COVID-19 Updates, April 29, 2020

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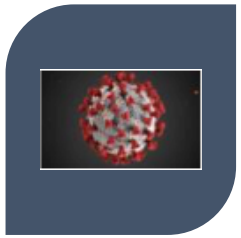


VIROLOGY

EPIDEMIOLOGY

CLINICAL MANIFESTATIONS

INFECTION CONTROL

TREATMENT

INFECTION CONTROL

Infectious Diseases Society of America Guidelines on Infection Prevention in Patients with Suspected or Known COVID-19

- Definitions:
  - Conventional capacity: Usual supplies available and used
  - Contingency capacity: Conservation, adaptation and substitution of supplies with occasional reuse of select supplies
  - Crisis capacity: Critical supplies lacking

- All of the recommendations are for health care personnel caring for patients with suspected or known COVID-19

INFECTION CONTROL

Infectious Diseases Society of America Guidelines on Infection Prevention in Patients with Suspected or Known COVID-19

- **Routine Patient Care in CONVENTIONAL Settings**

  1: **Use** either a surgical mask or N95 (or N99 or PAPR) respirator as part of appropriate PPE[1]. (Strong recommendation, moderate certainty of evidence)

- **Routine Patient Care in CONTINGENCY or CRISIS CAPACITY Settings[2]**

  2: **Use** a surgical mask or reprocessed respirator instead of no mask as part of appropriate PPE*. (Strong recommendation, moderate certainty of evidence)

- **Routine Patient Care in CONVENTIONAL, CONTINGENCY, or CRISIS CAPACITY Settings**

  3: **No recommendation** for the use of double gloves versus single gloves for health care PPE[1]. (Knowledge gap)

  4: **No recommendation** for the use of shoe covers versus no shoe covers for health care personnel caring for patients with suspected or known COVID-19 as part of appropriate PPE[1]. (Knowledge gap)

1. Appropriate personal protective equipment includes, in addition to a mask or respirator, eye protection, gown and gloves.
2. Respirator shortages

INFECTION CONTROL

Infectious Diseases Society of America Guidelines on Infection Prevention in Patients with Suspected or Known COVID-19

- **Aerosol-Generating Procedures in CONVENTIONAL Settings**

  5: **Recommends** that HCP use an N95 (or N99 or PAPR) respirator instead of a surgical mask, as part of appropriate PPE[1]. (Strong recommendation, very low certainty of evidence) Comment: Despite the very low quality and indirect evidence supporting this recommendation, the IDSA guideline panel placed a high value on avoiding serious harms to exposed health care personnel.

- **Aerosol-Generating Procedures in CONTINGENCY or CRISIS CAPACITY Settings[2]**

  6: **Suggests** that HCP use a REPROCESSED N95 respirator for reuse instead of surgical masks as part of appropriate PPE[1]. (Conditional recommendation, very low certainty evidence)

  7: **Recommends** that HCP add a face shield or surgical mask as a cover for the N95 respirator to allow for EXTENDED use as part of appropriate PPE[1]. (Strong recommendation, very low certainty evidence)[3].

  8: **Suggests** that HCP add a face shield or surgical mask as a cover for the N95 respirator to allow for REUSE as part of appropriate PPE[1]. (Conditional recommendation, very low certainty evidence)[3].

1. Appropriate personal protective equipment includes, in addition to a mask or respirator, eye protection, gown and gloves. 2. Respirator shortages. 3: This recommendation assumes correct doffing sequence and hand hygiene is performed before and after removing the face shield or surgical mask covering the respirator.

INFECTION CONTROL

Assessment of SARS-CoV-2 Infection Prevalence in Homeless Shelters — Four U.S. Cities, March 27–April 15, 202

- 1,192 residents and 313 staff members in 19 homeless shelters in four cities.
- Testing followed identification of a cluster:
  - **Boston**: 36% of residents and 30% of staff
  - **San Francisco**: 66% of residents and 16% of Staff
  - **Seattle** 17% of residents and 17% of staff
- Testing that occurred in shelters with one or no reported cases:
  - **Seattle**:5% of residents and 1% of staff
  - **Atlanta**: 4% of residents and 2% of staff

TABLE. SARS-CoV-2 testing among residents and staff members at 19 homeless shelters in four U.S. cities with community transmission of COVID-19, March 27–April 15, 2020

City	No. of shelters assessed	Date of testing	Residents		Staff members	
			No. tested	No. (%) positive	No. tested	No. (%) positive
Shelters reporting ≥2 cases in 2 weeks preceding testing						
Seattle	3	Mar 30–Apr 8	179	31 (17)	35	6 (17)
Boston	1	Apr 2–3	408	147 (36)	50	15 (30)
San Francisco	1	Apr 4–15	143	95 (66)	63	10 (16)
Subtotal	5	March 30–Apr 15	730	273 (37)	148	31 (21)
Shelters reporting 1 case in 2 weeks preceding testing						
Seattle	12	Mar 27–Apr 15	213	10 (5)	106	1 (1)
Shelters reporting no cases in 2 weeks preceding testing						
Atlanta	2	Apr 8–9	249	10 (4)	59	1 (2)
Total	**19**	**Mar 27–Apr 15**	**1,192**	**293 (25)**	**313**	**33 (11)**

The CDC recommends that homeless service providers implement infection control practices, apply social distancing measures, and promote use of cloth face coverings.

Mosites E, Parker EM, Clarke KE, et al0. MMWR Morb Mortal Wkly Rep. ePub: 22 April 2020. DOI: http://dx.doi.org/10.15585/mmwr.mm6917e1external icon.

INFECTION CONTROL

Management of Employee Health Travel Cherokee Nation Health Services

- **International or cruise travel**: 14 day quarantine upon return
- **Domestic travel** (50 states or D.C.):

  - *If known exposure* to covid-19 suspected or confirmed positive person, quarantine for 14 days from the date of last contact.
  - *If sympt*omatic, arrange for testing and appropriate follow
  - *If asymptomatic* and regardless of state of travel
    - **Pre-Screen:** Employers should measure the employee's temperature and assess symptoms prior to them starting work. Ideally, temperature checks should happen before the individual enters the facility.
    - **Regular Monitoring:** As long as the employee doesn't have a temperature or symptoms, they should self-monitor under the supervision of their employ- er's occupational health program.
    - **Wear a Mask:** The employee should wear a face mask at all times while in the workplace for 14 days after last exposure.
    - **Social Distance:** The employee should maintain 6 feet and practice social distancing as work duties permit in the workplace.
    - **Disinfect and Clean work spaces:** Clean and disinfect all areas such as offices, bathrooms, common areas, shared electronic equipment routinely.
    - Testing should be considered depending on testing capacity

CLINICAL MANIFESTATIONS

Older People Act Weird: Really?

- Older adults with COVID-19, the illness caused by the coronavirus, have several “atypical” symptoms, complicating efforts to ensure they get timely and appropriate treatment, ***according to physicians***.

- COVID-19 is typically signaled by three symptoms: a fever, an insistent cough and shortness of breath. But older adults — the age group most at risk of severe complications or death from this condition — may have none of these characteristics.

- **Instead, seniors may seem “off” — not acting like themselves** — early on after being infected by the coronavirus. They may sleep more than usual or stop eating. They may seem unusually apathetic or confused, losing orientation to their surroundings. They may become dizzy and fall. Sometimes, seniors stop speaking or simply collapse.

CLINICAL MANIFESTATIONS

Role of Antibody Testing in COVID-19

- No study has assessed whether the presence of antibodies to SARS-CoV-2 confers immunity to subsequent infection by this virus in humans and that tests that detect antibodies to SARS-CoV-2 in people need further study to establish accuracy and reliability[1]

- IDSA spokesperson explained “Most patients who develop and recover from COVID-19 infection will develop antibodies or will have detectable antibodies in their blood approximately 10 to 14 days after the onset of their illness,” the hope for antibodies has been that the detection of them in the blood represents protection for reinfection. That's really the million-dollar question and we do not know if patients with these antibodies are still at risk for reinfection.

1. WHO. Immunity passports in the context of COVID-19. https://www.who.int/news-room/commentaries/detail/immunity-passports-in-the-context-of-covid-19. Accessed April 27, 2020.1.

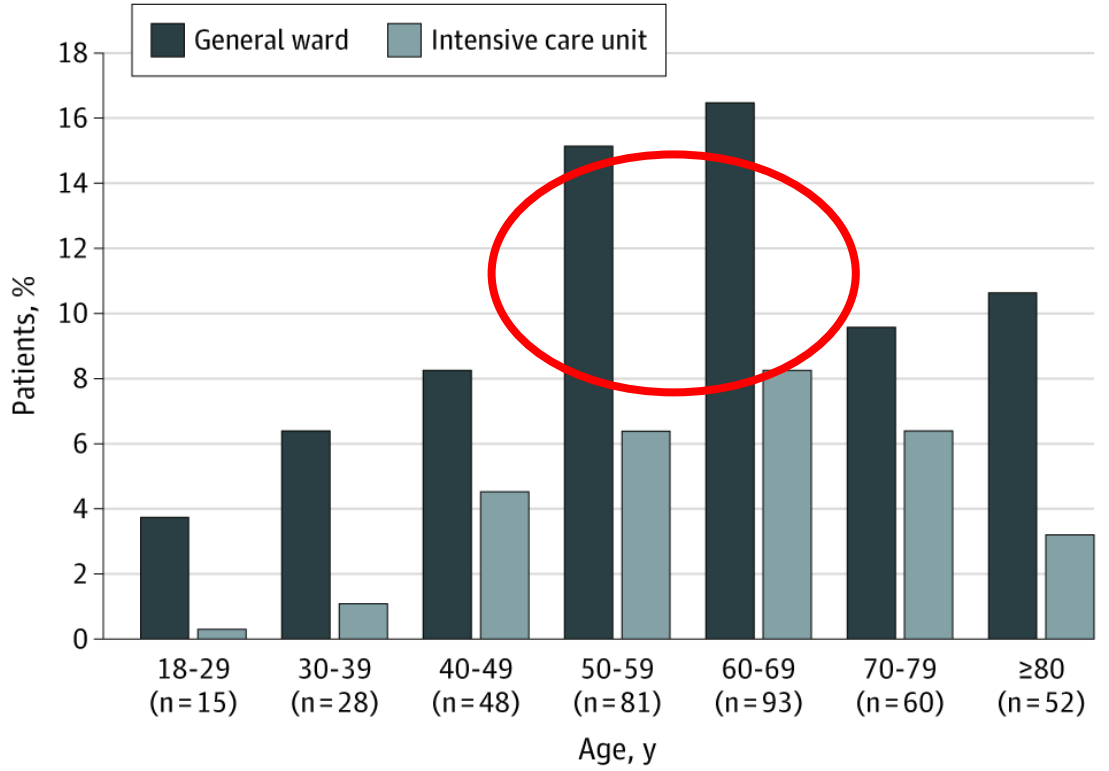
CLINICAL MANIFESTATIONS

Characteristics of Hospitalized Adults With COVID-19 in an Integrated Health Care System in California

1,299 California patients who tested positive for SARS-CoV-2

- The most common comorbidity was hypertension.
- 377 (29%) were treated as inpatients
- 113 (29.9%)in the ICU.
- Of the 264 not ICU patients, 54.9% received supplemental oxygen.
- Of 321 patients with discharge dispositions
  - 50 (15.6%) died in the hospital (mortality rates were 6.3% on the ward and 50.0% in the ICU).

Distribution by Age



Distribution by Age Group of Adult Patients Admitted to General Ward and Intensive Care Unit With Coronavirus Disease 2019Patients treated in intermediate care units are grouped under general ward.

Laura C. Myers, MD, MPH1; Stephen M. Parodi, MD1; Gabriel J. Escobar, MD1; et alVincent X. Liu, MD1
JAMA. Published online April 24, 2020. doi:10.1001/jama.2020.7202

CLINICAL MANIFESTATIONS

Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized With COVID-19 in the New York City Area

- 5,700 patients with COVID-19 admitted to 12 hospitals in New York City, Long Island, and Westchester County, New York.
  - Their median age was 63 years, and 39.7% were women.
  - The most common comorbidities were hypertension, obesity, and diabetes.
  - At triage, 30.7% of patients were febrile, 17.3% had a respiratory rate greater than 24 breaths/min, and 27.8% received supplemental oxygen.
  - Of the 2,634, 14.2% were treated in the ICU, 12.2% were on mechanical ventilation, and 21% died.
  - Of the 320 ICU patients who received mechanical ventilation and weren't still in the hospital at the study's end, 282 had died.

Safiya Richardson, MD, MPH1,2; Jamie S. Hirsch, MD, MA, MSB1,2,3; Mangala Narasimhan, DO2; et JAMA. Published online April 22, 2020. doi:10.1001/jama.2020.6775

CLINICAL MANIFESTATIONS

Clinical Characteristics of Pregnant Women with Covid-19 in Wuhan, China

- Clinical Characteristic of Pregnant Women with COVID-1 Chen et al, NEJM, April 2017
- 118 pregnant women Dx'd with COVID-19 identified in Wuhan,China
- Median age 31 years
- Symptoms: Fever (75%), Cough (73%)
- Lymphopenia: 44%; Abnormal CT: 79%□ 92% had mild disease, 8% had severe disease
- No maternal deaths
- 3 spontaneous & 4 induced abortions, 2 ectopic pregnancies
- 68 deliveries □ Median APGAR score 9 with no neonatal asphyxia or deaths

The present data do not suggest an increased risk of severe disease among pregnant women, as has been observed with influenza

NEJM April 17, 2020 DOI: 10.1056/NEJMc2009226

Treatment

Are ACE/ARB safe in patients with COVID-19?

Study	Center	Number of Patients	% taking ACE and/or ARB	Outcome	Adjustment for cofounders	Adjusted Hazard Ration
1	Single	362	32% ACE or ARB	Mortality: No Difference	no	
2	Multicenter	1128	17% ACE or ARB	Mortality: ACE/ARB: 3.7% No ACE/ARB: 9.8%	yes	0.37
3	Two Centers	205	18% ACE	Mortality and ICU Need: ACE/ARB: 14.7% No ACE/ARB: 29%	Yes	0.29

1. Li J et alChina. JAMA Cardiol 2020 Apr 23; [e-pub]. 2, Zhang P et al. Circ Res 2020 Apr 17; [e-pub]. 3. Bean DM et al. MedRxiv 2020 Apr 11; [preprint]