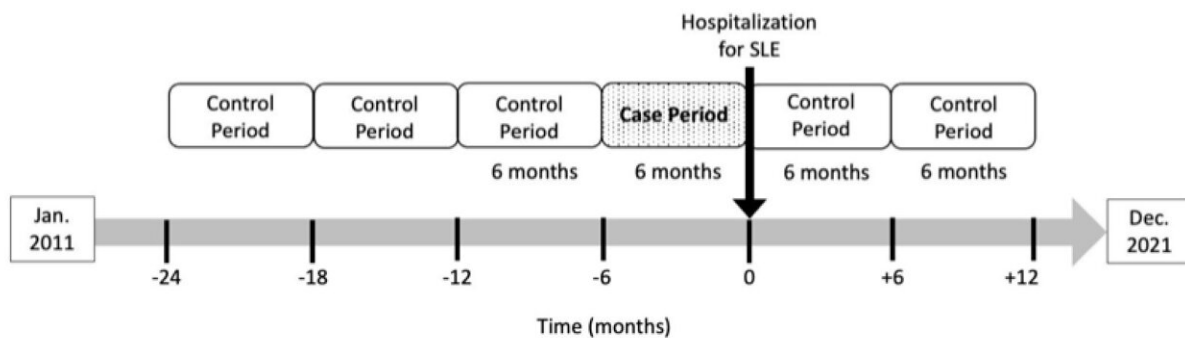


# Study links lower hydroxychloroquine dose to more hospitalizations for systemic lupus erythematosus flares

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Case-Crossover Study Design: In this case-crossover study, case periods were the 6-months prior to a hospitalization for SLE flare. Control periods were 6-months without a SLE hospitalization. Case and control periods without HCQ use were excluded. Up to 3 control periods per patient were selected as eligible in the following order of priority: 1) 12\_18 months prior to SLE hospitalization, 2) 6\_12 months prior to SLE hospitalization, 3) 18\_24 months prior to SLE hospitalization, 4) 6\_12 months after SLE hospitalization, 5) 0-6 months after SLE hospitalization. Patients could have up to 3 non-overlapping case periods for separate hospitalizations for SLE. Credit: Hydroxychloroquine Dosing Less Than 5 Mg/kg/day Leads to Increased Hospitalizations for Systemic Lupus Erythematosus Flares (2022) <https://acrabstracts.org/abstract/hydroxychloroquine-dosing-less-than-5-mg-kg-day-leads-to-increased-hospitalizations-for-systemic-lupus-erythematosus-flares/>

New research presented this week at ACR Convergence 2022, the American College of Rheumatology's annual scientific meeting, found that the recommended weight-based or non-weight-based dose of hydroxychloroquine led to more hospitalizations for flares among patients with systemic lupus erythematosus.

Hydroxychloroquine (HCQ), the mainstay treatment for [systemic lupus erythematosus](#) (SLE), reduces flares and improves long-term outcomes. However, the appropriate dosage to avoid retinopathy has long been a matter of debate. Ophthalmology guidelines initially recommended HCQ dosing equal to or less than 6.5 mg/kg/day of ideal body weight. In 2016, updated guidelines suggested using 5 mg/kg/day or less based on actual body weight.

For some patients, this results in doses lower than 400 mg a day, which had often been used to treat SLE. The effects of lower doses on SLE hospitalizations are not known. The researchers undertook this study to determine the effect of HCQ dose on the risk of hospitalization for SLE flares.

In this case-crossover study, researchers identified SLE patients within the Massachusetts General Brigham cohort using an electronic health record-based algorithm. These patients had at least one visit for SLE and were prescribed HCQ between January 2011 and December 2021. Those with one or more hospitalizations for an SLE flare while taking HCQ were included in the study.

The case period was the six months leading up to an SLE-related hospitalization; the control period was a non-overlapping six-month period that did not end in hospitalization. Patients could have up to three cases and three control periods.

"We designed this as a case-crossover study because it compares patients

to themselves and removed concerns that patients were adequately matched between groups," explains. Jacquelyn Nestor, MD, Ph.D., a clinical and research [rheumatology](#) fellow at Massachusetts General Hospital and the study's lead author.

The researchers were interested in the comparative outcomes of lower versus higher doses of HCQ. Low dose weight based HCQ was defined as equal to or less than 5 mg/kg a day; a higher dose as more than 5 mg/kg a day. The low non-weight-based daily dose was less than 400 mg versus a higher dose of 400 mg.

Among nearly 3,000 SLE patients who used HCQ, 108 were hospitalized for an SLE flare while taking the drug and had at least one control period with HCQ use during the study. The majority of patients were women, 43.5% of patients were white, and 32.4% were Black.

For these patients, researchers found that both the lower weight-based dose and non-weight-based dose were associated with increased hospitalizations for SLE flares, with an adjusted odds ratio of 4.41 and 3.48, respectively.

"The results of the study confirmed our hypothesis. We know that hydroxychloroquine has many proven benefits in SLE patients, so it seemed likely there would be a dose-effect as well," Dr. Nestor says.

"The current guidelines are for hydroxychloroquine dosing by weight, which are in place to prevent the long-term potential side effect of blindness. But our study shows that lower dosing results in increased SLE-related hospitalization in the short-term. It may be worth reconsidering the current hydroxychloroquine dosing guidelines to balance both the short- and long-term side effects."

**More information:** [Conference abstract](#)

Conference: [www.rheumatology.org/Annual-Meeting](http://www.rheumatology.org/Annual-Meeting)

Provided by American College of Rheumatology

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