

## Somatic Symptom Disorder — Pathophysiology and Treatment Options

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**Somatic Symptom Disorder is a condition that is characterized by the presence of one or more somatic symptoms that are associated with excessive thoughts and feelings about them which lead to excessive behaviors. This should be associated with significant distress in the everyday life of the patient. Patients who are diagnosed with somatic symptom disorder should be given full medical care whenever they present to the emergency department, and proper exclusion of life-threatening conditions, such as a myocardial infarction, is needed. Patients with a good insight into their condition respond well to cognitive-behavioral therapy.**



### Overview

Somatic symptom disorder is defined as the **presence of one or more of somatic symptoms that are associated with significant distress and persistent thoughts about the seriousness of the symptoms**. The symptoms are usually trivial, but the patient is very anxious and he or she devotes excessive time and energy to figure out why they have these somatic symptoms and how to treat them.

# Epidemiology of Somatic Symptom Disorder

The estimated prevalence of somatic symptom disorder in the community is low and estimated to be around 0.1%. Patients with somatic symptoms and excessive thoughts about the seriousness of such symptoms, who do not meet the diagnostic criteria for somatic symptom disorder, are considered as having somatic symptom syndrome or on the spectrum of [somatization disorder](#). The prevalence of somatic symptom syndrome is quite high in the community with some studies pointing towards a figure as high as 11%.

Specific types of somatization disorders, such as hypochondriasis and [body dysmorphic disorder](#), are more common in certain populations. For instance, body dysmorphic disorder is more common in plastic and cosmetic surgery patients. The estimated prevalence of conversion disorder in psychiatric hospitals is around 15%.

Somatic symptom disorders do **not increase mortality, but might be associated with suicide attempts**. Patients with somatic symptom disorders are more likely to undergo repeated medical interventions which carry a risk of iatrogenic injury.

The female to male ratio of somatic symptom disorder is 10:1 with clear female preponderance. Conversion disorder and [pain disorder](#), two specific types of somatic symptom disorders, are also more common in women.

Somatic symptom disorder **usually starts in late childhood or adolescence**. The onset of new somatic symptoms in an adult patient who never had somatization issues should warrant a full diagnostic workup to exclude an occult medical condition.

## Pathophysiology of Somatic Symptom Disorder

The exact etiology of somatic symptom disorder is unknown, but patients with somatic symptom disorder **appear to have thought problems**. They attribute any somatic symptoms to a serious medical condition. Some studies have pointed towards autonomic arousal in patients with somatic symptom disorder.

The **endogenous levels of noradrenaline and adrenaline were found to be elevated** in a cohort of somatic symptom disorder patients when compared to healthy controls. Elevated levels of noradrenaline have been associated with an increased risk of muscle tension, tension headaches, muscle pain and muscle hyperactivity, which are common presenting symptoms of somatic symptom disorder.

Brain imaging studies of patients with somatic symptom disorder have shown two main pathologies:

Firstly, the **amygdala volume seems to be reduced** in patients with somatic symptom disorder.

Secondly, the **connectivity between the amygdala and the prefrontal cortex is impaired** in patients with somatic symptom disorder. These brain regions are known to be associated with thought processing, emotion, and perception of somatic symptoms and executive functioning.

## Clinical Presentation of Somatic Symptom Disorder

Patients have multiple physical symptoms that cause significant distress symptoms and can be specific like pain in a specific area. They feel a high level of worry about health.

They always feel worse about health. Health is the main central feature of a person's identity. Somatic symptom disorder is **characterized by the presence of at least one somatic symptom that adversely affects the daily life of the patient**. Patients should have significant thoughts and feelings about such symptoms which should drive them to take excessive actions. The derived actions are usually time-consuming and are out of proportion to the seriousness of the presenting symptoms.

**Hypochondriasis** is one specific form of somatic symptom disorders that is characterized by **excessive anxiety and worry about a presumed medical illness that is not present**.

Patients with somatic symptom disorder, who have prominent neurologic symptoms such as paralysis or non-epileptic seizures that are not compatible with any known neurologic medical condition, are classified as having conversion disorder.

A mental status examination should reveal a normal appearance of the patient and normal attitude. The patient's **behavior will show a preoccupation with physical symptoms**.

Patients are **usually anxious and might be depressed**. The effect should be intact, and patients should not complain of any delusions, obsessions, hallucinations or compulsions. Memory, attention, and concentration are also intact in patients with somatic symptom disorder. Orientation to time, place and person is normal. Patients with somatic symptom disorder might show poor insight into their condition.

## Diagnostic Criteria for Somatic Symptom Disorder

Patients presenting with symptoms and features suggestive of a somatic symptom disorder should undergo a full diagnostic workup before applying the [DSM-5](#) criteria to confirm the diagnosis. **Thyroid function tests, testing for pheochromocytoma, urine drug screen** for cannabis, amphetamines, and other drugs, and blood tests for alcohol should be performed. Once these medical conditions are excluded, one can use the DSM-5 criteria to establish the diagnosis of somatic symptom disorder.

### Patients with:

- A. One or more somatic symptoms that cause significant distress to them,
- B. Excessive thoughts, feelings, and behaviors related to these symptoms, and
- C. Duration of being symptomatic for more than 6 months are diagnosed with somatic symptom disorder.

Patients should be **evaluated for the possibility of a predominant pain symptom**, i.e. pain disorder. Patients with somatic symptom disorder might have a persistent condition. The severity of the condition should be assessed and classified as mild, moderate, or severe.

## Brain Imaging in Somatic Symptom Disorder

Brain imaging in somatic symptom disorder has two purposes, i.e. to rule out medical conditions that might cause the symptoms, and to provide new information about the pathophysiology of somatic symptom disorder.

**Structural magnetic resonance imaging studies of the brain** can reveal small ischemic strokes, signs suggestive of multiple sclerosis or other occult neurological

conditions that might cause the patient's symptoms.

Patients with sudden vision loss who are being evaluated for the possibility of somatic symptom disorder should undergo **functional magnetic resonance imaging (fMRI)**. Patients with somatic symptom disorder will show typical activation of the occipital cortex when they are presented with visual stimuli in contrast to someone who is physically blind.

Brain imaging studies aiming to understand the pathophysiology of the condition showed **structural and functional impairments in the amygdala, prefrontal cortex, and motor cortex**.

## Differential Diagnosis

Somatic symptom disorder may be misdiagnosed with the following conditions:

1. Early-stage connective tissue disorders.
2. Central nervous system disorders like multiple sclerosis and dementia.
3. Endocrine disorders like thyroid dysfunction and porphyria.

## Treatment of Somatic Symptom Disorder

Patients with somatic symptom disorder **might present to the emergency department with an acute picture of their somatic symptoms**. When this happens, life-threatening conditions such as myocardial infarction should be reliably excluded even if the patient has a well-known and documented history of somatic symptom disorder.

Emergency care of somatic symptom disorder includes the **administration of benzodiazepines to lower the anxiety level** of the patient. Opiates should be avoided in patients with somatic symptom disorder as the risk of dependence is high.

Once the patient is stabilized, psychiatric consultation should be offered. Psychiatric interventions for somatic symptom disorder include **group therapy, psychosocial therapy, and cognitive-behavioral therapy**.

Randomized trials have shown that cognitive-behavioral therapy is an effective treatment for somatic symptom disorder. It can help with the rationing of the patient and can help them understand that their symptoms stem from a psychiatric issue rather than a medical condition. Unfortunately, patients with poor insight into their condition do not respond very well to psychiatric interventions.

## Complications

Patients with somatic symptom disorder may suffer from a wide range of psychological disturbances, and symptoms, such as:

1. Insomnia
2. Irritable bowel syndrome
3. Palpitation
4. Tension headache
5. Antisocial personality disorders
6. Depression

## References

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