

Lhermitte's sign

Lhermitte's sign (also known as Lhermitte's phenomenon and the barber chair phenomenon) describes a transient sensation of an electric shock extending down the spine and/or extremities upon flexion of the neck, often a sequela of neurologic disease. It was first described by Marie and Chatelin in 1917. It was erroneously credited to Babinski and Dubois, and correctly credited to Jean Jaque Lhermitte through the seminal paper *Les douleurs à type de décharge électrique consécutives à la flexion céphalique dans la sclérose en plaques: Un cas de forme sensitive de la sclérose multiple* (1924) by Lhermitte et al. and Gutre. Lhermitte described it in multiple sclerosis and spinal cord diseases and further hypothesized it was a result of irritation and inflammation of the cord, likely in the posterior and lateral columns ¹⁾.

Lhermitte's sign is classified as one of the paroxysmal pain syndromes of multiple sclerosis. Multiple sclerosis is a chronic, predominantly immune-mediated disease of the central nervous system. It is one of the most common causes of neurological disability in young adults globally. The new McDonald's criteria 2017 establishes clinical and radiographical dissemination of time and space of symptoms, presence of at least one lesion in at least two out of four CNS areas: Periventricular, cortical or juxtacortical, infratentorial and spinal cord. Additional radiographical and laboratory criteria include new T2 and/or gadolinium (Gd)-enhancing lesion on follow-up MRI (with reference to a baseline scan), irrespective of the timing of the baseline MRI, the simultaneous presence of asymptomatic Gd-enhancing and nonenhancing lesions at any time, and presence of oligoclonal bands in CSF. Common initial clinical symptoms include mononuclear painful visual loss, spinal cord hemiparesis, mono/paraparesis, hypoesthesia, dysesthesia, paraesthesia, urinary and/or sphincter dysfunction, diplopia, oscillopsia, vertigo, gait ataxia, dysmetria, intentional/postural tremor, facial paresis, faciobrachial-crural hemiparesis, and faciobrachial-crural hemihypoesthesia. It affects multiple organ systems of the patient.

Lhermitte's sign or symptom should not be confused with Uhthoff phenomenon, another finding in multiple sclerosis patients. The phenomenon is defined by heat sensitivity after prolonged heat exposure, saunas, and hot tubs. Although frightening to some patients, these events are not a true advancement of disease (such as in multiple sclerosis).

It is an electrical sensation that runs down the back and into the limbs. In many patients, it is elicited by bending the head forward.

It can also be evoked when a practitioner pounds on the posterior cervical spine while the neck is flexed; this is caused by involvement of the posterior columns.

Lhermitte's sign is named for French neurologist Jean Lhermitte.

The sign suggests a lesion of the dorsal columns of the cervical cord or of the caudal medulla. Although often considered a classic finding in [multiple sclerosis](#), it can be caused by a number of conditions, including [transverse myelitis](#), Behçet's disease, trauma, radiation [myelopathy](#), vitamin B12 deficiency (subacute combined degeneration), and compression of the spinal cord in the neck from any cause such as cervical spondylosis, disc herniation, tumor, and Arnold-Chiari malformation. Lhermitte's Sign may also appear during or following high dose chemotherapy.

Irradiation of the cervical spine may also evoke it as an early delayed radiation injury, which occurs within 4 months of radiation therapy.

Delayed onset Lhermitte's sign has been reported following head and/or neck trauma.

This occurs ~2 1/2 months following injury, without associated neurological symptoms or pain, and typically resolves within 1 year.

This sign is also sometimes seen as part of a “discontinuation syndrome” associated with certain psychotropic medications, such as serotonin reuptake inhibitors, particularly Paroxetine and [Venlafaxine](#). Typically, it only occurs after having taken the medication for some duration, and then stopped or withdrawn rapidly. Fluoxetine, given its very long half-life, can be given as a single small dose, and often avoid Lhermitte's sign and other withdrawal symptoms.

In the dental field, three studies (Layzer 1978, Gutmann 1979, Blanco 1983) have identified Lhermitte's sign among nitrous oxide abusers. This is due to the fact that N₂O depletes B₁₂, leading to severe deficiency in the absence of supplementation.

The Barber Chair phenomenon is a symptom rather than a sign as it describes a subjective sensation rather than an objective finding.

To add more confusion, it is not attributed to its discoverer.

It was first described by Pierre Marie and Chatelin in 1917.

Jean Lhermitte, a French neurologist and neuropsychiatrist, did not publish his first report until 1920.

However, in 1924 he did publish the seminal article on the subject which resulted in it becoming well known.

Given that Lhermitte's sign is named for Lhermitte, it is incorrect to spell the term as “L'hermitte's sign”.

¹⁾

Teoli D, Rocha Cabrero F, Ghassemzadeh S. Lhermitte Sign. 2020 Oct 23. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. PMID: 29630289.

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