

Arndt's Law

(Rudolph Arndt, German Psychiatrist, 1835–1900)

Weak stimuli
excite physiological
activity.



Moderately strong stimuli
favor physiological
activity.



Strong stimuli
retard physiological
activity.



Very strong stimuli
stop physiological
activity.



The nervous system is normally economical and efficient. The normal reflex arc processes such as muscle tone, vascular function and visceral function. This requires weak sensory and motor stimuli to operate the physiological stimuli, though weak, fluctuates in intensity due to transient momentary changes in need, as sensed by the receptors.



At the point the tissues become damaged, the quiet function of the reflex arc is replaced by an intensified function. Two factors in the nerve flow that are notable are:



First, the weak to moderate stimuli that excite physiological processes have become strong, which defeats its purpose. The nerve impulses, both sensory and motor, become noxious not because they are a different kind, but because they have high intensity. There are no fluctuations or pauses, as in the normal physiological process, they are sustained in constancy. Normal muscle tone becomes hypertonicity, contracture and/or spasm. Normal vascular function becomes vasoconstriction resulting in ischemic pain.



Therefore, in light of Arndt's law, the pain, spasm and ischemia are a result of increased motor stimuli, and pathological changes are inevitable.



Notes: