The possible list of symptoms of **Multiple Chemical Sensitivity** is almost endless - varies from one patient to the next. Also worthy of mention here is the fact that there is no sharp demarcation between the symptoms of MCS and those of ME/CFS/CFIDS/PVFS (myalgia encephalomyelitis - chronic fatigue), but that most sufferers of MCS complain of at least several of the following:

* burning, stinging eyes
* wheezing, breathlessness nausea
* extreme fatigue/lethargy
* headache/migraine/vertigo/dizziness
* poor memory & concentration
* runny nose (rhinitis)
* sore throat, cough
* sinus problems
* skin rashes and/or itching skin
* sensitivity to light & noise
* sleeping problems
* digestive upset
* muscle & joint pain.

The idiopathic or "not understood" nature of MCS means that doctors & others are often highly skeptical about the reality of – and nature of - the MCS condition.

Many features of Multiple Chemical Sensitivity and it’s effects and the way it’s effects are described by the sufferer seem altogether unrealistic, impossible or implausible to a conventional & scientifically trained consultant or GP.

The population at large are often equally skeptical, because the described symptoms (say, headache, joint pains, etc. ) and the externally observable effects ( say, runny nose, watering eyes, etc ), are blamed by the Multiple Chemical Sensitivity sufferer on an invisible chemical or toxin that the average person cannot even detect, much less be affected by !

How can a person *really* be affected by such a miniscule dose of a toxicant even if such a toxicant IS present? Surprisingly, perhaps, this is one aspect of Multiple Chemical Sensitivity that is very well understood in conventional medicine and it is called Sensitization.

Sensitization is a true allergic reaction to one chemical or irritant and is caused by involvement within the body of mast cells and IgE antibodies. Once sensitized to a particular irritant, a subsequent exposure to even a tiny amount of the same irritant ( even parts per million – ppm – or parts per billion – ppb) can cause an extreme allergic reaction.

Note: one ppm = 0.0001 percent.

These very low levels of irritant will often be totally undetectable to the average person and to them will be totally harmless. Meanwhile, the main aspect of Multiple Chemical Sensitivity that is NOT fully understood - and that is regarded with such great skepticism - is that the MSC sufferer reacts similarly and in an *allergic fashion* to a whole raft of *completely unrelated toxicants* – typically *"chemicals", solvents, perfumes, VOCs, odors, smoke, house* dust mites, pollen, etc.

In conventional science and in the present state of knowledge, this effect is “impossible” because an allergy is an acquired reaction caused by an immune system response to one SPECIFIC excitant that has already been encountered at least once before : a multilateral response to many and varied toxicants is inexplicable using conventional medicine. Yet many MCS sufferers **do** report the **same** effects and the **same** symptom picture following exposure to varied excitants – in short, they all "tell the same story".

This "inexplicable" effect is often referred to as Spreading or Generalization & will be discussed later. However described, an open-minded and logical approach to the phenomenon and to the sheer scale of numbers of sufferers reporting the same or very similar problems in a modern day setting certainly is strongly suggestive of one underlying medical syndrome and this syndrome has been labelled for convenience as Multiple Chemical Sensitivity.

This sensitivity,(in the case of MCS), to unrelated toxicants does, however, have several unproven, but seemingly sound theories to explain it including:

* enzyme depletion
* conditioning
* immune system disorders

as follows:

**enzyme depletion**

detoxification of all manner of naturally occurring toxins is carried out in humans by enzymes in the liver. These same enzymes are also used to detoxify a wide range of synthetic chemicals, but, if the enzymes are depleted or damaged by health problems, then they are unable to metabolize these toxicants efficiently, so leading to the problems associated with Multiple Chemical Sensitivity.

Enzyme depletion is used to great effect with some types of pesticide, where the action of the primary poison is augmented by the use of an enzyme blocker so that the poison cannot be metabolized properly, remains in the body of the organism longer, and so is much more highly toxic than it would otherwise be.

Many types of enzyme deficiency can be inherited & this may lead one to suppose that MCS may affect other members of the same family and, in fact, there is some (fairly tentative) evidence to support this view.

 **conditioning**

there may be an additional psychological aspect to Multiple Chemical Sensitivity called "conditioning" & this is not to say that MCS is "all in the mind" - as it quite definitely is not - but conditioning could certainly exacerbate severely a pre-existing sensitivity.

Conditioning happens when two unrelated events occur at the same time and one event becomes associated with the other. When the first event is later repeated, the second event also manifests itself for the sufferer. For example, if on a particular day the patient is already feeling slightly unwell and if, coincidentally, the patient is exposed to (say) paint fumes, then the paint fumes may genuinely make the patient feel unwell and possibly nauseous. A subsequent exposure to the same paint fumes - or a similarly strong solvent odor - may produce a strong feeling of nausea for the patient, who, moments before, felt perfectly well.

This is an example of conditioning and is a "real" phenomenon; this phenomenon also has real & useful effects, such as an aid to quit smoking or as an aid to dieting, for example.

Related to this, the reaction to a similar but not identical trigger is called Generalization; it's effects may be very real but it is not a true allergic (IgE) response. This response has been likened to the assault victim who comes to fear anyone who resembles their attacker: their fear is real, but the threat may not be.

These effects of Conditioning & Generalization may explain why the MCS sufferer seems, over a period of time, to react to an ever-lengthening list of excitants or triggers, including actual toxicants or a place or situation which may be (or may be perceived to be), problematic - for these patients, a course of Desensitization treatment may be appropriate.

**immune system damage**

Some researchers are of the opinion that Multiple Chemical Sensitivity is due to immune system damage or malfunction, which could give rise to a sensitivity to all sorts of triggers rather than a specific reaction to one toxicant.

A number of types of toxic chemicals have been implicated in major single exposures for people who then subsequently became MCS sufferers AND which are known to be Immune System disruptors; these include *organochlorines, formaldehyde, pesticides, herbicides, organophosphates* & others.

Another important and debilitating feature of MCS - and which tends to complicate MCS diagnosis & treatment still further - is it's ability to apparently augment the effects of other problems experienced by the patient - problems such as *common allergies, asthma, depression, food intolerances* etc, & these problems of *augmentation* are reported by about *half* of all MCS sufferers.