

# Hospitalization Risk for COVID-19-Positive Infants Six Times Higher Than Other Kids Under 5

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*Abstract: Pediatric hospitalization rates for COVID-19 are higher in infants.*

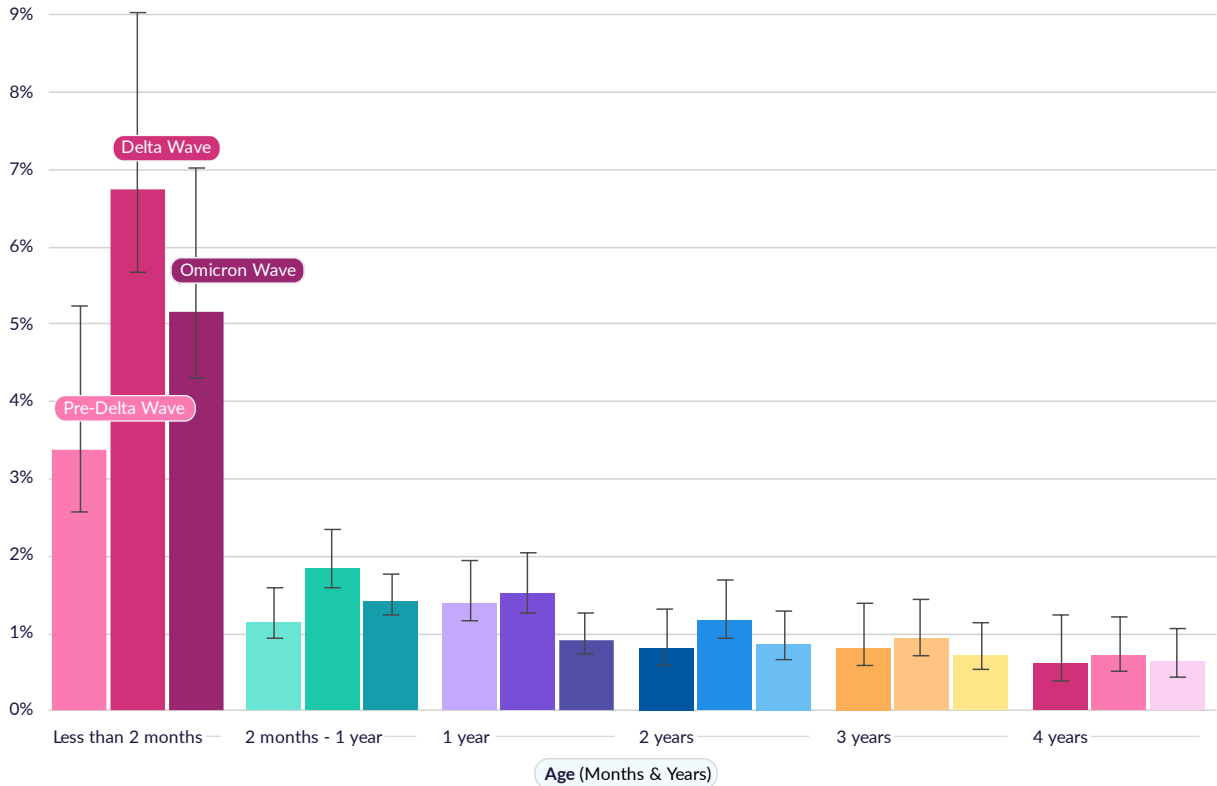
## Key Findings:

- Infants less than two months old are most likely to be hospitalized with a COVID infection compared to other children under five years old.
- Hospitalizations were highest during the period where the Delta variant was prominent for all age groups under five years old.

We studied the hospital admission rate for COVID-19 for children under the age of 5 to see how COVID-19 is affecting those who are not yet eligible to be vaccinated. The data, stratified by age, show that infants under two months of age who test positive for COVID-19 are more likely to require hospitalization than older children as infants have less developed immune systems. The highest risk to date for this age group was during the period when the Delta variant was predominant, with almost 7% of COVID-positive infants requiring hospitalization during that wave.

It is common practice to admit infants under two months of age to the hospital whenever they have a fever. Whether the admission is due to standard practice or to severity of the infection, any hospitalization of an infant under 2 months has a significant effect on healthcare utilization, the child, and their family. Therefore, those caring for infants should take precautions to avoid exposure that could result in an infection and subsequent hospitalization.

## Risk of COVID-19 Hospitalization for Children Under Five



"Risk of Covid-19 Hospitalization for Children Under 5," 2022. EpicResearch.org

Figure 1. The risk of a COVID-19 infection requiring hospitalization for every variant wave is highest for children under two months old.

These data come from Cosmos, a HIPAA-defined Limited Data Set of more than 138 million patients from 161 Epic organizations including 960 hospitals and more than 20,000 clinics, serving patients in all 50 states. This study was completed by two teams, each composed of a clinician and research scientists who worked independently. The two teams came to similar conclusions.

## References

1. Pantell, R.H., Roberts, K.B., Adams, W.G., Dreyer, B.P., Kuppermann, N., O'Leary, S.T., Okechukwu, K., and Woods, C.R. Clinical Practice Guideline: Evaluation and Management of Well-Appearing Febrile Infants 8 to 60 Days Old. Pediatrics, 148(2). <https://doi.org/10.1542/peds.2021-052228>

## Data Definitions

Term	Definition
<b>COVID-19 diagnosis</b>	A diagnosis mapped to ICD-10-CM code U07.1.
<b>Respiratory diagnosis</b>	Any diagnosis mapped to an ICD-10-CM code starting with "J."
<b>COVID-19 admissions</b>	Hospital admissions with either a documented COVID-19 diagnosis or admissions with other respiratory diagnoses involving a patient who tested positive for COVID-19 within 14 days of admission. To

corroborate that the admission primarily treated COVID, it must meet at least one of these criteria:

[1] The only problem list problems added or removed during the admission dates are either COVID-19 or a respiratory diagnosis.

[2] The patient received any of the following medications used to treat Covid during the admission:

- Remdesivir
- Ivermectin
- Interferons
- Nitazoxanide
- Hydroxychloroquine
- Chloroquine
- Azithromycin
- Lopinavir

[3] The patient received any of the following medications used to treat COVID and had an SpO2 reading below 95 during the admission:

- Dexamethasone (only oral or systemic)
- Prednisone (only oral or systemic)
- Methylprednisolone (only oral or systemic)
- Hydrocortisone (only oral or systemic)
- Baricitinib
- Tofacitinib
- Tocilizumab
- Sarilumab
- Fluvoxamine
- Colchicine
- Budesonide
- Albuterol
- Bamlanivimab
- Casirivimab

Sotrovimab