

GUEST EDITORIAL

Virtual Issue: COVID-19 and headache

The novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) has been responsible for the COVID-19 pandemic for over a year now. Though primarily a respiratory infection, SARS-CoV2 has demonstrated neurotropism centrally and peripherally, often with persisting neurologic symptoms beyond resolution of systemic symptoms like dyspnea and fever.

Headache can broadly be associated with COVID-19 infection with overall prevalence ranging widely, encompassing both secondary and primary headache disorders (Table 1). There has been robust COVID-19 literature this past year, including numerous studies published in *Headache*. Several plausible mechanisms for COVID-19-associated headache have been postulated, namely via ACE2 host-receptor cellular entry with subsequent role in trigeminovascular activation, direct viral invasion, and cytokine release syndrome.¹ Though the exact phenotype of headache directly attributed to COVID-19 infection remains without specificity, we know it is often an early symptom, persistent, even isolated, and may not reliably correlate with COVID-19 disease severity.²

People both with and without pre-existing headache disorders have experienced headache associated with COVID-19.³ Frontline workers, and now the general population, wearing personal protective equipment have developed headache (probably attributed to external-compression headache).⁴ Clinicians have had to change practice, now heavily weighing the safety of previous commonly used headache treatments like non-steroidal anti-inflammatory drugs and corticosteroids and utilizing pragmatic at-home bridging therapies to replace in-office procedures and acute care visits.^{5,6} The need for social distancing has further led to a drastic healthcare system-wide shift toward telemedicine and other virtual services,⁷ which is also providing a renewed interest in more contemporary applications of holistic care, such as smartphone-based mindfulness and behavioral applications. Headache education has required rapid evolution as the majority of neurology residents and fellows,⁸ as well as other graduate, undergraduate and continuing medical education training programs, have had their formative experiences in 2020-2021 impacted by the pandemic.⁹ Finally, with vaccinations upon us, we can expect upcoming examinations of their impact on our patients and delivery of care.

Editor's Note: Starting in March 2021 *Headache* will resume (now on a quarterly basis) the online release of its Virtual Issues. Virtual Issues can be found at headachejournal.org and represent a carefully curated list of recent publications from the journal, unified around a specific content theme and woven together with an accompanying editorial. Virtual Issues are intended to provide the reader with an easily accessible digest of recently published content from the journal with a view to acting as a simple primer on current understanding and ongoing research on the subject matter. Please visit headachejournal.org to access our library of virtual issues.


TABLE 1 Secondary and primary headache disorders associated with COVID-19 infection

Headache category	Headache entity
Secondary headache	<ul style="list-style-type: none"> Headache attributed to systemic viral infection Cytokine release syndrome Other causes related to direct COVID-19 infection (vascular, non-vascular)
Primary headache	<ul style="list-style-type: none"> Index headache disorder (usually migraine) triggered by viral infection itself Stress let-down after COVID-19 infection subsides—migraine trigger Stressful life event, post-traumatic stress disorder related to COVID-19 infection inducing episodic migraine progression to chronic migraine De novo continuous headache with onset associated with COVID-19 infection—new daily persistent headache

Although scientific information regarding headache and COVID-19 is constantly evolving, we appreciate *Headache* as a premier destination advancing this science and our larger understanding of headache as a symptom of this infection, its interaction with secondary and primary headache disorders acutely and chronically, as well as its impact on our delivery of care, well-being,¹⁰ and education efforts. This very timely virtual issue compiles relevant manuscripts published in *Headache* over the previous year addressing COVID-19 as it relates to various aspects of headache medicine.

CONFLICT OF INTEREST

Dr. Bobker is a headache medicine fellow at UCSF and serves as an Assistant Editor of the Residents & Fellows Section for *Headache*. She has nothing to disclose. Dr. Robbins serves on the board of directors of the American Headache Society, in editorial roles for *Headache* and *Current Pain and Headache Reports*, and receives book royalties from Wiley.

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SUPPORTING INFORMATION

Additional Supporting Information may be found online in the Supporting Information section.

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