

## In Reply: Telemedicine in Neurosurgery: Lessons Learned From a Systematic Review of the Literature for the COVID-19 Era and Beyond

To the Editor:

Telemedicine is growing during the COVID-19 pandemic as an alternative to conventional emergency services.<sup>1</sup> Adaptation of any system to new needs poses a challenge and the institutions which intend to utilize the services in new environment require a new set of system and need to overcome the limitations.<sup>2</sup> Eichberg et al<sup>1</sup> share their experience in reference to telemedicine in present era and provide an opportunity to think beyond present COVID era. The present epidemic has created a unique opportunity period for a productive telemedicine experience for the clinicians and significantly extended the real time not only to impart clinical care<sup>3</sup> but also to understand the inherent limitations and challenges while using telemedicine in neurosurgical practice. We would like to share few concerns in reference to the use of telemedicine for neurosurgical patients. Neurosurgical problems are very intense; thus, the practitioners perceive numerous impediments while doing neurological tests of patients. A large-scale analysis showed that the clinical assessment based on telemedicine is inferior to a clinical test done in person.<sup>4</sup> Traditional neurological assessments need detail physical analysis to assess presence of any neurological deficits. But telemedicine miss subtle early signs which helps to do early diagnosis and investigations in neurology. Basically, in patients with extreme low back pain, clinical evaluation is important to distinguish a spinal disease such as compressive myelopathy or radiculopathy from an inherent knee, sacroiliac joint, or peripheral nerve disease.<sup>5</sup> In fact, cases with cauda equina syndrome, a surgical emergency, may be identified correctly even after a thorough clinical assessment is performed with close consideration of a patient's rectal tone, perineal sensation, and lower extremity examination.<sup>6</sup> Some neurological assessments are beyond the scope of telemedicine and challenging to measure remotely than others, including deep reflexes of the tendon, rigidity, retropulsion pull checking, and slight reductions in facial expression, mild dyskinesia, and bradykinesia of the limb.<sup>7,8</sup>

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