

COVID-19 hospital admission rare for children with arthritis

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Children and young people with underlying rheumatic and musculoskeletal diseases (RMDs) are uncommonly hospitalized with COVID-19, a study of more than 600 patients under age 19 has found.

The study from 25 countries led by University of Manchester and Boston Children's Hospital scientists, is published in *Annals of the Rheumatic Diseases*

Of the 607 patients, 378 had [juvenile idiopathic arthritis](#) (JIA), 78 had auto-inflammatory syndromes, and 47 had [systemic lupus erythematosus](#) or mixed connective tissue disease.

Most patients did not report any comorbidities (83%), though 38 (6%) had eye inflammation, a common condition in [children](#) with juvenile-onset arthritis.

The study also found that those on anti-rheumatic "biologic" therapies, such as TNF inhibitors, did not appear to be at meaningfully increased risk of developing severe COVID-19, compared to other children in the study who were not receiving the drugs.

The [data](#) used by the team was entered by doctors into the European Alliance of Associations for Rheumatology (EULAR) COVID-19 Registry, the Childhood Arthritis and Rheumatology Research Alliance (CARRA) Registry, and the CARRA-sponsored COVID-19 Global Pediatric Rheumatology Database.

All cases of COVID-19 occurred before vaccinations were available in the [young people](#) in this study.

Dr. Lianne Kearsley-Fleet, an epidemiologist at The University of Manchester, said: "Previous research has shown that most children and young people do not experience severe COVID-19, many being asymptomatic or with only mild symptoms. So we felt it was important to find out if the same was true for those with RMDs, and the good news is that most do appear to do well and experience mild COVID-19 disease."

Min-Lee Chang, co-author of the paper who led the data analysis for the CARRA dataset from Boston Children's Hospital, said: "We of course agree that protective measures are important to follow to minimize the risk of acquiring SARS-CoV-2 infection.

"However these findings should help reassure parents and families that the probability of severe COVID-19 in the majority of children and young people with JIA appears relatively low."

Though the majority of children did well, 43 patients (7%) were hospitalized.

Where hospitalizations did occur, they were more likely among those with more severe RMDs such as lupus, vasculitis, or auto-inflammatory syndromes, rather than JIA. As in other studies, those who were obese were four times more likely to be hospitalized.

However, even among those hospitalized, most patients avoided [severe illness](#), with less than one-in-five needing oxygen or mechanical breathing support.

Professor Kimme Hyrich from The University of Manchester and a consultant rheumatologist, said: "The data are very reassuring but do show again the important association between obesity and more severe COVID-19 outcomes, supporting the view that protection measures in those children should be strictly followed."

Dr. Marc Natter, assistant professor of pediatrics at Harvard Medical School and the pediatric rheumatologist leading the study for CARRA at Boston Children's Hospital, said: "The collective experience is that children, especially younger children with juvenile idiopathic arthritis appear less susceptible to symptomatic severe COVID-19 than adults with rheumatic disease, and reports of severe disease and death.

"But until now, little was known about the impact of comorbidity and immunosuppression on the risk of severe COVID-19 in the pediatric population with RMDs.

"This paper offers an important addition to the literature and should be reassuring for young people living with RMDs and their parents, although it does also reinforce the need for understanding there appears to be an overall increased risk that does need to be managed by COVID-19 vaccination, social distancing, and masking where appropriate."

More information: Lianne Kearsley-Fleet et al, Outcomes of SARS-CoV-2 infection among children and young people with pre-existing rheumatic and musculoskeletal diseases, *Annals of the Rheumatic Diseases* (2022). [DOI: 10.1136/annrheumdis-2022-222241](https://doi.org/10.1136/annrheumdis-2022-222241)

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