



North American Neuro-Ophthalmology  
Society (NANOS) Statement On The  
Justification For MRI Orbits With and  
Without Contrast In Addition To MRI  
Brain With and Without Contrast In  
Optic Neuritis

NANOS Practice Support Committee

2021 Edition



# MRI Brain and Orbits in Optic Neuritis

## Introduction and Justification

An MRI of the brain, with and without gadolinium contrast, has been an important diagnostic test in patients with optic neuritis. This test enhances our ability to diagnose multiple sclerosis, assess the risk for development of multiple sclerosis and guides therapy for these conditions.

Over the past decade, distinct subtypes of optic neuritis have been characterized, including idiopathic, multiple sclerosis (MS)-associated, neuromyelitis optica (NMO)-associated and myelin oligodendrocyte glycoprotein (MOG)-associated. It is now well-established that each subtype has characteristic radiographic features seen only with brain and orbit MRI with gadolinium to establish the correct diagnosis. Because each subtype has distinct therapy requirements to maximize recovery, **timely neuroimaging with brain and orbit employing MRI, both with and without gadolinium**, during the acute phase of optic neuritis is critical for correct diagnosis of subtype and selection of appropriate clinical management. **Incorrect or delayed diagnosis may result in incorrect or delayed treatment which can lead to permanent and irreversible visual loss.**

## Conclusion

**Ordering concurrent MRI brain and orbits with and without gadolinium is justified and necessary for the evaluation of patients with acute optic neuritis.**

## References

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## MRI Brain and Orbits in Optic Neuritis

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