

- Recommended telehealth follow-up on days 4, 7, 10 (following onset of illness)
- For higher risk patients recommend follow-up within 24 hours.
 - >65 with 1+ risk factor for severe disease
 - Any patient with moderate dyspnea (remember these should be seen in person first)
 - Patients who may not be able to reliably report deterioration in symptoms.

Case 1

41F DM2, BMI 55, asthma, COVID +, day 9

- Symptoms almost resolved, still mild cough but significantly improved.
- Plan to d/c isolation after day 10

Case 1

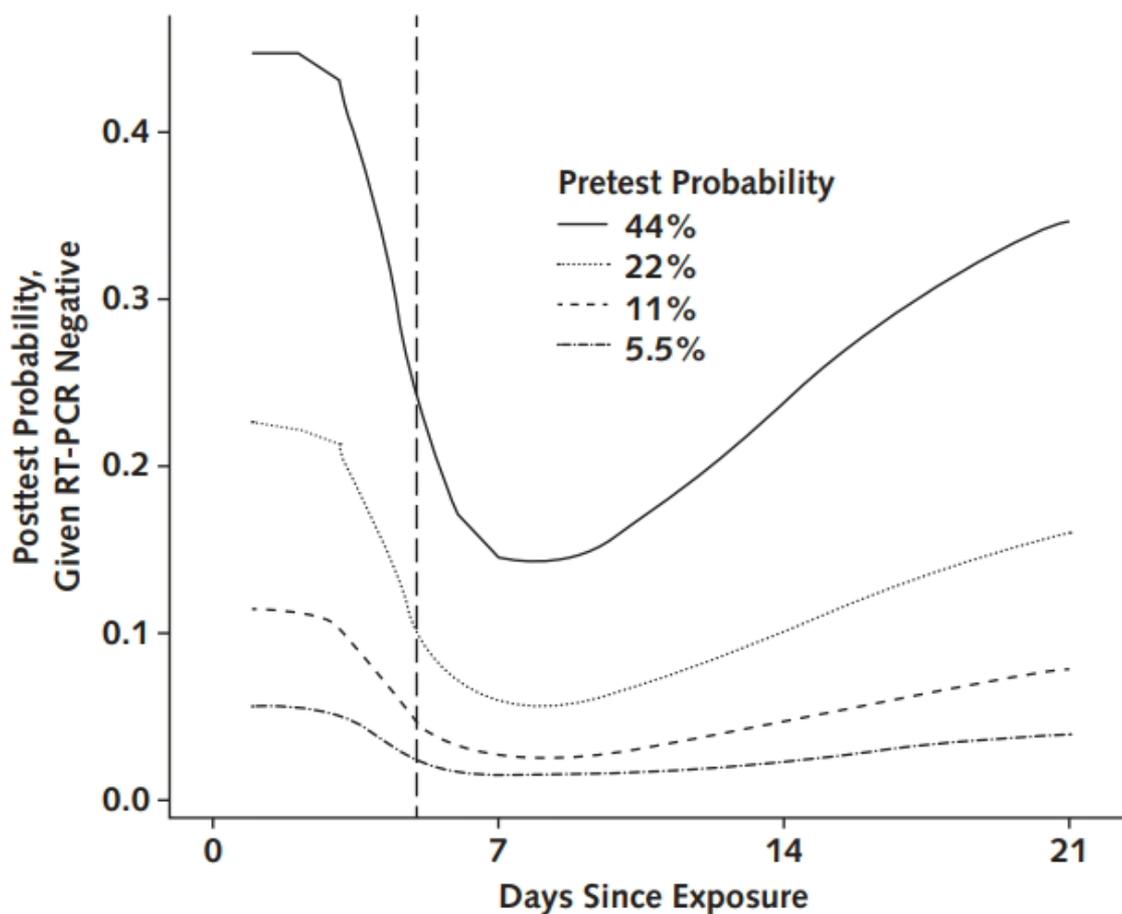
41F DM2, BMI 55, asthma, COVID +, day 9

Husband develops cough and loss of smell. He is tested the same day and is negative with persistent symptoms. What would you recommend?

Variation in False-Negative Rate of Reverse Transcriptase Polymerase Chain Reaction–Based SARS-CoV-2 Tests by Time Since Exposure

Lauren M. Kucirka, MD, PhD*; Stephen A. Lauer, PhD*; Oliver Laeyendecker, PhD, MBA; Denali Boon, PhD; and Justin Lessler, PhD

Figure 3. Posttest probability of SARS-CoV-2 infection after a negative RT-PCR result, by pretest probability of infection.



Case 2

55M w/ DM2.

- Positive 12 days ago
- Presented to ED w/ SpO₂ 86-89%, mid-90s on 2L



Portable

L
NG

Case 2

55M w/ DM2. PDC phone visit for COVID f/u.

- Discharged from ED with Home O2 and dexamethasone
- PDC ph visit 4d later → 80% on 6L NC, desats to mid 70s with activity
- Next steps?

Case 2

55M w/ DM2. PDC phone visit for COVID f/u.

- Discharged from ED with Home O2 and dexamethasone
- PDC ph visit 4d later → 80% on 6L NC, desats to mid 70s with activity
- Next steps?



Case 2

55M w/ DM2 w/ severe COVID-19

- s/p admission to OSH 10d, high-flow O2
- PDC phone visit now day 28 since symptoms onset
- 96% on RA at home

Questions:

- When to d/c isolation?
- When to send back home O2 supplies?

Other Cases?

Questions?