

What are Central Sensitivity Syndromes?

Central sensitivity syndromes (CSS) belong to a family of syndromes that don't have abnormalities that can be seen with a microscope or picked up by usual medical tests. They share the common mechanism of "central sensitization." Central means the problem is at the level of the brain and spinal cord. The neurons (brain and spinal cord cells) are "hyper-excitable" or sensitized because of changes in the way the cells communicate chemically and through other mechanisms. The sensitized cells amplify, or make stronger, messages that we get from our senses (for example touch can feel like pain, normal lighting or sound can be experienced as uncomfortable). But the cells are not just sensitized; they often send "wrong" information as well, and they can also trigger abnormal responses to the environment. For instance the cells can send information to make your heart race, make you feel dizzy, or not regulate your body temperature normally. New sensitivities to food, chemicals, and medications can also occur.

What are examples of Central Sensitivity Syndromes?

The diagram below shows some of the common Central Sensitivity Syndromes, but the list is not complete. Other examples include POTS (Postural Orthostatic Tachycardia Syndrome), irritable larynx syndrome, and non-cardiac chest pain (costochondritis) and other pain syndromes.

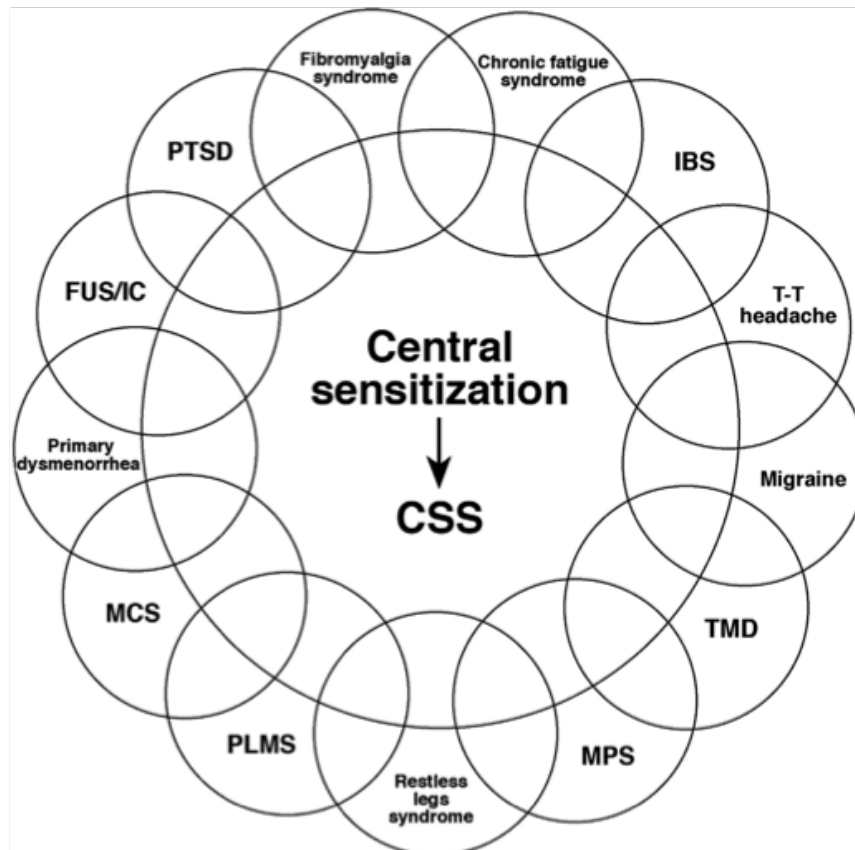


Figure 1 Currently proposed members of the CSS family with overlapping relationships and a common pathophysiological link of CS. IBS, irritable bowel syndrome; T-T headache, tension-type headache; TMD, temporomandibular disorders; MPS, myofascial pain syndrome; RSTPS, regional soft-tissue pain syndrome; PLMS, periodic limb movements in sleep; MCS, multiple chemical sensitivity; FUS, female urethral syndrome; IC, interstitial cystitis; PTSD, posttraumatic stress disorder. Depression may also be a member (see text). Modified from reference 198.

What predispose someone to Central Sensitivity Syndromes?

The syndromes can run in families (parents, siblings, children). Also abuse or trauma in childhood also seems to play a role (as it does in many other conditions). Many with these syndromes have neither of these.

What are triggers (precipitants) for Central Sensitivity Syndromes?

In predisposed individuals, there is often a trigger (precipitant) in the form of a stressor. This includes infections (for example after a flu), physical trauma (for example after a car accident), or psychological stress or trauma (for example “burn out” or even a single traumatic event).

What else goes wrong with Central Sensitivity Syndromes?

Central sensitization is the result of problems with the endocrine (hormone) system, the immune system, and inflammation. There are also problems with the cell’s mitochondria (the energy power houses of the cell).

Are there any other factors that come into play in Central Sensitivity Syndromes?

Yes. Poor sleep, overexertion, reduced activity, stress, depression and anxiety can all turn up the dial of sensitivity and make symptoms worse.

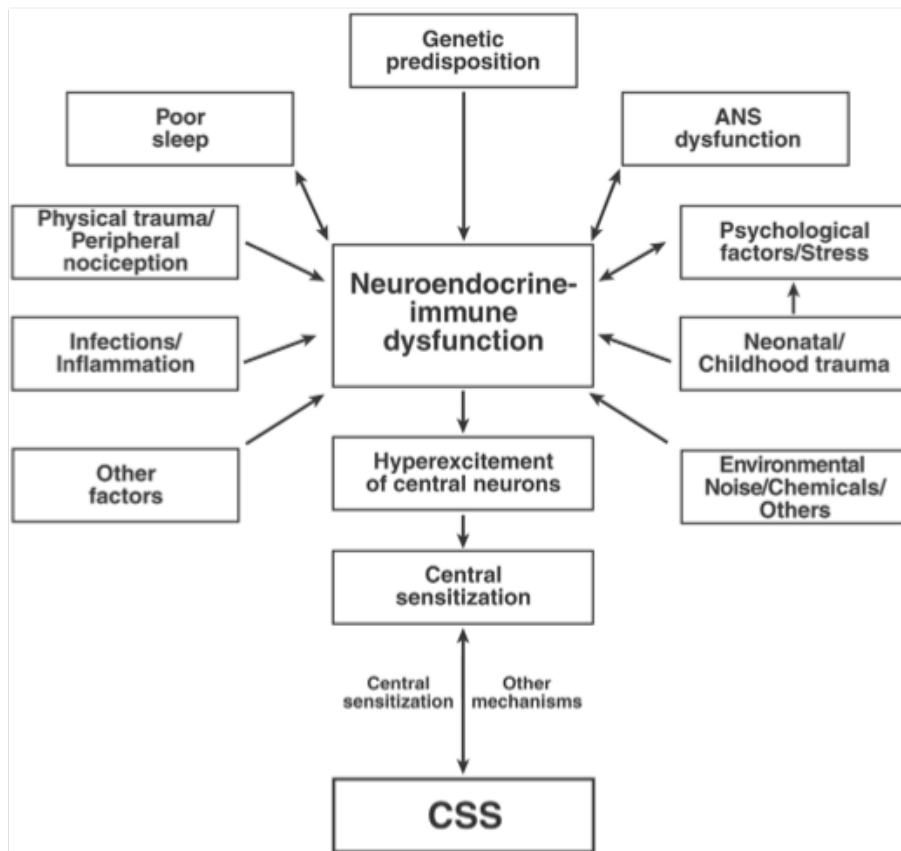


Figure 2 Simplified suggested biopsychosocial mechanisms for CS and CSS with interacting factors. ANS, autonomic nervous system. The relationship between central sensitization and CSS may be bidirectional; chronicity of CSS may accentuate central sensitization.