

April 7, 2020 COVID-19 Update

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Articles reviewed:

- Coronavirus Disease 2019 in Children – United States, February 12-April 2, 2020

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ASE Statement on Protection of Patients and Echocardiography Service Providers During the 2019 Novel Coronavirus Outbreak

- Non urgent/emergent echos in patients with known COVID-19 should be deferred
- Careful PPE consideration should be given when imaging patients with unknown COVID-19 status
- TEE in particular should be restricted for times when no other less invasive imaging modality (ie CT/MRI) is able to obtain the needed information given risks of aerosolization and exposure of healthcare personnel
- Exercise stress imaging should be deferred if possible given increased risks of aerosolization with heavy breathing
- Portable TTE is likely superior in most cases given risks of transporting COVID-10 + patients, need to decontaminate entire echo room vs machine only
- Consider POCUS or other limited imaging performed by personnel already involved in patient care and remotely analyzed by cardiology/echo staff to limit number of healthcare team members exposed to COVID-19 patients
- When formal study needed, planning ahead and limiting trainees is important to minimize exposure – reviewing staff should be immediately available for feedback to determine if further images are needed and to relay results to team
- Local and CDC guidance should be followed regarding appropriate PPE for TTE vs TEE vs other imaging
- Consider cleaning machines in patient room and again in hallway or identifying COVID-only machines
- Reading rooms should be carefully disinfected routinely, with distancing or remote reading done as much as possible
- Source: Kirkpatrick JN, Mitchell C, Taub C, Kort S, Hung J, Swaminathan M, ASE Statement on Protection of Patients and Echocardiography Service Providers During the 2019 Novel Coronavirus Outbreak *Journal of the American College of Cardiology* (2020), doi: <https://doi.org/10.1016/j.jacc.2020.04.002>

Protection of Medical Trainees in the COVID-19 Front Lines Saves Us All

- AHA position: protect medical trainees on the front lines or do not send them
- PPE shortages are common, and involving trainees increases the amount needed (trainee + attending)
- Despite early graduation of students in NYC and other locations, AHA strongly encourages NOT graduating early or relaxing training requirements to send them to COVID-19 front lines
- Protecting trainees is protecting the future – only with complete, full PPE (including PPE use training) should they be involved in caring for COVID-19 patients
- Source: Harrington RA, Elkind MS, and Benjamin IJ. (2020). Protecting Medical Trainees on the COVID-19 Frontlines Saves Us All. *Circulation*. Published online 6 April 2020 at [www.ahajournals.org](http://www.ahajournals.org). DOI: <https://doi.org/10.1161/CIRCULATIONAHA.120.047454>

Article Title:	Coronavirus Disease 2019 in Children – United States, February 12–April 2, 2020
Authors:	CDC COVID-19 Response Team
Full Citation:	Coronavirus Disease 2019 in Children — United States, February 12–April 2, 2020. MMWR Morb Mortal Wkly Rep. ePub: 6 April 2020. DOI: <a href="http://dx.doi.org/10.15585/mmwr.mm6914e4">http://dx.doi.org/10.15585/mmwr.mm6914e4</a>

**Study Question:**

How has COVID-19 affected children in the United States during the initial stages of the pandemic?

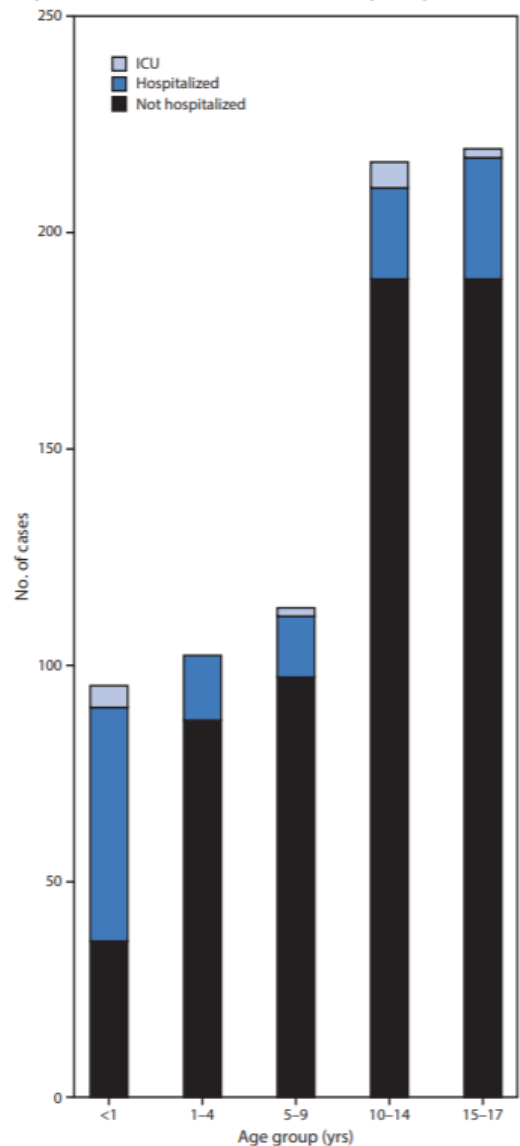
**Methods:**

Lab-confirmed COVID-19 cases in the US from Feb 2 – Apr 2 2020 were retrospectively reviewed based on a standardized case report form completed by institutions in all 50 states. Clinical data was available for ~1/3 of cases: ranges given as estimates of severity/hospitalization (as more severe cases/ICU admissions likely to be reported) with other clinical characteristics reported as % of those reported.

**Results:**

- Children <18y accounted for 1.7% (n=2,572) of ~150,000 reported cases although they make up 22% of the US population
- 3 children have died from COVID-19 in the US to date
- 57% of reported pediatric cases were in males
- Children were less likely to have fever, cough, or SOB compared to adults (73% vs 93%) – only ~50% had fever
- 68% of the pediatric cases with symptoms documented were asymptomatic
- Children were less likely to be hospitalized than adults (5.7% vs 10%) – n=745 cases reported with n=15 to the ICU
- Of 345 children with completed information about underlying conditions, 23% had at least one underlying condition: 12% had lung dz, 7% had cardiovascular dz, 2% were immunosuppressed

**FIGURE 2. COVID-19 cases among children\* aged <18 years, among those with known hospitalization status (N = 745),<sup>†</sup> by age group and hospitalization status — United States, February 12–April 2, 2020**



**TABLE. Signs and symptoms among 291 pediatric (age <18 years) and 10,944 adult (age 18–64 years) patients\* with laboratory-confirmed COVID-19 — United States, February 12–April 2, 2020**

Sign/Symptom	No. (%) with sign/symptom	
	Pediatric	Adult
Fever, cough, or shortness of breath <sup>†</sup>	213 (73)	10,167 (93)
Fever <sup>‡</sup>	163 (56)	7,794 (71)
Cough	158 (54)	8,775 (80)
Shortness of breath	39 (13)	4,674 (43)
Myalgia	66 (23)	6,713 (61)
Runny nose <sup>§</sup>	21 (7.2)	757 (6.9)
Sore throat	71 (24)	3,795 (35)
Headache	81 (28)	6,335 (58)
Nausea/Vomiting	31 (11)	1,746 (16)
Abdominal pain <sup>¶</sup>	17 (5.8)	1,329 (12)
Diarrhea	37 (13)	3,353 (31)

**Conclusions:**

- A lower proportion of children had RNA-proven COVID-19 compared to adults aged 18-64
- Fewer children presented with classic symptoms (fever, cough) and more likely to be asymptomatic at diagnosis
- Fewer children were admitted to the hospital for illness, with even fewer requiring ICU care

**Perspective:**

Consistent with early data from other nations, children appear to be much more mildly affected with COVID-19, although statistical comparisons could not be made due to high rates of incomplete case report forms. Based on limited data, underlying conditions appear to be risk factors for more clinically significant disease, similar to early data on adult comorbidities as risk factors. Given limitations in testing and minimal testing in asymptomatic children, the true prevalence of infection in the US is unknown. Given the high proportion of asymptomatic or minimally symptomatic children, high index of suspicion and careful social distancing remains critical moving forward to mitigate the risk of children as viral vectors.

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Topic Areas: COVID-19, children