'A GUIDE TO LIVING WITH MCS
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Introduction

These guidelines have been difficult to write and are still not complete mainly because there is so much to take into consideration with MCS, and the chemicals we have problems with are everywhere. Knowledge of the condition amongst medical specialists is still limited, there is nothing that can be measured to diagnose MCS, and the most effective treatment is currently limited to avoidance. There are many more questions than answers at the moment. So in the end it's really all about trying to recognise and respond to the condition early, in order to avoid the dire consequences of severe sensitivities.

The most important message I can give is to HEED THE SIGNS AND ACT EARLY. If the signs are recognized earlier enough the consequences of MCS can be avoided.

The aim of this Guide is to assist people with MCS in dealing with their sensitivities by providing steps that can be implemented to reduce their exposure to chemical triggers. The environmental controls will take time to implement, because many of the chemicals that cause symptoms are ubiquitous in the environment.

What is MCS and how is it treated.

MCS is a condition in which exposure to small amounts of common chemicals cause a range of symptoms in multiple body systems. Over time, people with MCS become intolerant to an increasing number of chemicals at lower levels of exposure from skin contact, inhalation and/or ingestion of the offending chemical/s. There are currently no definitive tests to diagnose chemical sensitivities and the medical profession is still divided about MCS. More research is needed to clarify the mechanisms before effective and consistent treatments will be available. Treatment options are currently limited, the most effective measure is to avoid chemical exposure and create a chemically free living environment.

Common triggers of chemical reactions are perfumes, essential oils, soaps, personal care products, fresh paint, ink, newsprint, synthetic materials in clothing and furnishings, rubber, latex, formaldehyde, phenols, cigarette smoke, pesticides, solvents, glues, washing powders and fabric softeners, petroleum products (grease, oil, fuel), and out-gassing from new carpeting, products made of plastic, renovation materials etc. Other triggers include medications, foods and food additives, water contaminants and water additives, e.g. chlorine and fluoride.

Chemical avoidance restores a limited amount of ability to tolerate environmental chemicals. Continued exposure to low levels of chemicals causes symptoms to fluctuate and maintains a continuous sensitised state. The need for information on chemicals, hidden sources of chemicals and how to cope with a reaction, is absolutely crucial for the continued well-being of the chemically sensitive.

Learn about your MCS

- Develop an understanding of MCS, the signs and symptoms, as well as other intolerances, such as to foods and medications. Your exposure history is likely to uncover exposures that may have preceded the onset of the illness. Food sensitivity and intolerance is common amongst people with MCS.
- Keep a diary so that you can make a note of when exposures and symptoms occur. This will allow you to find out if your major exposures occur at home or work, if they improve or worsen over the weekend, and if they are consistent.
- Avoid exposures that trigger your symptoms and try minimizing your nonessential exposures to fragrances, cleaners, and other products that release volatile organic chemicals. If you have ongoing chemical exposures, smoke, or use alcohol or caffeine regularly, you may find it difficult to distinguish connections between symptoms and exposures.
- Use a 'Checklist' to note down the measures you are taking to reduce exposures and the Outcome i.e. if the measures have been positive or negative. This can be discussed and revised with your GP.
- ***If illness is recent, avoidance of the offending substance/s may prevent the possibility of a long term disability.***
- Create a safe room where you can go to recover when you are suffering from exposure related symptoms.

Your triggers and reactions are unique to you and will need to be individually worked out. When selecting alternative products it will be a matter of trying them until you find one that suits you. Fragranced products

are particularly difficult to remove from your environment because so many products (apart from perfumes and personal care products) now contain scents e.g. detergents.

Using Inventories – characteristics and identification of personal triggers.

The Quick Environmental Exposure and Sensitivity Inventory (QEESI) has been developed by Dr C Miller to assist physicians in diagnosing and monitoring multiple chemical sensitivity. Dr. Miller's QEESI is also available for people with MCS and can be downloaded from http://drclaudiamiller.com/ . The QEESI provides a profile of symptoms and intolerances, and the 'symptom star' can be used to demonstrate symptom severity before and after an exposure episode.

Measures reported by people with MCS to provide most benefit

1. **Chemical free living space*.** The aim here is to address lifestyle issues that will ***reduce your total body burden of chemicals*** from all sources.
2. **Chemical avoidance*.** The aim is to identify and avoid major triggers of symptoms.
3. Relocation.
4. Air filter.
5. Personal oxygen for exposures.
6. Charcoal mask.
7. Support groups.
8. Aluminium foil to seal off gassing.
9. Alternative medicine modalities.
10. Detoxification.
11. Coping mechanisms such as prayer, meditation and yoga etc.

***The Most Important measures**

How to Go About It

There are general measures that are recommended for anyone diagnosed with MCS, such as removing perfumes, cleaning products and pesticides, etc and then there will be your own personal triggers that can be addressed once you begin to peel away the layers that may be masking the underlying problem.

1. Start with Your Personal Space. What you use and put on your skin (soaps, shampoos, deodorants etc), followed by what is residual in your towels from detergents etc and then the clothes you wear, accessories as well as footwear.
2. The next layer is what you may be exposed to in home environment, such as cleaning products, detergents, any aerosol products, pesticides (ants, cockroaches), etc.
3. What you are eating and drinking can affect how you are feeling on a daily if not minute to minute basis. Eliminating pesticides, food additives and any potentially problem foods such as those high in phenolics, salicylates, amines, glutamates is essential because these are a vital component to well being for those sensitive to them.
4. After that assess the materials or products in the home that may be emitting Volatile Organic Compounds (VOCs) such as flooring, furniture, home entertainment units, computers etc. (How much they emit will depend on their age and materials used.
5. Then move on to sources in your outdoor environment and neighbourhood etc, e.g. woodsmoke from neighbouring solid fuel home heating appliances, or polluting industries.

CREATING A CHEMICAL FREE LIVING SPACE

The basic steps are

A. Create a clean, safe room (usually the bedroom) to escape to and recover from unavoidable exposures to chemicals.
B. Have a strategy for dealing with unavoidable chemical exposures.
C. Remove fragranced products in the home and for personal hygiene. Use non-toxic personal care products. Avoid synthetic, treated clothing and fabrics. Wear untreated clothing, especially clothing made from natural fibres such as cotton, hemp and bamboo. Avoid dry cleaning your clothes or other fabrics in the home e.g. curtains.
D. Avoid pesticides and other toxic substances in food and water. Eat organic and less chemically contaminated foods, your food should be free from preservatives, colours and other additives. Drink filtered or bottled water free from contaminants.
E. Reduce exposures in your living space. Do not use toxic pesticides and herbicides for insects, rodents, weeds, bacteria and mold in and around the home. Use less toxic methods. Pick plastics carefully, some release toxic chemicals such as poly vinyl chloride (PVC), phthalates and bisphenol A (BPA). Avoid soft plastics made of PVC (e.g. shower curtains and toys). Open windows to ventilate

and clear the home from any build up of indoor air pollutants. Your ability to do this will depend on quality of the outdoor air and is why the step above is important.

F. Remove cleaning products, detergents and fabric softeners containing fragrance and other toxic chemicals and use less toxic methods of cleaning.
G. Avoid/remove furnishings and products that emit VOCs, instead furnish your home with glass, metal, less treated woods, and natural fabrics rather than synthetics.
H. Outdoor Measures and Your local environment. Choose home and work away from sources of outdoor air pollution such as major highways, industrial areas, smoke stacks etc. Avoid/clean any indoor environment that becomes contaminated with molds. Find alternative housing/work environment if it cannot be safely removed.
I. Understand Chemical Avoidance in the Wider Community.

A. <u>Create a Safe Room.</u>

Create a safe room where you can go when you are suffering from exposure symptoms. The safe room should not contain any unnecessary chemicals and synthetic materials. An air filter can be very beneficial.

Remove

- carpet, dried flowers, bookcases etc and
- all particle board drawers, headboards & other furniture.
- Remove/avoid plastic, particle board, synthetic fabrics or products that outgas formaldehyde, toluene, phthalates and hydrocarbons.

Use

- Cotton Mattress , sheets and pillowcases.
- Natural fibres, wood (be careful with finishes to the wood) or metal.

If you cannot obtain a suitable mattress, some people have had success layering the mattress with heavy duty aluminium foil, shiny side up and 2 – 6 layers of old cotton blankets or mattress protector washed in borax.

B. Prepare a strategy for dealing with unavoidable chemical exposures. What to do when exposure to chemicals cause adverse health reactions.

Problems with unavoidable chemical exposures

1. Often there is no smell OR you are the only one who can detect an odour
2. You may become aware of
    a. physical symptoms that you may or may not immediately associated with a chemical exposure. For example, arthritic/ muscular pains or discomfort, or stomach cramps
    b. or neurological symptoms that cause sudden mood changes and disorientation
3. Once you begin to reacting to the chemical exposure you can feel helpless in terms of
    a. Being able to recognise/diagnose that there is a problem
    b. Being able to remove yourself from the area where the exposure is occurring. The 'rabbit caught in headlights' effect.
    c. Being able to control hostile feelings towards well meaning people trying to help or get you out of the area of exposure

Mental confusion/brain fog can occur in many people with MCS who are exposed to traffic fumes or other outdoor air pollutants whilst driving. Such confusion can decrease reaction time and dangerously impair judgement.

Strategies to deal with these problems are vital to be able to continue. Often the difficulty is in early recognition and measures to reduce the impact.

Dealing with unavoidable major chemical exposures:

- Identify that you are reacting and leave the area immediately. The longer you stay the more disabled you may become.
- Make note of the experience in your diary, you may be able to learn how to recognise the problem earlier to reduce exposure effects.
- Remove clothing that may have become contaminated
- Wash skin thoroughly (take shower and wash hair as well)
- Spend some time in your 'safe' room until you recover from the immediate effects
- Many people with MCS find that a dose of bicarbonate of soda, Alka Seltzer (Gold packet without aspirin) or tri-salts is helpful.
- If you feel your condition warrants it, ask your GP for a letter to have oxygen at home.

- If possible spend some time outside in a 'clean' environment

Oral Alkali Salts
Tri salts or sodium bicarbonate can be used. Sodium Bicarbonate use 1-2 teaspoons in a glass of water. Modify for your own personal needs (or taste). The recipe for tri salts is 3 parts sodium bicarbonate,2 parts potassium bicarbonate, 1 part calcium carbonate. ***Those with hypertension, cardiac or renal impairment should avoid alkaline salts.***

Oxygen. As either portable cylinders or larger cylinders for the home. Flow rate at 2 – 6 litres per minute. For plastic sensitivity a ceramic/porcelain oxygen mask and Tygon tubing or stainless steel (for extreme sensitivity) is the preferred option. I have not been able to find a manufacturer in Australia that supply these. If these are not available try soaking tubing in a solution of bicarbonate of soda (1/2 cup for 2 quarts of water) for one to two weeks. Rinse the tubing out daily and fill it again with more bicarbonate solution. Continue until the fumes are no longer discernible. In Australia a letter from a GP is required to obtain oxygen cylinders.

Immediate measures if away from home
Carry masks, water and any "rescue" remedy (e.g. homoeopathics, herbs, alkali salts) when you go out. It may be useful to carry a change of clothes (e.g. spare T-shirt) in case you inadvertently became contaminated. This, I have found, can happen when you just have to use a public toilet where it is 'pot luck' as to what and how much air fresheners and cleaners have been used.

Face Masks
Wearing a mask will help but it cannot stop absorption through the skin and mucous membranes such as the eyes. An example of what you are looking for is 3M Brand. 9913V Dust/mist/nuisance/odour/ agricultural chemical respirator, Type GP with exhalation valve. These can be bought in packs of 10. Some hardware stores may stock these, if not they can be purchased from Protector Alsafe http://www.protectoralsafe.com.au/Default.aspx under Respiratory Disposable. RESP DISP 3M 9913V GP1 V PACK=10 Phone number 132 832.

Masks and information on what mask will suit you is available from http://ecohealthsolutions.com.au/store/

Consider purchasing an air filter for the home and the car which can then be used as a sanctuary when you are out.

Air Filters
Australia: Inova Air http://www.austinair.com.au/index.htm Inova Air E20 Two room sizes. For Sales or Service in Australia Phone : 1300 880 241

USA: Foust Co http://www.foustco.com/ * Let them know you are from Australia. Supply Room and Car Air Filters.

Depending on the current exchange rate these units are reasonably priced. The Foust Co have an air filter for the ***car*** that plugs into your lighter plug as well as a desk top model and two different sizes of room filters. NOTE: These filters will require a Step-Down Transformer to convert from Aussie 240V to USA 110V. These are available on the internet or through some electrical stores. The advantage is that you are not reliant on purchasing specific filter replacements, but you do need to replace the charcoal media and HEPA filter. The Foust filter uses activated charcoal media and HEPA filter, the activated charcoal media can be purchased in **Australia** through **Airepure Australia P/L** http://www.airepure.com.au/ The media is Purafil Select CP Blend Media. Look under Air Filtration menu – then Purafil Media. They can also supply replacement HEPA filters. Phone Vic: 0395620011, NSW: 0298330299, SA: 0883517600, Qld: 0738072999

Carry Identification/Instructions
Carry/wear a Medic Alert Bracelet/Card OR If you are unable to obtain a Medic Alert system, consider preparing a card to carry in your purse or wallet that you can give to people in these situations.

Just try to keep it as simple as possible
The card should have

- A contact name and phone number. Either a Family member, Friend or GP
- What your major problems are
- What you need assistance with

Emergency Identification Information
PLEASE CONTACT *(your GP if you have one OR friend/family who understands your situation)* Contact Details - *Ph number*:
I AM ACUTELY SENSITIVE TO A WIDE RANGE OF COMMON CHEMICAL SUBSTANCES. I MAY BE UNABLE TO COMMUNICATE DUE TO THROAT AND RESPIRATORY REACTIONS AND SEVERE CONFUSION.
I REACT STRONGLY TO MANY COMMONLY USED MEDICATIONS (Important if you are likely to be taken to a hospital or medical surgery). *List your major ones to avoid)*
I NEED TO BE CARED FOR BY PEOPLE USING NON-FRAGRANCED/ - MINIMAL FRAGRANCED PRODUCTS
PLEASE HELP ME TO REMOVE MYSELF FROM THE SOURCE OF CHEMICALS THAT ARE CAUSING SEVERE ADVERSE REACTIONS. *THESE SOURCES MAYBE PERFUMES, CLEANING PRODUCTS, PESTICIDES, SOLVENTS, ROAD RESURFACING BITUMEN, ADHESIVES & FRESH PAINT*

C. Identifying and removing Fragranced Personal Care Products

A word of caution in selecting alternative products

- Natural is not always OK
- Beware fragrance free labels, there are some fragrance-free products that may contain masking scents that do not have to listed in the ingredients.
- Essential oils are not necessarily pure, many are synthetic and solvent extracted.
- Plant oils can be problematic for those with salicylate or terpene sensitivity.
- Food sensitivities can overflow to other non-food products such as pharmaceuticals, vitamins/minerals and skin care products.

Personal Care Products to Avoid/Remove	Personal Care Products to Use Instead
Perfume and Cologne	Scent - use essential oils****only if tolerated*** or eliminate all perfume.
All Scented Products - including soaps, shampoo, conditioner, and bath products	Use only Fragrance Free Products - soaps, shampoo, conditioner, and bath products
Scented Lotions	Lotion - use unscented versions or natural oils such as jojoba, coconut, and olive oil
Scented Shaving Cream, Aftershave	Shaving Cream – soap, unscented sorbolene or aqueous cream . Aftershave – cold water, witch hazel
Scented Deodorants and Anti-Perspirants	Deodorant –natural salt crystal, solid or liquid crystal deodorant, baking soda, unscented deodorants, vinegar
Scented Shampoo and Conditioner	Shampoo / Conditioner - unscented variations, baking soda, vinegar, citric acid, oils, lemon juice
Hair Spray, Hair Gel and Mousse	Hair Styling - aloe vera gel, lemon juice. 1 teaspoon sugar in a liter of water, mix well and use in a pump spray
Hair Color	Hair Color - natural variations, peroxide to bleach, all natural henna for color
Scented Nail Polish and Remover	Nail Polish and Remover - safer variations from a health food store or go au natural
Scented Make-up	Make-up - unscented, natural variations or go au natural
Scented Anti-Bacterial Hand Wipes or Hand Sanitizer	Wash with unscented soap and warm water
Other Scented Toiletries	Replace with unscented products

More information on fragrances can be found at www.fpinva.org/

Clothing and Fabrics.

100% cotton fabrics and clothing are the best option. Avoid synthetic materials and fabrics. Be aware that cotton and other clothing can be treated with formaldehyde, flame retardants, check labels before you buy. Permanent press, polyester, wash & wear clothes can outgas formaldehyde. Some clothing with residual chemicals can be treated by repeated washing in bi-carb or vinegar and airing on a clothesline.

Avoid dry cleaning your clothes. Dry-clean only clothes can be hand washed with water or check with dry cleaner about 'wet-cleaning' these clothes.

D. Foods.

A high percentage of people with MCS have intolerances and/or allergies to foods.

Keep a food diary for two weeks, recording foods eaten and any symptoms that may be experienced. Be aware that food sensitivity reactions may occur minutes to hours after ingesting food.

Do a trial of eating organic and less chemically contaminated foods that are free from preservatives, colours, pesticide residues, and other additives. However, just because it's organic does not necessarily mean that it should be OK for you. If you have an allergy to a food or food ingredient, symptoms will occur regardless of whether it is organic or not.

Store food in glass containers rather than plastics. Never microwave food in plastic containers.

Consider installing a water filter to remove water borne contaminants and chemicals or purchase bottled water that has been treated by reverse osmosis.

After a trial period of organic and additive free foods you may still experience symptoms and have food allergies and/or sensitivity/intolerance to both natural and synthetic food chemicals. This will take more investigation, preferably with your GP and/or dietician. The following websites are a good place to start:

- Royal Prince Alfred Hospital Sydney website http://www.sswahs.nsw.gov.au/rpa/Allergy/default.htm provides information on food intolerances and allergies with The RPAH Elimination Diet Handbook with food and shopping guide available for purchase.
- Joan Breakey Dietician http://members.ozemail.com.au/~breakey/. Website information and excellent book on how to go about checking for food intolerance, sensitivity – this book can be bought on line and downloaded – bonus for people with MCS who have problems with fresh print and new book fumes.
- Sue Dengate http://www.fedupwithfoodadditives.info/ and
- Sue Dengates husband PhD in food science http://fedup.com.au/
- Food Intolerance Diagnostics. http://www.foodintolerances.com.au/default.aspx .
- ASEHA Qld website for people with allergies and sensitivities. www.asehaqld.org.au

E. Your living space

Indoor measures

Home environment. Make changes to your immediate home environment. Remove known triggers in your home. Remove products that are likely to be causing reactions or at the very least masking persistent symptoms that seem to have no start or stop.

Everyday products and items found around the home such as household cleaners, personal care products, pesticides, carpets and furniture can emit chemicals that when combined can result in a considerable decrease in air quality and adversely affect health – known as Sick Building Syndrome (SBS). Some of the worst chemicals in SBS are VOCs, these are the gases given off by many household products. They are invisible and can have a distinctive odour such as the fresh plastic smell in cars. VOCs can irritate the eyes, skin, nose and throat and cause nausea, dizziness and headache.

Modern buildings are designed to be energy efficient so as to maintain temperature, but as a consequence they do not breathe. This allows air pollutants to accumulate inside the building and because they cannot escape, they combine with contaminants such as cigarette smoking indoors, gasses given off from poorly ventilated cooking appliances and heaters, and other materials within the home that emit unhealthy chemicals. These chemicals, some of which are VOC's, can cause ill health and are found in carpets, chipboard, furnishing fabrics, clothing, pesticides, fragranced cleaning and laundry products. toiletries, cosmetics and hobby products.

People can add to levels of indoor air pollution with recently dry cleaned clothing, fragrances and personal care products. Fragrances can contain as many as 100 ingredients and are very potent additions to indoor air pollution. Long periods of exposure to the 'chemical cocktail' in your home can cause a large range of health problems. But there are things you can do to avoid them.

Design - when you are planning your home, ensure that the design maximises the air exchange rate.

Ventilate - open your windows and doors as much as possible to allow indoor air pollutants to escape and to increase the air exchange rate in your home.

Common triggers of reactions in the home include:

- Pesticides.
- Fragrances/fragranced products.
- Solvents.
- Petrochemicals.
- Natural gas.
- New carpet and soft furnishings.
- Renovation materials (e.g. MDF, particle board, chipboard).
- Adhesive glues.
- Fiberglass.
- Fabric conditioner.
- Formaldehyde (see VOC information).
- Glutaraldehyde (see VOC information).
- Cleaning agents (e.g. carpet shampoo, chlorine bleach, laundry products).
- Isocyanates.
- Combustion products (e.g. smoke from chemical fires, domestic wood burning appliances, poorly ventilated gas heaters, incense, scented candles, mosquito coils).
- Terpenes and terpenoids (e.g. essential oils).
- Personal care products, including cosmetics, deodorants, soaps, shampoo, perfumes etc.
- Household aerosol sprays.
- Chemical vapors emitted from copy and fax machines, computers, office machines, toxic pens and treated papers.

F. **Cleaning Products** can add to the overall levels of indoor air pollutants.
Detergents, disinfectants and air fresheners contain a cocktail of chemicals. Clean is the absence of dirt and grime that leads to odour. Toxic chemicals and strong fragrances merely cover up odours at the expense of health. There are many safe and effective cleaners. Most household cleaning can be done with vinegar and bicarbonate of soda. Steamcleaning, microfibre cloths and other microfiber products are very effective and eliminate the need for many chemicals as they require only water.

Household Cleaning Products

Domestic Household Products to Avoid	Domestic Household Products to Use Instead
All Fragranced Products	Replace with unscented products
Fragranced Laundry Detergents, chlorine	Laundry - borax, baking soda, or fragrance free laundry detergent
Fabric Softeners, and Dryer Sheets	Fabric Softener - white vinegar in wash or towel wet with peroxide, tennis shoe, or tennis ball in the dryer
Air Fresheners	Air Fresheners - white vinegar, open windows, adequate ventilation, fresh herbs* if tolerated, and tea
Fragranced and/or Anti-Bacterial Vacuum Bags and Trash Bags	Use only plain unfragranced products, purchase bags without the anti-bacterial treatment
Fragranced paper products such as toilet paper and tissues.	Use unscented toilet tissue, use handkerchiefs instead of tissues.
Window Cleaning Solution, All Purpose Cleaners, Sprays, and Aerosols	Windows - white vinegar or water & squeegee, or paper towel
Scouring Powder	All Purpose Cleaning - white vinegar Scouring Powder - baking soda or borax
Disinfectants, Solvents	Steamcleaning, disinfectant - peroxide followed by white vinegar in separate cleanings. Hot water and unscented soap
Commercial or Industrial Chemicals and Concentrated Products	Fragrance Free Products

G. <u>Volatile Organic Compounds (VOCs).</u>
Several hundred VOC's have been identified in indoor air, including formaldehyde, toluene, xylene, hydrocarbons, alcohols, ketones, aldehydes, esters, ethers, etc. Symptoms include eye, nose and throat irritation; headaches; loss of coordination, memory problems and nausea. Formaldehyde may induce allergic responses.

There are many sources of VOCs in commonly used consumer products, the following list and table provides some sources that you may need to investigate and avoid.

- Perfumes and all perfumed products, including essential oils.
- Fragrance emission devices (room air deodorizers, plug ins), other air fresheners.
- Hairsprays and other aerosols.
- Furniture polish.
- Cleaning products solvent based.
- Hobby and craft supplies.
- Pesticides.
- Carpet dyes and fibers, carpet backing.
- Fabrics treated with stain resistance and fire retardant chemicals.
- Solvent based glues, adhesives, sealants.
- Solvent based paints, varnishes, strippers, wood preservatives.
- Dry cleaned clothes.
- Moth repellents.
- Stored fuels and automotive products.
- Contaminated water.
- Plastics.
- Paper products.
- Printing ink.

VOC Sources	Which to Avoid	Use Instead
Building materials	Some materials will emit VOC's, e.g. chipboard, plastics.	Choose low solvent paints and other products carefully\
Floor coverings	Carpets and soft vinyl floor coverings can contribute to the levels of VOC's that can contaminate your indoor air. If you are dust or mould allergic do not carpet your home, or at least avoid it in the bedrooms.	The most inert material for flooring is ceramic tiles.
Furnishings	Avoid chipboard and synthetic materials. Care needs to be taken with timber to ensure that it is not treated with pesticides and finishes that emit VOC's.	Solid timber, metal and glass are better materials.
Soft furnishings	Leather , synthetic material, dyes, pest and stain resistant finishes and fire retardants emit VOC's	Natural materials such as 100% cotton, silk or wool are generally less of a problem
Mould	Found in bathrooms, kitchens and other areas emit VOCs	Remove mold with bicarb of soda and vinegar, borax (wear gloves)
Plastics	Contain formaldehyde, phenols, phthalates, xylene, toluene and trichloroethylene. Avoid PVC, phthalates and bisphenol A (BPA)	Glass

H. Outdoor Measures

Pesticides are organic and inorganic products used to kill pests, weeds, insects, termites, rodents both indoors and outdoors. Many of these are nerve poisons, liver poisons, reproductive poisons, carcinogens, endocrine disrupters, asthmogens and sensitisers. Some may induce allergic responses, headaches, asthma, rashes. Routes of exposure of pesticides are by Oral ingestion (eg through foods, water); Dermal (skin) absorption (through own use or from spray drift); Inhalation (through own use or from spray drift). Pesticides used outdoors can be tracked into the house on shoes and clothing

Pesticide exposure in and around the home can occur due to their use in

- Domestic pest control,

- Fungicides in paints,
- Glues and other building products;
- Disinfectants,
- Herbicides and other garden products
- Some bin liners and clothing.

There are many books and magazines available as well as many websites that provide information and resources on alternatives to synthetic pesticides, particularly those books and sites dealing in organic gardening.

Other Outdoor products/ petrochemicals to avoid

Man made synthetic chemicals are being increasingly used in a wide number of applications and include

- Stored car fuel and oils.
- Mower fuel.
- Pesticides – garden chemicals.
- Paints – oil/solvent based.
- Building products – chipboard, MDF, solvent based adhesives.
- Hobby products.
- Off gassing plastic and other contaminants from new cars.

The Car

This can be an overlooked source of chemical exposure, especially VOCs, and it may be worth investing in an air filter for the car. This will not only help with the inside pollution but will also help as you drive past potential sources of chemical exposures outside the car.

- A charcoal mask may also help during trips.
- Have a special cotton cushion or blanket to put on the seats.
- Wash down the upholstery (if possible) with a bicarbonate solution.
- Keep a container of an absorbent material such as charcoal to absorb offgassing chemicals in a container in the car.
- Consider purchasing an air filter for the car which can then be used as a sanctuary when you are out.

Pets and MCS

The following is information from an article by D. Bowes 'Chemically sensitive" Dog got fleas! A similar approach can be used with cats.

Many of us who are isolated and live alone choose to have a four legged friend for love and companionship. Most individuals with allergy and chemical sensitivities live in a permanent state of avoidance of known triggers to maintain some quality of life and once again, avoidance is the key to successful dog companionship and dealing with the inevitable fleas.

The choice of dog type is most important as some individuals are allergic to things such as animal dander or dog hair. Most dogs normally drop a lot of hair so it is important to avoid reactions and choose a breed of dog that doesn't drop hair. These are breeds such as poodles, maltese, shitzu and lhasa apso. While most of these are small i.e. lap dogs and very companionable, the down side is that you need to brush them daily as they have long hair and will also require regular clipping. The other problem is that if you are chemically sensitive, you cannot use pesticide rinses or treatments, or essential oils to reduce or avoid flea infestations.

Prevention in the form of environmental control is always the best way to approach flea infestations. Some tips for this are:

Overall health and nutrition of the dog: Nutritional supplementation for dogs is as essential as it is to humans. If allergy to biting insects is an issue, vitamin B1 can act as an insect repellent so is a good addition to the supplement regime. Fish oil is also good to avoid arthritis later in life and if you have an allergy dog Evening Primrose Oil is good as well.

Minimise contact with other dogs: If your dog does not have any fleas you may sometimes notice that after visiting someone else with a dog and/or carpet you may have developed a flea problem. This can be worse if there is carpet as well as a dog because carpet is known to harbour fleas.

Habitat denial: A house with ceramic tiles, lino or polished timber floors will harbour less fleas than a house that is carpeted. Keep garden beds away from the house to avoid fleas that are in dirt and mow the lawn regularly as a method of avoidance. Frequent washing of floors with hot water and vinegar, especially around

places where fleas can hide, will greatly assist to ensure no fleas and a flea free dog. Sprinkling diatomaceous earth around places where fleas can breed will also reduce numbers.

Vacuuming: One of the best methods of managing the home environment to reduce/eliminate fleas is frequent vacuuming. Fleas like to inhabit dark, damp places so these need the most attention. Floors need to be vacuumed at least weekly as do soft furnishings and dog bedding. Fleas can harbour between the cracks of hardwood flooring and in any cracks around the edge of tiled floors or other areas so ensure that these areas are well vacuumed. If the dog will tolerate it you can also vacuum the dog.

Washing the dog: If you are not using flea treatments or other methods of natural flea control the best method of attack is to wash the dog weekly and whilst it is soaped up comb through with a nit comb to reduce as many fleas as possible in the wash. Also, use a jet of water strong enough to blast the fleas out of the coat. Use a vinegar rinse to repel any remaining fleas. Drying the dog with a warm hairdryer will also assist to kill fleas. Dog bedding needs to be washed weekly, but especially when the dog has just been washed.

Nit combing: Daily brushing and combing with a nit comb will physically reduce fleas and nits from your dog and is a good tool to pesticide free flea control. Daily nit combing is the best way to minimise and control flea attacks. Daily brushing and nit combing will also reduce the amount of dog hair inside your house.

While it is a bit of extra work in your day to avoid fleas in your pet, your flea free dog will love you more and be a better companion when it is not constantly itching.

I. Chemical Avoidance in the broader community

Dealing with people and places
Be patient. No matter how hard others try to accommodate your sensitivities accidents will happen. For those without sensitivities it can be extremely difficult for them to be able to identify problematic chemicals, these chemicals are so ubiquitous they are difficult to detect and to avoid them you have to actively seek them out. Even someone doing all the right things and wearing all the right products can come home from shopping, or other outings, contaminated with chemicals that were present in the ambient air of buildings and stores they entered. Even amongst people with MCS there are products that will suit one but not another.

There is a very fine line that needs to be followed to balance between 'being normal' and shopping, attending meetings etc and avoiding chemical exposures that cause debilitating symptoms. Annoying as it may be, planning before going out can make the difference between surviving the trip and accidentally having a major exposure (e.g. that was the day the council was spraying the park for weeds or insects). Of course that doesn't always work and this can be very demoralising, but when prior planning does work things can seem doable. Be patient with yourself, it takes time and perseverance.

- Investigate Local Environment and other access issues.
- Plan before you have to go out.
- Try for first appointments.
- Visit shops during 'off-peak' times when customer numbers are minimal.
- Put up a flag or some other wind direction detection device. Recording wind direction during episodes of symptoms can help identify where the exposures are coming from.

Visitors. Guidelines for friends, family members, home services and medical personnel visiting those with MCS are available from the ASEHA website. The guidelines provide background information on MCS and measures people can take to minimise the likelihood of causing a chemical reaction in the person they are visiting.

Public Areas. All of the following public venues and spaces are problematic for many with MCS:

Public parks are not accessible due to pesticide and herbicide use, and barbecue cooking fuels.

- Woodsmoke from solid fuel burning appliances.
- Contact your local council to see if they have a Pesticide Notification Scheme, if they do ask to be included on their list of notifications.

Try to plan your picnics and outing outside of 'peak' times.

Any **public meetings** including community meetings and voting are problematic due to fragrance, petrochemical heating systems, cleaners, and pesticides.

- If you feel you need to attend, wait outside the venue until most people have entered and then choose a position near an open window and/or doorway for a quick exit if necessary.

- Wear a suitable mask to reduce exposure.
- Organise a postal vote. More information about this is available from your local MP or the Australian Electoral Commission.

Merchants including food stores are not accessible due to fragrance, heating systems, pesticides, and offgassing of contaminants in merchandise such as vinyl.

- Prepare before you go out - Take your own food and drink, choose an outdoor setting if the air quality is OK

Health Services. Offices of health providers have as many toxics as any other public buildings rendering them unusable by those with MCS. Fragrance and pesticide applications are commonplace in physicians' offices, even though pesticides are often hormone disrupters and associated with many forms of cancer including breast cancer and childhood brain cancer.

- If you need to go ask for first appointments.
- Ask a friend or family member to accompany you. To reduce exposure to indoor air contaminants, wait outside and have your friend or family member let you know when you're called.
- Other options are a telephone consultation or a home visit if this is possible.
- If you need blood tests, contact the Pathology collection laboratory and explain your situation. Some Path labs have a 'fast' entry/exit system, with limited exposure to fragrances for cancer patients and they may be able to accommodate you. Some pathology labs do home visits
- Some states have MCS hospital guidelines. Ask about these and have them implemented if you need to be hospitalised.

Children's school activities are inaccessible to the parent with MCS due to contamination of school air with pesticides, cleaners, construction materials, carpet, petrochemical heating, and fragrance.

Dealing with reactions at school http://mcs-america.org/index_files/Schools.htm Information for schools The American MCS website www.mcs-america.org Tips for Living with Environmental Illness

Street fairs and carnivals are entertainment to many people, but due to fragrance, pesticides, and propane powered cooking and carnival rides, these are completely inaccessible to people with MCS

Public transportation is affordable transport for some people, but for those with MCS it means exposures to fragrance, petrochemical fumes, and possible pesticides.

- These are particularly difficult and individual problems, a personal mask may provide some protection if you are comfortable wearing one.
- In some places community transport is available via local council or HACC service provider. Organise this well ahead of time and ask for a car that does not have any fragranced air freshener and a driver to be fragrance free.

Libraries also may be problematic for people with MCS due to indoor air quality. If you have access to the internet, some libraries provide some services online, such as ordering books, browsing catalogues etc. Some libraries provide a mobile service and will come to your home. Alternatively, you may have a friend or family member pick up your selections for you, or organise a time with the library before you go in order to shorten your exposure time.

New books, magazines and other print material can be very problematic for people with MCS due to printing ink and book materials (glossy etc).

Buildings where books and other printed materials are stored (including libraries) may be subject to pesticide treatments that may contaminate books.

- Try a library as above.
- Purchase second hand books (with caution).
- To avoid shops - there are websites where second hand books can be purchased.
- Depending on your finances, access and computer equipment, electronic books are available
- If any book seems like a problem – return it, give it away, put it outside to air for a while or throw it away in the compost bin

Airplanes subject people to fragrance, recycled cabin air, and pesticides (now included in the paint used in the cabin).

- If air travel is unavoidable, wear a personal mask,
- Organise with your GP to have oxygen available on the plane.
- Ask to have seats as far away from the toilets as possible.

RELOCATING AND YOUR LOCAL ENVIRONMENT

Relocation. The ASEHA website provides information on house design and location. If you are considering relocating investigate the possibilities carefully. Each location will have it's own particular source of chemicals depending on the local industries, commercial premises and environmental pests.

Suggestions

Close to sea to take advantage of sea breezes and clean air.

On a hilltop or high position to take advantage of breezes and improve airflow indoors

Avoid.

Weatherboard houses or houses built from other materials that require painting - these can create major health problems to chemically sensitive individuals when they require re-painting or renovations. Many chemically sensitive individuals become severely ill when exposed to paint fumes and as some paints take a long time to outgas e.g. oil based enamels, all surrounding dwellings need to brick or some other finish that does not require painting

As far away as possible from:

Neighboring houses - this is essential if sensitivity levels are severe and fumes from; fragranced products e.g. laundry products, detergents, disinfectants, personal care products, perfumes, pesticides, wood smoke, paint, hobby products etc. are likely to cause a problem. Ideally, chemically sensitive individuals need to be housed in areas that are not built out. Where this is not possible, the surrounding properties should be of materials that do not require painting.

Coastal wetlands - where coastal wetlands are present individuals will be subject to large volumes of chemicals or live bacterium (biological control agents) for mosquito treatments.These can be human allergens, respiratory irritants and neurotoxins. The health impact ofthe mixture of these with city pollution is unknown.

Canal developments - these are often sprayed for midges and mosquitoes.

Industrial estates particularly where zoned for noxious industry and engaged in waste destruction, asphalt plants, CCA treatment facilities, Oil recycling, Fertiliser plants - these can contain very toxic substances that are respiratory irritants, carcinogens, human allergens e.g. sulphur dioxide, toluene diisocyanate, furans, dioxins.

Hospital incinerators, Council incinerators, Dump sites, - these can seriously contaminate air quality with very toxic substances that include human allergens, respiratory irritants, neurotoxins, carcinogens.

Parks, Creeks, Playing fields, Golf courses - a lot of herbicide and insecticide can be applied.These can contain human allergens, respiratory irritants and neurotoxins.

Power stations, electric generators, Overhead power lines, Mobile phone towers. Some individuals are sensitive to electromagnetic radiation and need to take these into consideration when choosing a suitable location.

Petrol stations, Main roads, a heavily trafficked road, or freeway - exhaust fumes contain respiratory irritants, neurotoxins, can cause high blood pressure, cardiac disease, cancer, childhood leukemia and affect the birth weight of infants.

Shopping centers - heavy motor traffic around shopping centres can cause respiratory irritation, neurological problems, cancer.

Train lines - these are regularly treated with pesticide and herbicide. Pesticides and herbicides can cause many health problems including respiratory depression,neurological problems.

Farms - agricultural chemical usage has caused many health problems. Some problems are allergic reactions, respiratory disease, neurological disorders, cancers, endocrine disruption, developmental delay, low birth weight babies, still births, birth deformities. Some agricultural chemicals can

bioaccumulate in the human body and affect genetic material (DNA) which in turn can affect future generations.

Timber plantations. A range of herbicides and pesticides are used to control weeds and insect attack.

Schools - these are frequently painted, treated with pesticides inside and around the grounds, which are also treated with herbicides.

To check your current or potential locality in Australia:

Visit the National Pollution Inventory website for information on pollution emissions are in your town or region or your intended town or region. The database searches by Postcode www.npi.gov.au This will provide information on major industries but do not take into account small backyard industries.

The Australian Department of Environment and Heritage, Environment Reporting Tool http://www.deh.gov.au/erin/ert/index.html allows you to find information on threatened species, important wetlands, heritage sites, pollutant emissions (as per National Pollution Inventory) in your town or region.

Contact your local council for information on local industries and potential development sites. Depending on what state you live in the local council may have a Pesticide Notification Scheme in place. Councils will also have Local Environment Plans that can provide information on any proposed developments.

Summary:

Working out a plan for dealing with MCS will take some time.
The aim is to:

- reduce exposure to chemicals causing symptoms,
- eliminate others that may be masking symptoms, and
- avoid contact with any chemicals that may cause the condition to worsen because this can result in loss of tolerance to more chemicals and an increase in the number of symptoms, both chronic and exposure related.