

Functional Disorders and Symptoms

Patient Information Leaflet

What's Going On?

Functional symptoms are sometimes known as “medically unexplained” symptoms but the underlying mechanisms are increasingly well understood. Subtle changes in the way the cells and organs of the body work and communicate, often including in the brain’s processing of incoming signals from the body, appear to cause the symptoms. Changes may include *hyperawareness* (e.g. noticing strong sensations due to minor variations in balance or heartbeat, or of normal functions of areas of the body such as digestion which are usually not consciously felt) or *distorted* or *reduced awareness* of sensations in a part of the body e.g. parts of the skin or certain muscles. Altered hormone and nerve signals to parts of the body can also occur e.g. to the muscles in fibromyalgia, to the bowels in irritable bowel syndrome.

Sometimes there is an inability to switch off physiological responses (e.g. failure of muscular tension to resolve after tensing in response to stress, or failure of the “pain gate closure” after a useful signal has passed through). There are often changes in the balance between the two parts of the regulatory (autonomic) nervous systems, the sympathetic and parasympathetic nervous system.

The sympathetic nervous system coordinates stress-induced “fight or flight” type responses which are helpful in responding to real threats. The problem is that it becomes equally active in response to imagined threats and non-physical risks.

The parasympathetic nervous system coordinates “rest and restore” responses which are vital to recovery and maintenance of the body and brain, including deep refreshing sleep.

Imbalance between these systems results in numerous significant changes in the brain and body. Sometimes vicious circles e.g.

For anxiety

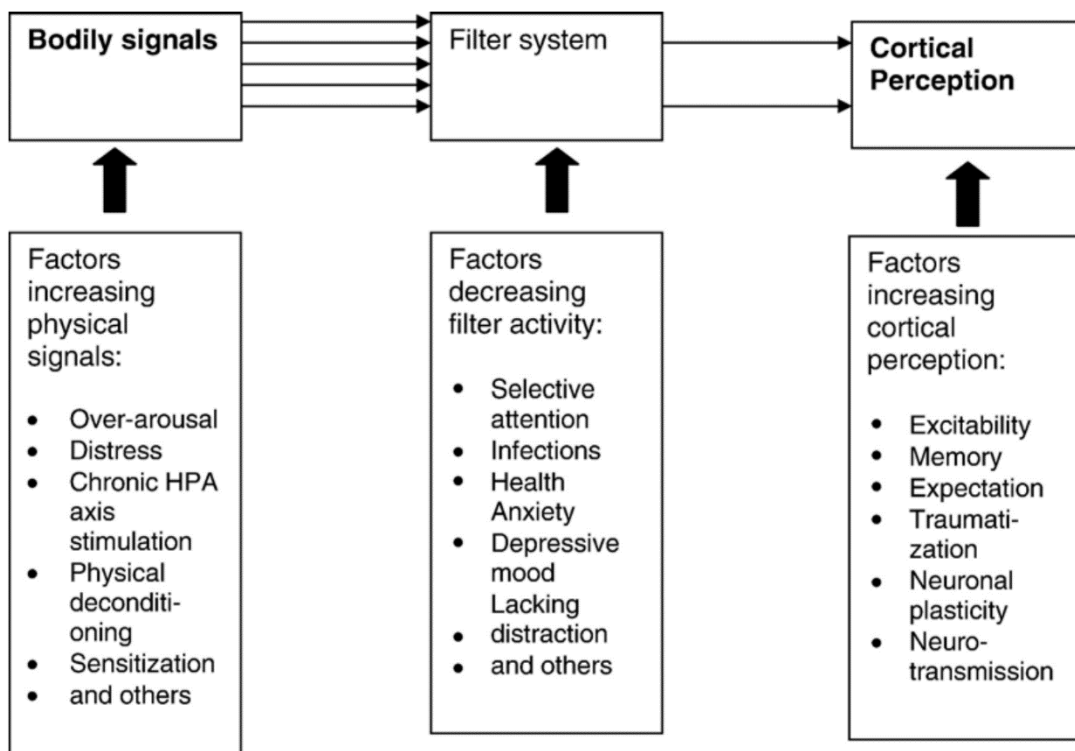
1. Sensations in the body, when the mind is looking for problems results in
2. Sensations are interpreted as dangerous, resulting in
3. More anxiety, with and adrenaline produced and more body scanning for sensations, more fast breathing and anxious thinking, resulting in
4. More bodily symptoms which are interpreted as dangerous
5. A full-blown panic attack or increasingly severe physical symptoms

For muscular tension

1. Muscular tension-related pain is met with frustration or anger/resentment results in

2. Increased pain experience due to focusing on the pain, and worsening muscular tension, which in turn results in
3. Worsening of the physical pain.
4. Strong emotions in relation to pain (feeling it is unbearable, worry that it will go on forever and threaten job, enjoyment of life etc) results in unhelpful behavioural responses such as
 - a. avoidance of activity
 - b. carrying on without modification of activity
 instead of the more helpful response of adapting activities but remaining active.

There is strong evidence that adverse life events predispose to functional symptoms, especially if experienced early. This may well be through re-setting physiological mechanisms. The diagram below illustrates how this may predispose to altered cortical perception of somatic signals.



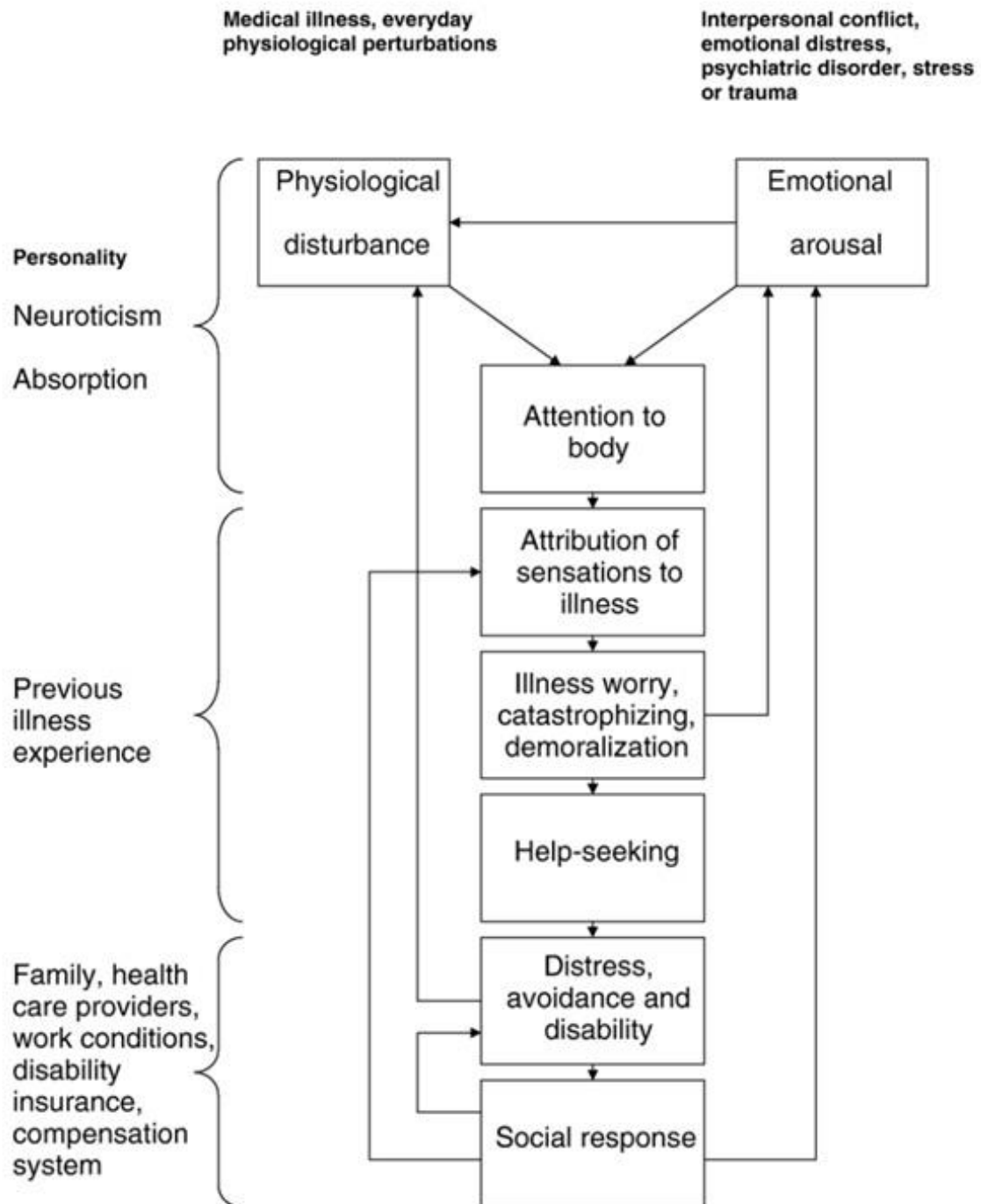
The perception-filter model of somatoform disorders

Modified from Rief, W., & Barsky, A. J. (2005). Psychobiological perspectives on somatoform disorders. *Psychoneuroendocrinology*, 30, 996–1002)

This shows how a physical or emotional shock, trauma or more chronic stress (demands upon the person which can't easily be accommodated) result in physiological and brain changes which become habitual and result in a vicious cycle which produces further symptoms and distress which result in maintenance of the problem.

Even in the absence of obvious trauma, the way that we interpret and respond to signals from the body can be influenced by a variety of factors,

and certain combinations of factors can produce the “perfect storm” to cause a long-term problem. Other than the physical changes above, other factors also contribute to symptoms becoming chronic, such as how we interpret bodily sensations, how we seek help, what information we receive about the possible causes of the symptoms and how it affects our lives and emotions. The diagram on the next page shows the complex interaction of these factors in causing and maintaining a chronic condition.

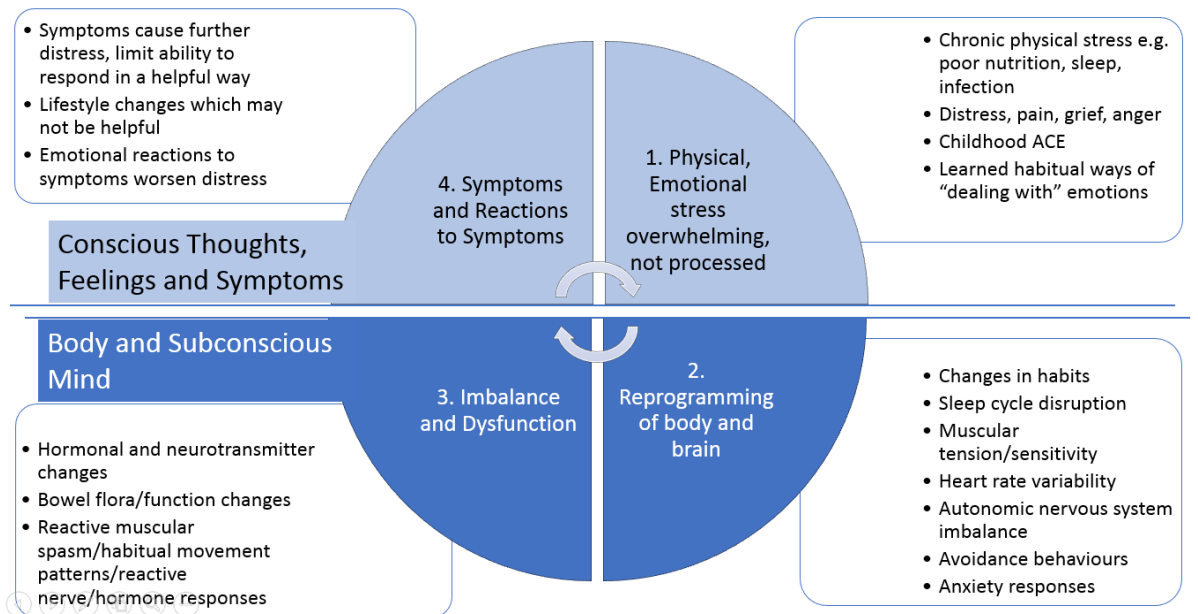


Kirmayer's model of somatoform symptoms Kirmayer, Laurence & Loper, Karl. (2007). Somatoform disorders. Publisher: John Wiley & Sons

Summary

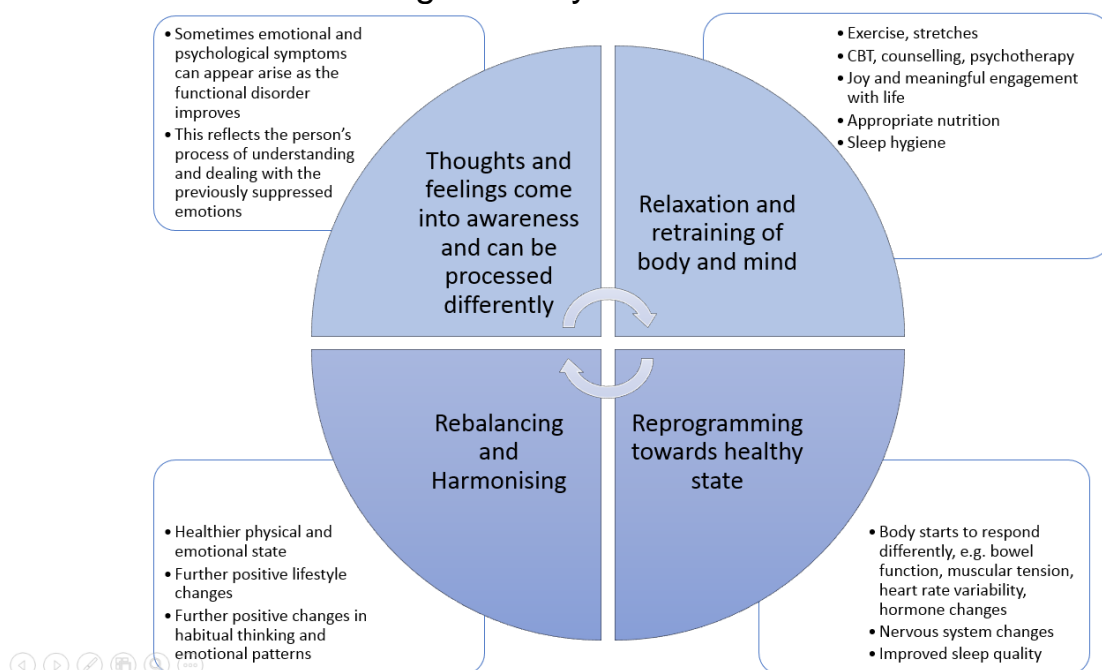
The diagram below summarises many of the features common to the development of functional symptoms and disorders and shows in a different way how a vicious cycle can maintain and progressively worsen symptoms.

Development of a functional disorder



Recovery from functional symptoms and disorders

The process of recovering from functional disorders can be understood as an unwinding of this vicious cycle, a dissolving of habitual patterns of reaction and letting the body and mind return to a more balanced state.



Depending on the exact nature of the functional symptoms or disorder, different approaches may be helpful but in general terms

- Relaxation of body and mind to rebalance the sympathetic and parasympathetic nervous system, restore healthy sleep and normal awareness is important even if there is no obvious distress. Things that can help with this include
 - Counselling, CBT and psychotherapy
 - Anthroposophic therapies such as therapeutic art/speech/eurythmy (see www.anthroposophicmedicine.org.uk)
 - Meditation techniques, yoga or other relaxation exercises
 - Contemplation and gratitude exercises
 - Finding positive and meaningful activities to bring positive interhuman connections and positive emotions
 - Ensuring proper sleep hygiene and exercise routine
 - Avoiding excessive stimulants
- Reconditioning the body and mind and re-establishing more normal communication between them e.g. with physiotherapy, yoga, pilates
- Ensuring a proper balance of nutrition, rest, activity, and personal reflective time
- Medicines which help to decrease the intensity of symptoms (e.g. mebeverine for bowel spasms) or decrease the sensitivity of the nervous system to sensations (e.g. amitriptyline) can be helpful in re-educating the nervous system.

Specific functional Syndromes and Symptoms

Specific approaches are described for different functional disorders and syndromes. The following resources have more information on this.

- Chronic Fatigue Syndrome
 - Overview article with useful links to other organisations <https://www.nrshealthcare.co.uk/articles/condition/chronic-fatigue-syndrome>
 - Persistent Burnout Theory of Chronic Fatigue Syndrome <http://dx.doi.org/10.4236/nm.2016.72008>
 - Useful guide to ME symptoms and management <http://www.remembercfs.org.uk/about-mecfs/>
 - A brief guide is also available on the [Action for ME website](https://www.actionforme.org.uk/uploads/supporting-outcomes-HCP-briefing-2018.pdf) at <https://www.actionforme.org.uk/uploads/supporting-outcomes-HCP-briefing-2018.pdf>
- Fibromyalgia
 - Fibromyalgia UK charity <http://www.fmauk.org/>
 - Fibromyalgia patient information leaflet by Versus Arthritis <https://www.versusarthritis.org/about-arthritis/conditions/fibromyalgia/>
- Functional gastroenterology symptoms
 - <https://www.iffgd.org/manage-your-health/symptoms-causes.html>
- Functional respiratory symptoms/breathing pattern disorders
 - <http://www.uhs.nhs.uk/Media/Controlleddocuments/Patientinformation/Respiratory/Breathing-pattern-disorders-patient-information.pdf>
- Functional Neurological Symptoms (many types)
 - Neurosymptoms website <http://neurosymptoms.org/>
 - FND hope charity <https://fndhope.org.uk/>
 - FND Action charity <https://www.fndaction.org.uk/>
- Irritable bowel syndrome and other functional gut symptoms
 - <https://gutscharity.org.uk/advice-and-information/conditions/irritable-bowel-syndrome/>
- Migraine
 - Factsheets <https://www.nationalmigrainecentre.org.uk/migraine-and-headaches/migraine-and-headache-factsheets/>
- Non-cardiac chest pain
 - <https://gi.org/topics/non-cardiac-chest-pain/>
- Non epileptic attack disorder
 - Website <http://www.nonepilepticattackdisorder.org.uk/>