

The Clonus: 1st Hypothesis of Pathophysiology

[For more details concerning the 1st Hypothesis of Pathophysiology of the Clonus, see the linked video:](#)



Clonus is a rhythmic, oscillating, stretch reflex, the cause of which is not totally known; however, it relates to the lesions of the upper motor neurons and therefore is generally accompanied by the hyperreflexia. It can be evaluated in many joints but is most commonly seen in the ankle joint by briskly dorsiflexing the foot.

Sometimes, we obtain a similar movement in normal individuals, however it should be less than five oscillations in such cases. Provided, it is accompanied by other signs and/or symptoms of hyperreflexia, one should think of its morbidity even in a low rhythm.

Actually, one stimulus can activate a group of different receptors that cohabit in the same zone of contact. These different receptors are supplied by different types of sensory axons. Since each axon has its own velocity of neural conduction, the related afferent impulses will reach the target subsequently, in different time, as well.

Normally, the afferent impulses will reach the brain consequently. Thereafter, it is up to the brain to treat the afferent data, and then to make the adapted reaction vis-à-vis the stimulus. In such way, one stimulus can have just one single adjusted response.

*However, in the upper neuron injuries, the things are no longer the same. The brain function of processing the afferent data is no more functional. Moreover, the consecutive afferent impulses will be directly deviated toward the effector muscle (Target Organ) via the intermediate neurons and the lower motor neurons sequentially. So that, each afferent impulse will obtain its own response; (X) afferent impulses can then provoke (X) reflexive responses; **figure (1)**.*

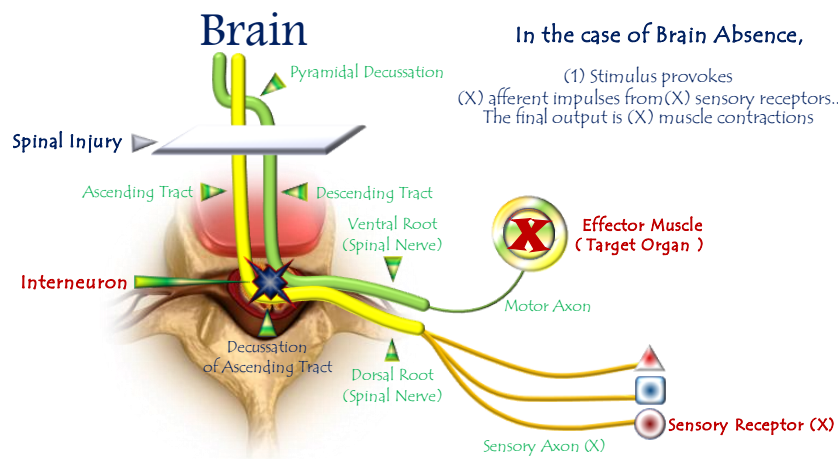


Figure (1)
The Pathophysiology of the Clonus, 1st Hypothesis

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The different velocity of neural conduction in the different sensory axons will be the base of my first hypothesis of clonus.
In the case of brain absence, all the afferent impulses will directly arrive to the effector muscle. Each afferent impulse will provoke its own muscle contraction.
Consequently, (X) afferent impulses will provoke (X) muscle contractions..
Which is the Clonus.

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In other contexts, you can also read the following articles:

-  [DOI The Spinal Reflex, New Hypothesis of Physiology](#)
-  - [The Hyperreflexia, Innovated Pathophysiology](#)
-  [DOI The Spinal Shock](#)
-  - [The Spinal Injury, the Pathophysiology of the Spinal Shock, the Pathophysiology of the Hyperreflexia](#)
-  [DOI Upper Motor Neuron Lesions, the Pathophysiology of the Symptomatology](#)

-  [DOI *Hyperreflexia \(1\): Pathophysiology of Disproportionate Motor Response*](#)
-  [DOI *Hyperreflexia \(2\): Pathophysiology of Bilateral-Response Hyperreflexia*](#)
-  [DOI *Hyperreflexia \(3\): Pathophysiology of Extended Hyperreflexia*](#)
-  [DOI *Hyperreflexia \(4\): Pathophysiology of Multi-Motor-Response Hyperreflexia*](#)
- [DOI *The pathophysiology of Triple flexion Reflex*](#)
-  - [*The Clonus, 1st Hypothesis of Pathophysiology*](#)
-  - [*The Clonus, 2nd Hypothesis of Pathophysiology*](#)
-  [DOI *The Clonus, Two Hypotheses of Pathophysiology*](#)

-  [DOI *The Nerve Transmission through Neural Fiber, Personal View vs. International View*](#)
-  - [*The Nerve Transmission through Neural Fiber \(1\), The Action Pressure Waves*](#)
-  - [*The Nerve Transmission through Neural Fiber \(2\), The Action Potentials*](#)
-  - [*The Nerve Transmission through Neural Fiber \(3\), The Action Electrical Currents*](#)
-  - [*The Function of Standard Action Potentials & Currents*](#)
-  - [*The Three Phases of Nerve transmission*](#)

-  [DOI *Neural Conduction in the Synapse \(Innovated\)*](#)

-  [DOI *Nodes of Ranvier, the Equalizers*](#)
-  - [*Nodes of Ranvier, the Functions*](#)
-  - [*Nodes of Ranvier, First Function*](#)
-  - [*Nodes of Ranvier, Second Function*](#)



- [*Nodes of Ranvier, Third Function*](#)



- [*Node of Ranvier, The Anatomy*](#)



[DOI](#) [*Vesicular Dynamics: A Unifying Theory for Wallerian Degeneration and Neural Regeneration*](#)



- [*The Wallerian Degeneration*](#)



- [*The Neural Regeneration*](#)



[DOI](#) [*Wallerian Degeneration: Affects Motor Axons while Sparing Sensory Axons*](#)



[DOI](#) [*The Sensory Receptors*](#)



[DOI](#) [*Electroneurography vs. Neural Reality: Hidden Fallacies in Nerve Conduction Studies*](#)



[DOI](#) [*Piriformis Muscle Injection: Personal Approach*](#)



[DOI](#) [*In Philosophy of Nerves: Pain First!*](#)



[DOI](#) [*In Neurodoctrines: Form is Necessity!*](#)



- [*Pronator Teres Syndrome, Struthers-Like Ligament \(Innovated\)*](#)



[DOI](#) [*Ulnar Nerve, Congenital Bilateral Dislocation*](#)



- [*Posterior Interosseous Nerve Syndrome*](#)



[DOI](#) [*The Multiple Sclerosis: The Causative Relationship Between The Galvanic Current & Multiple Sclerosis?*](#)



- [*Cauda Equina Injury, New Surgical Approach*](#)



[DOI](#) [*Carpal Tunnel Syndrome Ends Its Adherence: Complete Median Nerve Transection*](#)

 DOI *Biceps Femoris' Long Head Syndrome (BFLHS)*

 DOI *Barr Body, The Whole Story (Innovated)*

 - *Adam's Rib and Adam's Apple, Two Faces of one Sin*

 - *Adam's Rib, could be the Original Sin?*

 - *Barr Body, the Second Look*

 DOI *Who Decides the Sex of Coming Baby?*

 - *Boy or Girl, Mother Decides!*

 - *Oocytogenesis*

 - *Spermatogenesis*

 - *This Woman Can Only Give Birth to Female Children*

 - *This Woman Can Only Give Birth to Male Children*

 - *This Woman Can Give Birth to Female Children More Than to Male Children*

 - *This Woman Can Give Birth to Male Children More Than to Female Children*

 - *This Woman Can Equally Give Birth to Male Children & to Female Children*

 - *Eve Saved Human Identity; Adam Ensured Human Adaptation*

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