

# Atypical respiratory and neurological symptoms of covid-19 in spinal cord injury individuals.

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## Introduction

The global COVID-19 pandemic caused by the novel coronavirus, SARS-CoV-2, has presented a multitude of clinical manifestations, ranging from mild respiratory symptoms to severe respiratory distress and multi-organ dysfunction. Among the affected population, individuals with spinal cord injury (SCI) have shown unique and atypical presentations of COVID-19, including respiratory and neurological symptoms that differ from the general population. This article explores the distinct clinical challenges posed by COVID-19 in SCI individuals and highlights the importance of recognizing and managing these atypical symptoms [1].

While COVID-19 is primarily characterized by respiratory symptoms such as fever, cough and shortness of breath, individuals with SCI may experience a distinct pattern of respiratory manifestations. SCI can lead to impaired respiratory muscle function, decreased lung capacity and compromised cough reflex. As a result, respiratory symptoms in SCI individuals with COVID-19 might be subtle or even absent, making early detection and diagnosis challenging. Some atypical respiratory symptoms that have been reported in this population include increased spasticity, autonomic dysreflexia and exacerbation of pre-existing respiratory conditions such as asthma [2].

COVID-19 has been associated with a wide range of neurological symptoms in the general population, including loss of smell and taste, headache, dizziness and confusion. However, in SCI individuals, these neurological manifestations can be further compounded by the existing neurologic deficits. Some SCI individuals with COVID-19 have reported exacerbation of neuropathic pain, changes in sensory perception and alterations in muscle tone. Additionally, the virus's potential to invade the nervous system raises concerns about the risk of viral spread to neural tissues, which could lead to severe neurological complications in SCI individuals.

The interplay between COVID-19 and the unique physiological changes resulting from SCI is complex and not yet fully understood. The impaired immune response, altered autonomic regulation and compromised lung function observed in SCI individuals could influence the presentation of both respiratory and neurological symptoms. Furthermore, the virus's potential to directly affect neural tissues may

contribute to the distinct neurological manifestations seen in this population. Identifying COVID-19 in SCI individuals can be challenging due to the overlap between atypical symptoms of the virus and the inherent complications of spinal cord injury [3]. Delayed recognition of the disease can lead to increased morbidity and mortality in this vulnerable population. Healthcare providers must maintain a high index of suspicion and consider COVID-19 testing in SCI individuals presenting with any new or worsening symptoms, even if they appear unrelated to the virus [4].

Managing atypical symptoms of COVID-19 in SCI individuals requires a multidisciplinary approach. Respiratory interventions may include close monitoring of oxygen saturation, early initiation of non-invasive ventilation and chest physiotherapy. Neurological symptoms necessitate careful assessment and management of pain, spasticity, autonomic dysreflexia and changes in neurological status. Telemedicine and remote monitoring can play a crucial role in ensuring timely medical attention while minimizing the risk of exposure to the virus [5].

## Conclusion

The atypical respiratory and neurological symptoms of COVID-19 in individuals with spinal cord injury present unique challenges for diagnosis and management. The interaction between the virus and the underlying neurologic deficits requires a nuanced approach to care. Healthcare providers must be vigilant in recognizing and addressing these distinctive presentations to optimize outcomes for SCI individuals affected by the COVID-19 pandemic. Further research is warranted to enhance our understanding of the complex interactions between COVID-19 and spinal cord injury, ultimately leading to improved clinical management strategies for this vulnerable population.

## References

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