## Kathy's MCS/ES Info

## MCS STUDIES & RESEARCH

The prevalence of disbelief & scepticism surrounding MCS can not only cause us huge practical difficulties in our daily lives with people we have to deal with, but also be emotionally & mentally draining.

It can help to remember that there *are* some scientists & physicians around the world who *do* believe in MCS & are doing research, uncovering physical evidence & trying to find the cause(s). Unfortunately, there is little funding given to MCS research (medical research is often funded by the pharmaceutical industry which as part of the wider chemical industry, has no desire to find evidence that MCS is real, nor is it likely that a drug will be the answer for us) & projects are therefore usually with small participant numbers which can limit their credibility for general acceptance. It is also usually financially impossible to replicate studies to reinforce their validity. However, there is possibly more research than you may be aware of, as the chemical industry does all it can to suppress good science & employs scientists to produce studies to show that their products are harmless or that other research findings are false. The methodology of their studies is flawed, but because of the wealth, power & influence of the chemical industry (over consumers, internet, medical profession, economies, governments etc), it is these curated studies which get promoted & publicised & the good quality science which gets suppressed.

While the findings from the good research hasn't changed our lives yet, it can be reassuring to know that clinical research projects in various countries suggest that there are basic neurobiological & metabolic factors underlying MCS, & that there is a likely genetic susceptibility to getting it. I will briefly mention some of the things I have come across.

## 1) Neurological Research

-Brainwave patterns have been studied using EEG & have shown that people with MCS often had abnormal brain wave patterns. These can for example indicate central nervous system hypoactivation.

-There have been neuro-imaging studies using PET & SPECT scans showing MCS patients to have neurological abnormalities particularly relating to the autonomic nervous system.

**2) Immune irregularities or indications of immune activation being present in MCS,** has been shown in a number of studies of MCS patients & include:

-that MCS patients have higher levels of histamine than controls.

-that there is damage to the blood-brain barrier

-that there is production of antibodies against myelin (a sheath around nerves).

-studies on mast cell activation.

-that MCS sufferers are more likely to have real allergies & autoimmune diseases than controls.

*3) Genetic* - Studies show genetic alterations & genetic markers that affect detoxification pathways being more common in MCS patients than controls.

**4)** Breath analysis - A study of breath analysis of VOCs showed that MCS patients differed from healthy controls.

## 5) Toxicological

- Toxicant Induced Loss of Tolerance studies.

- Studies on Transient Receptor Potential channels (these act as sensors of chemically toxic & physical stimuli).

It can also be helpful to remember the following points made by medics or scientists who say:

1) A psychological cause for MCS has no strength. These reports are just hypotheses, not evidence & are often based on the fact that there is no certain biological cause, so it must therefore be psychological.

2) Responses to it being written that MCS has a psychological cause because MCS patients are more likely to have other mental health conditions like anxiety or depression were:

-research has shown that psychological/psychiatric symptoms in MCS patients is compatible with the limitations imposed by the disease rather than being the cause

-studies show that anxiety or depression in MCS patients has started After the MCS, not prior to it.

3) It has also been noted that MCS reactions may sometimes cause psychiatric symptoms through biological processes like neurogenic inflammation, but that these symptoms must *NOT* be mistaken for the cause.

4) Response to a report saying nocebo responses may operate in MCS (ie. you expect negative experience) was- the presence of a nocebo response does not indicate that it is the cause. Nocebo responses are found in many biologically caused conditions including asthma & are particularly pronounced in neurological conditions.

5) In 2022 an MCS advocate produced a detailed paper, showing the 2021 study from Quebec, which concluded that MCS is an anxiety disorder, to have been carefully curated & seeking for it to be withdrawn.

6) MCS is not listed among somatoform disorders (ie that a persons thoughts cause physical symptoms) in the international classification of diseases.

I hope that by knowing there is physical evidence of MCS patients showing abnormalities & that psychological studies can be discredited, that it will help you to remember that those who dismiss & disbelieve are ignorant of facts & that it may help you to stay strong when faced with disbelief.