

Pediatric Acute COVID-19 Disease

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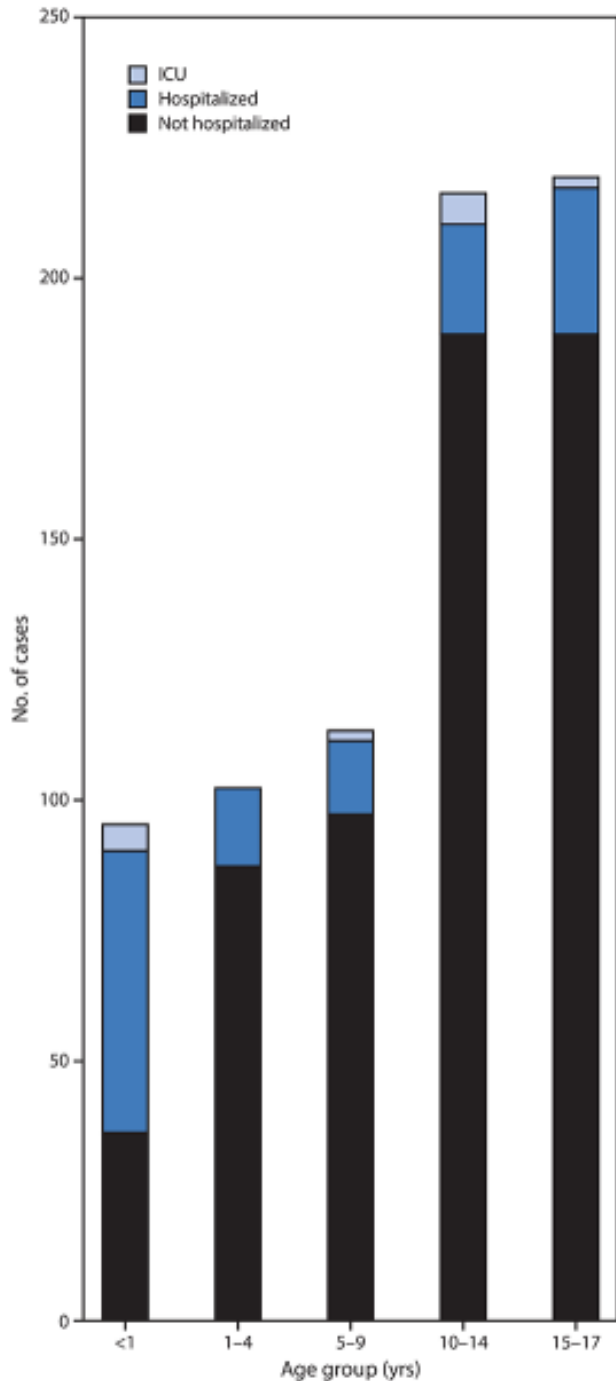
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Coronavirus Disease 2019 in Children — United States,
February 12–April 2, 2020

CDC COVID-19 Response Team



- Children represent 22% of the US population
- Among 149,082 cases in the US, 1.7% are in children
- 0.58-2.0% are in the ICU
- Three deaths among ~2,500 cases

Pediatric COVID-19 Infection Atlanta Experience

- As of 21 May 2020, 41 children (~66% >10 years of age) with laboratory confirmed SARS-CoV-2 by PCR in our healthcare system
- ~60% were previously healthy
- 2 with new diagnoses of leukemia
- 38% with obesity
- 11 cared for in PICU (many had underlying conditions)

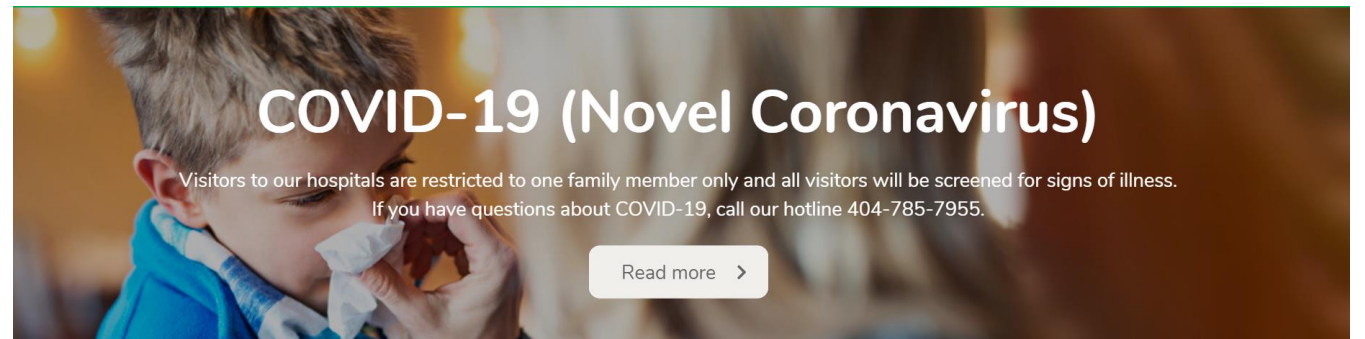
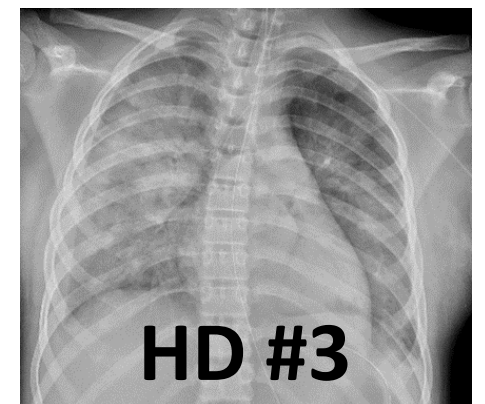
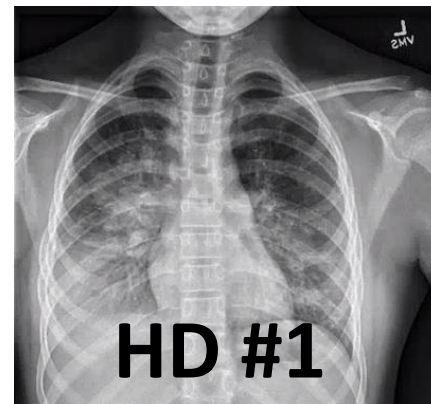


Table 1. Presentation and Demographic Characteristics of 48 Children Treated in Pediatric Intensive Care Units for Coronavirus Disease 2019 (COVID-19)

Characteristic	No. (%)
Age, median (IQR), y	13 (4.2-16.6)
Age group, y	
<1	8 (17)
1-5	6 (13)
6-10	7 (15)
11-21	27 (56)
Male	25 (52)
Presentation	
Asymptomatic	1 (2)
Respiratory	35 (73)
Gastrointestinal	1 (2)
Neurological	2 (4)
Circulatory	2 (4)
Other	7 (15)
Comorbidities	
None	8 (17)
Medically complex ^a	19 (40)
Immune suppression/malignancy	11 (23)
Obesity	7 (15)
Diabetes	4 (8)
Seizures	3 (6)
Congenital heart disease	3 (6)
Sickle cell disease	2 (4)
Chronic lung disease	2 (4)
Other congenital malformations	2 (4)

Shekerdemian et al. JAMA Peds. 2020

- 12 y/o: day 2 of illness: Came to ED with fevers, vomiting
- Day 3 of illness: Returned to ED with persistent fevers, new cough,
- Day 5 of illness: Returned to ED with fevers, SOB
 - 39.6°C HR 129 BP 108/63 RR 26-40 89% O2 saturation
 - Due to increased distress on HFNC 15L 100%, transferred to PICU for BiPAP



Clinical questions

- Should antiviral agents be administered to children with COVID-19?
 - Pediatric deaths are rare (1 of 2,143)
 - ICU admissions-~ 1.7%, 94% of illness considered mild, to moderate
 - More descriptions in otherwise ill
 - Patient is otherwise healthy but critically ill
 - Patient was treated with remdisivir

Case	Age (years)	# total child household members	# adult household members	Potential Exposures (household member exposed)	Household contact with symptoms PRIOR to case	Household contact with symptoms AFTER to case	Days PRIOR or AFTER patient's first symptoms	# secondary cases/total susceptible household members
1	0.17	6	2	School (adult)	0	0	N/A	0 of 7 (0%)
2	0.58	2	2	Daycare (child)	0	1 (parent)	+18	1 of 3 (33%)
3	0.26	1	2	Hospital-acquired (child)	0	0	N/A	N/A
4	3	1	2	Unknown	0	0	N/A	0 of 3 (0%)
5	5	1	3	Cleaning houses (adult)	1	0	-1	1 of 3 (33%)
6	8	1	3	Unknown	1	0	-14	1 of 3 (33%)
7	9	1	2	Positive co-worker (adult)	1	0	-5	1 of 2 (50%)
8	11	1	2	Co-worker travel to NYC (adult)	2	0	-8	2 of 2 (100%)
9	12	2	2	School (child)	0	1 (parent)	Unknown	1 of 3 (33%)
10	12	1	2	Cereal factory (adult)	2	0	-8	2 of 2 (100%)
11	13	3	5	Unknown	3 (sibs)	1 (parent)	Before: unknown, After: +3	4 of 7 (57%)
12*	13	1	3	Cleaning houses (adult), *	1	0	-2	1 of 3 (33%)
13	14	3	2	Construction (adult)	0	0	N/A	0 of 4 (0%)
14	14	2	4	Unknown	0	0	N/A	0 of 5 (0%)
15	15	2	2	Positive co-worker (adult)	1	0	-14	1 of 3 (33%)
16	15	2	2	Cook (adult)	1 (parent)	2 (parent + sib)	Before: unknown, After: +12	3 of 3 (100%)
17	15	6	2	Unknown	0	0	N/A	0 of 7 (0%)
18**	16	1	2	Grocery store clerk (child)	0	1	+28	1 of 2 (50%)
19	16	2	2	Unknown	0	0	N/A	0 of 3 (0%)
20***	16	2	1	***	0	0	0	0 of 3 (0%)
21	16	5	6	Mattress factory (adult)	3	3	Before: -3, 0, After: +2, +15	6 of 10 (60%)
22	17	3	3	School	0	1 (parent)	6	1 of 5 (20%)

Unpublished data