



Mast Cell Action

What is detoxing, and how might it help
with MCAS?

Deborah Bircham



Deborah Bircham

Health Coach, Mindfulness Teacher
Holistic and Naturopathic Wellness



QUALIFICATIONS:

- ✓ Naturopathic Nutrition and Health Coaching: *Diploma-College of Naturopathic Medicine (CNM)*
- ✓ Hypnotherapy and Psychotherapy: *Mindworks*
- ✓ Mindfulness Teacher: *Teach 10 Institute*

MEMBERSHIPS:

- ✓ National Council for Integrative Psychotherapists (NCIP)
- ✓ UK & International Health Coaching Association (UKIHCA)
- ✓ The Association of Naturopathic Practitioners (ANP)



Socials: Live Well With Chronic Illness
Email: livewellwithchronicillness@outlook.com
Website: <https://livewellwithchronicillness.co.uk>

Specialises in Lyme Disease, MCAS, Dysautonomia and Chronic Pain

Today's Session

Last time we looked at environmental toxins, like chemicals in cleaning products, toiletries, pesticides, fragrances etc and how they can impact on us with MCAS.

Today we are going to look at how we can reduce our overall toxic burden

- Reducing toxins in the system is one of the most helpful things we can do for ourselves when we live with MCAS
- It has helped me enormously.



Recap

Recap on toxins

Many environmental toxins trigger Mast Cell degranulation

Some people develop TILT

MCAS severity can be linked to Total Toxic Load – the more ‘toxic’ we become, the more reactive we become.

Toxins are stored in the body and can then become an internal source of mast cell provocation

Toxins provoke inflammation in the body, increasing overall inflammatory load



Environmental Toxins and Toxicants

- Toxins - Biologically produced by animals and plants
- Toxicants - Artificially produced chemical products
- We ingest and absorb toxins and toxicants from the world around us every day
- Substances that are ‘foreign to the body’ or of no use to the body, and when they build up in the body, can have a huge impact on health
- Internal toxins – products of metabolism, hormones, histamine, neurotransmitters, inflammation by-products - waste products from our bodily functions every day that have to be eliminated.
- ALSO
- Anything we eat, put on our skin or breathe up our nose that we can’t use – considered by the body to be a ‘toxin’ and needs removal



How Are We Exposed?

- Skin - 70% of what we put on our skin is absorbed into the blood stream
- Inhaled - What we breathe up our nose – any smell – binds to receptors and inhaled straight into limbic brain
- Eat – absorbed through the gut lining, into the enteric nervous system and blood stream
- Drink – contaminants in drinks and in water



Types of Toxins



- According to CHE Collaborative on Health and the Environment - more than 82,000 chemicals have been developed, distributed, and discarded into the environment over the past fifty years. Only about 200 are fully tested for toxic effects in humans or animals.
- Testing in Isolation
- Testing in time-limited fashion
- Environmental Working Group - women use an average of **12 products a day**, containing 168 different chemicals every day.
- <https://www.ewg.org/the-toxic-twelve-chemicals-and-contaminants-in-cosmetics>



Image by [Yerson Retamal](#) from [Pixabay](#)

Types of Toxins



These chemicals are found in.....

- Furniture and DIY products
- Perfumes and fragrance
- Cleaning products
- Toiletries
- Plastics
- Pesticides
- Tap Water
- Mould
- Cigarette smoke
- Vapes



Dr Sarah Myhill

‘I have yet to do a fat-biopsy on any patients and find that they are completely free from chemicals.

I now suspect that many patients with CFS and MCS not only react to chemicals outside the body, but may also be reacting to chemicals within their own body-fat.

If they can unload these chemicals sufficiently, they can reduce their own sensitivity and tolerate inadvertent exposures to chemicals when they stray outside their own safe environment.’

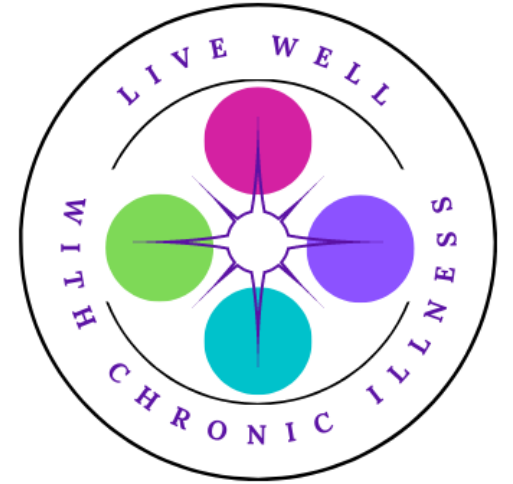


[https://www.drmyhill.co.uk/wiki/Detoxing_-_Far_Infrared_Sauna_\(FIRS\)](https://www.drmyhill.co.uk/wiki/Detoxing_-_Far_Infrared_Sauna_(FIRS))



How can We Protect Ourselves?

- Reducing toxins is key to protecting ourselves from illness .
- 2-fold approach
- Avoid Toxins – replace toxic products with non-toxic alternatives to reduce exposure
- **AND**
- Support the body to detoxify – support the liver and detox pathways to eliminate toxins better
- Turn the tap in, off, and turn on the tap out!



Non-Toxic Alternatives



Some non-toxic alternatives - disclaimer

It is important to note that this list is not exhaustive and other products exist

We are all different, so what is a 'safe' alternative for one person may trigger reactions in another.

It is important to introduce new products gradually, one at a time, and monitor your symptoms closely.

I am not affiliated with any of these products (apart from Lyonsleaf) and I cannot recommend them or personally vouch for their safety or efficacy. It is important to do your own research, and test products yourself, to establish what works best for you.

You will find a range of fragrance-free products at the following suppliers – however, these contain varying levels of additional chemicals and it's important to read the ingredients and test.

As a general rule, the fewer the ingredients, and the more natural, the better.



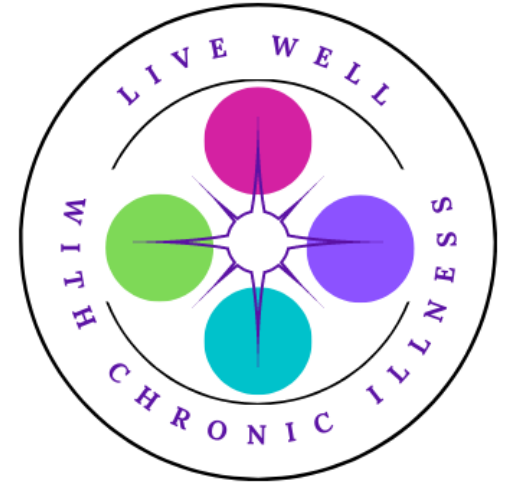
<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>



Using Non-Toxic Alternatives

Research non-toxic options for your products

**ALWAYS TEST
BEFORE USING**



Home Furnishings

If you can't get rid of carpet completely, opt for a natural fibre carpet or area rug such as wool, with a natural backing like jute. (Avoid rubber-backed)

Other natural fibre materials include bamboo, cork, sisal, coir, seagrass, and more.

Pick carpet that doesn't need adhesive (can be tacked down or screwed/nailed down), or opt for natural fibre area rugs.

Second hand

Solid wood, not laminate

Bamboo, hessian, hemp furniture

Tiles

Paints

Little Knights, Lakeland, Graphenstone.

Low VOC paints



Non-Toxic Alternatives

Household Cleaning

Bio D Unfragranced range of household cleaners <https://biod.co.uk/>

Ecover Zero – unfragranced <https://www.ecover.com/ecover-products/ecover-zero/>

This range includes Washing up liquid, Laundry liquid and Softener and Dishwasher tablets

Waitrose

Waitrose do a range of 'Essential Sensitive' products, for example <https://www.waitrose.com/ecom/products/essential-washing-up-liquid-sensitive/609969-803192-803193>

Laundry detergent and softener

<https://www.surcare.co.uk/>

<https://biod.co.uk/shop/laundry/bio-d-fabric-conditioner-fragrance-free-1l/>

<https://www.ecover.com/products/zero/zero-laundry-liquid/>

<https://claraclean.co.uk/products/clara-laundry-detergent-unscented-1-l>



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>

Non-Toxic Alternatives

Household Cleaning

Air fresheners

All chemical air fresheners are toxic and MUST be avoided. Open windows to freshen air.

This may be a less toxic option, but I can't personally vouch for it.

<https://www.dewproducts.com/products/air-deodoriser-300ml>

Explore the options on these websites. Generally, fragrance-free, eco-friendly, or 'sensitive' are good keywords to look for.

<https://claraclean.co.uk/>

<https://www.dewproducts.com/>

<https://www.biggreensmile.com/>

<https://minimlrefills.co.uk/collections/all/>

<https://ironandvelvet.co.uk/product-category/fragrance-free/>

<https://www.ecoliving.co.uk/R-NEAT005.html>

<https://delphiseco.com/>



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>

Non-Toxic Alternatives

Household Cleaning

Natural Cleaning

For some people who are exceptionally chemically sensitive, these commercially-produced products still contain too many chemicals. For these people, natural cleaning products are sometimes needed.

- White vinegar – can be used for all household cleaning, to clean ovens, wipe down worksurfaces, laundry washing, toilet cleaning, bathroom cleaning.
- <https://minimlrefills.co.uk/products/white-vinegar-unscented-5l-bulk-refill>
- Bicarbonate of soda – bathroom cleaning neat or mix with white vinegar to create a 'foam' for the toilet.
- Soda Crystals – toilet cleaning, laundry
- Oxygen Bleach – eg Sodasan or Violet's - toilet cleaning, stain removal and other bleaching jobs



Some additional tips can be found [here](#).

<https://www.webmd.com/a-to-z-guides/ss/slideshow-guide-to-natural-cleaning>

<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>

Non-Toxic Alternatives

Personal Care Products

It is important to consider the chemical load that you are exposed to by the products you are using.

- **Parabens** are used as preservatives in a wide variety of everyday products - Moisturizers, face and skin cleaners, sunscreens, deodorants, shampoo, conditioner, shaving gels, toothpastes, makeup and many other products. They are absorbed into the body through the skin, and adolescent girls who wear makeup every day had 20 times the levels of propylparaben in their urine compared to those who never or rarely wear makeup (Berger 2018). These chemicals have been linked to endocrine disruption, cancer, skin irritation, immune dysregulation
- **Aluminium** – deodorants, aluminium cooking pans, tin foil – causes damage in the brain, liver, and kidney. Studies have linked it to the development of Parkinson's disease, Alzheimer's disease, autism spectrum disorder, multiple sclerosis and possibly breast cancer.
- **Glycols** alcohol used in toiletries – classified by the Environmental Working Group as being potentially an allergen and immunotoxicant.
- **Phthalates** – cleaning and toiletries – fragrance - cancer, hormone disruption, birth defects, respiratory disease, chemical burns to eyes and skin. Studies show activate mast cells in airways and skin
- **Isothiazolinones** found in toiletries, cleaning products and paints. Causes sensitisation, allergic reactions, suspected immunotoxicity, dermatitis, asthma



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>

Non-Toxic Alternatives

These companies have a range of more natural products – it is important to do your own research, but this is a starting point of some companies to investigate.

Some products have more chemicals than others – read the labels
Some products contain fragrance or essential oils – read the labels

Tropic <https://tropicskincare.com/>

Moogoo <https://moogooskincare.co.uk/>

Faith in Nature <https://www.faithinnature.co.uk/>

Live in the Light <https://liveinthelight.co.uk/>

Dr Organic <https://drorganic.co.uk/>

Green People <https://www.greenpeople.co.uk/>

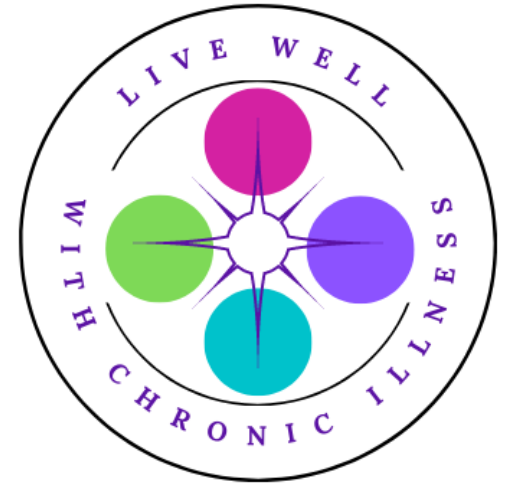
Botanicals <https://botanicals.co.uk/>

Bskincare <https://www.bskincare.co.uk/>

Evolve Beauty <https://www.evolvebeauty.co.uk/>

Naturisimo <https://www.naturisimo.com/>

Peace With The Wild <https://www.peacewiththewild.co.uk/>



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>

Non-Toxic Alternatives

Body Wash

Faith In Nature – Unscented <https://www.amazon.co.uk/Faith-in-Nature-Fragrance-Shower/dp/B079VPLX8D>

Waitrose Essentials Sensitive <https://www.waitrose.com/ecom/products/essential-sensitive-shower-gel/867150-762218-762219>

Waitrose Essentials Sensitive soap bars
<https://www.waitrose.com/ecom/products/essential-sensitive-soap-bars/476197-568700-568701>

Green People Unscented showergel <https://www.greenpeople.co.uk/products/sensitive-scent-free-shower-gel-200ml>

Carina Organics Unscented Body Wash <https://liveinthelight.co.uk/products/unscented-daily-moisturizing-body-wash-360ml>

Lakeland <https://lakelandcosmetics.co.uk/product-category/anti-bacterial-hand-wash-fragrance-free/>

Castile Soap

Handwash

Waitrose Essentials Sensitive <https://www.waitrose.com/ecom/products/essential-sensitive-hand-wash/628005-504375-504376>

The English Soap Company Fragrance Free
<https://theenglishsoapcompany.com/fragrance/fragrance-free/>



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>

Non-Toxic Alternatives

Shampoo and Conditioner

Carina Organics Shampoo and conditioner

<https://liveinthelight.co.uk/products/unscented-daily-moisturising-shampoo-360ml>

Faith in Nature unscented shampoo and conditioner

<https://amzn.eu/d/0d987B2Y>

Green People unscented shampoo

https://www.greenpeople.co.uk/products/sensitive-scent-free-shampoo-200ml?variant=32854165192749¤cy=GBP&utm_source=google&utm_medium=free_listings&utm_campaign=free_listings_feed&utm_content=free_listings_ads&cvq_source=google&cvq_adid=&cvq_cid=20220590118&gad_source=1&gclid=CjwKCAjwhvi0BhA4EiwAX25ujyOIMP5gWe4o8x0NODp88lhvidc6siTvVr2aYpqjqZpAX9JaXacQcxoCXqEQAvD_BwE



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Non-Toxic Alternatives

Deodorant

Green People **unscented** deodorant

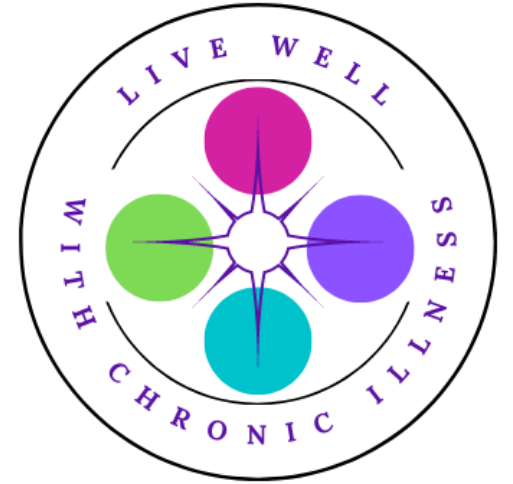
<https://www.greenpeople.co.uk/products/sensitive-scent-free-deodorant-75ml>

Honey Bee Beautiful **unscented** deodorant

<https://www.honeybeebeautiful.co.uk/products/sensitive-bee-natural-deodorant>

Wild Unscented <https://wearewild.com/products/aqua-case-unscented-starter-pack>

Nudd fragrance **free** <https://www.homefair.uk/products/nuud-natural-deodorant-fragrance-free-15ml?variant=40445407068257>



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>



Non-Toxic Alternatives



Body Cream

Lyonsleaf <https://lyonsleaf.co.uk/>

(I am an affiliate for Lyonsleaf as I find their products extremely helpful, and you can use the code DEBORAHBIRCHAM20 to get 20% discount. I also make a very small amount of commission on anything you buy using this code.)

I particularly like their calendula and zinc cream, although as always, it is essential you test it first to ensure you don't react.

Green People fragrance free hand and body lotion
<https://www.greenpeople.co.uk/products/sensitive-scent-free-hand-body-lotion-150ml>



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>



Non-Toxic Alternatives

Toothpaste

Green People <https://www.greenpeople.co.uk/collections/bc-organic-natural-toothpaste>

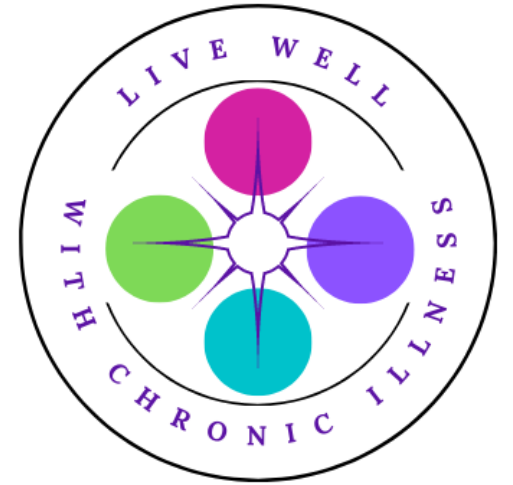
Gutology <https://gutology.co.uk/products/gutology-probiotic-toothpaste>

Georganics

https://georganics.com/collections/brushing?gad_source=1&gclid=CjwKCAjwqf20BhBwEiwAt7dtdQF5EaaDzJCCW7zQw85-4ZYLhhXDDx4-HDDfMbvN6CR9u0Sqt3wQjBoCCOIQAvD_BwE

Truthpaste <https://truthpaste.co.uk/collections/fluoride-free-toothpaste>

Ben and Anna <https://benandanna.uk/shop/p/toothpaste-with-fluoride>



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>



Non-Toxic Alternatives

Suncream

SweetBeeOrganics

<https://www.sweetbeeorganics.co.uk/products/sweet-bee-organic-sunscreen>

MooGoo

<https://moogooskincare.co.uk/>
Shade <https://shadecream.com/>



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>



Non-Toxic Alternatives



Cosmetics

Benecos - <https://benecos.uk/>

Only Naturals -

<https://onlynaturals.co.uk/>

Green People -

<https://www.greenpeople.co.uk/>

/

PHB -

<https://www.phbethicalbeauty.co.uk/>

You may find the Yuka app helpful – you can scan bar codes on food packaging and personal care products and it gives you an indication of how toxic the product is.



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>

Eat Organic

As we saw last time,

- Many non-organic foods are contaminated with toxic chemicals that disrupt endocrine function and hormones
- Linked to cancers, asthma, childhood leukaemia and Parkinson's disease
- Research into Roundup – Glyphosate – found statistically significant links to certain cancers, such as non-Hodgkin's lymphoma.
- More than half of UK foods tested positive for harmful PFAS.

Out of all the items tested, strawberries were found to be the worst affected as 95% of the 120 tested samples contained PFAs.

The Environmental Working Group 'Dirty Dozen' gives you a list of the most contaminated foods, so you can prioritise which ones to buy organic.



Image by [Devon Breen](#) from [Pixabay](#)



<https://www.ewg.org/foodnews/dirty-dozen.php>

2024 List of Most Contaminated

Strawberries
Spinach
Kale
Grapes
Peaches

Pears
Nectarines
Apples
Bell Peppers
Cherries
Blueberries
Green Beans

<https://news.sky.com/story/forever-chemicals-found-in-more-than-half-of-food-and-drink-samples-testing-shows-13111032>

UK 2022

Copyright Live Well With Chronic Illness 2023



Non-Toxic Alternatives

Cookware

For those of us with MCAS it is important to consider what we are cooking our food in.

It is important to understand that non-stick cookware contains a range of chemicals known as PFAs.

Research is showing that these are extremely toxic, and they are known as ‘forever chemicals’ as they do not degrade.

PFAS have been linked to a range of serious adverse health conditions including testicular cancer, thyroid disease, increased cholesterol levels, liver damage and fertility issues, as well as damaging the development of unborn children, and efforts are being made to phase out their use.

However, many household cooking utensils still contain them, and by cooking in them we can ingest microparticles of these substances.



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>



Non-Toxic Alternatives

Cookware

Another source of contamination are plastics used in food manufacturing processes, food packaging and cookware and food storage containers. The additives in the plastics can leach out into the food and we ingest them with the food. Microplastics are being found in human tissue, and research is showing they cause low-level inflammation.

Aluminium cookware is also problematic, as is aluminium foil. Studies show that aluminium and nickel both trigger mast cell degranulation, and aluminium has also been strongly linked with neurodegenerative disorders, including dementia. It is important to avoid drinking and eating out of aluminium.

<https://www.aarp.org/home-family/your-home/info-2021/pots-and-pans-safety-guide.html>

<https://www.sciencedirect.com/science/article/pii/S0048969724027232>



<https://www.unep.org/topics/chemicals-and-pollution-action/pollution-and-health/persistent-organic-pollutants-pops/and#:~:text=They%20are%20a%20large%20family,Stockholm%20Convention%20as%20industrial%20POPs.>



Non-Toxic Alternatives

Cookware

Non-toxic Cooking equipment

Glass
Ceramic
Bamboo/wood
Cast iron
Stainless steel
Silicone

Glass Kettles – hob boil kettles
Vision or Corning ware saucepans

Consider replacing your cooking equipment with glass or ceramic alternatives, and using non-plastic utensils.

Cooking materials should always be inert.
<https://www.mindbodygreen.com/articles/non-toxic-cookware>



Non-Toxic Alternatives

Tap water contains many contaminants and pollutants, including chlorine, that can be a problem for those of us who are sensitive to chemicals or who have MCAS. These are an added strain on our detoxification systems, and also can trigger immune reactions and fuel inflammation.

There are many water purifiers on the market which remove many of these impurities, and it is worth doing research to find the right one for you.

A good water filter that does a good job represents a considerable investment, but it is worth it as clean, fresh water is one of the most healing things that we can provide for our bodies.

The following water filters are suggestions to guide you in your research, but are not recommendations. I am not affiliated with any of these products and have no financial benefit from recommending them.

It is important you do your own research and ensure a product is suitable for your needs before investing. This is not an exhaustive list and other types of water filter are available.



Non-Toxic Alternatives



Basic Glass Jug Water filter

Dafi Glass Water Filter Jug.

<https://www.amazon.co.uk/Filter-Dafi-Crystal-Classic-Cartridge/dp/B0186BZQLW>

Invigorated Water

https://www.amazon.co.uk/gp/product/B07V4PGBQY/ref=ewc_pr_img_7?smid=A3U2TKE1D8U8L1&psc=1



Non-Toxic Alternatives

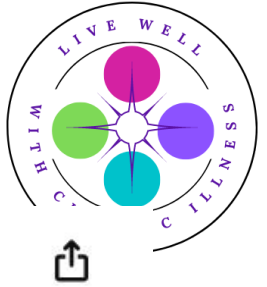
Berkey. <https://berkey-waterfilters.co.uk/>

See also here for deals

<https://www.waterfilterman.co.uk/boat-caravan-water-filters/633-royal-berkey-water-filter-system-large-stainless-steel-gravity-fed-water-filter.html>

Bear in mind, the filters for this model require considerable 'scrubbing' before they can be installed, which is quite physically demanding, and you may need help.

British Berkefeld, a cheaper alternative to Berkey which is very similar. They can also be found on Amazon. <https://doulton.com/products/british-berkefeld-stainless-steel-gravity-system>



Non-Toxic Alternatives



Aquatru Water Filters
<https://aquatru.co.uk/>

This one is recommended by
Beth O'Hara and you can read
her review of it here.
<https://mastcell360.com/aquatru-water-filter/>



Non-Toxic Alternatives

Reverse Osmosis Systems – such as this one https://www.uk-water-filters.co.uk/products/reverse_osmosis_system_with_pump

Megahome Reverse Osmosis Water Filters
<https://www.megahome-distillers.co.uk/>



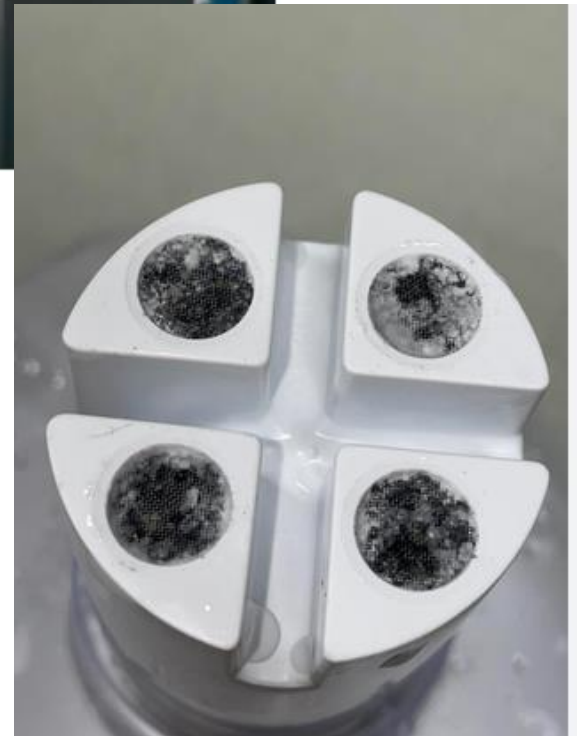
Non-Toxic Alternatives



Factors to consider are whether the water filter jug is made of plastic or aluminium, both of which are toxic. Glass or stainless steel water containers are essential for toxin removal.

Also consider whether the water filter will grow mould, and whether you will be able to keep it clean easily.

In-built water filters in fridges can be difficult for this reason, and many can harbour toxic moulds, so are best avoided.



Non-Toxic Alternatives

Shower Filters

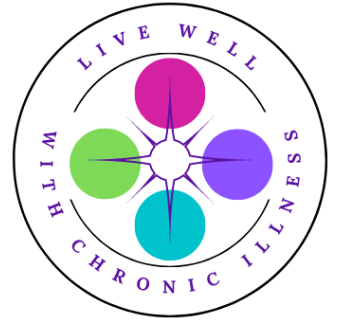
Many people find they are itchy or reactive after showering, and this can be because of the chlorine in the shower water. There are a number of shower filters that are available to purchase.

Some of the options are below, again these are not recommendations and I am not affiliated with any of these companies.

Pure Showers <https://www.pureshowers.co.uk/>

UK Water Filters Shower head water filters | UK Water Filters (<https://www.uk-water-filters.co.uk/>)

Showery <https://showery.co.uk/collections/water-softening-shower-heads/products/showery-eco-flow>



Non-Toxic Alternatives

Air purifiers

HEPA filter

Some remove formaldehyde, VOC, petrochemicals, mould.

- Blue Air
- Dyson
- Leovit
- Air Doctor
- AEG
- Phillips
- Airgle

<https://mastcell360.com/the-air-filter-i-use-and-recommend-air-filter-info-for-those-with-mast-cell-activation-syndrome-or-histamine-intolerance/>



Non-Toxic Alternatives



Air Purifiers for Cars

Phillips, Queenty, and others

Plain Air do a very expensive one!

<https://www.plainair.co.uk/category/vehicle-purifiers>

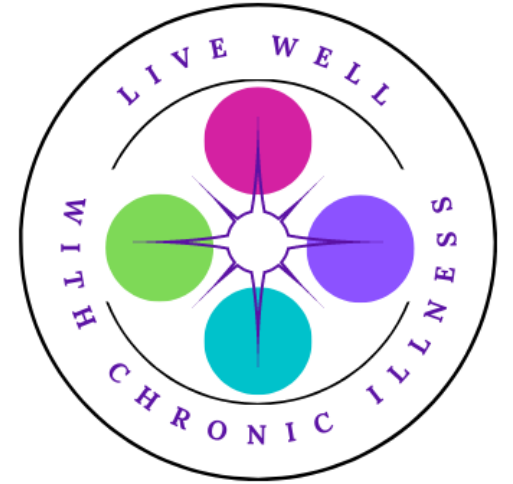
Mann Filter do a precious air filter for car air-con which removes toxins, mould, pollen etc

<https://www.mann-filter.com/en/parts/cabin-air-filter/preciousplus.html>



Turning on the 'Out' Tap

- By supporting our detox pathways, we can improve our ability to get rid of these toxins
- There are a number of ways we can do this
- We are going to look at.....
- **How Does Detox Work?** – What are the mechanisms through which we detox?
- **Diet changes** – how what we eat can support the liver detox pathways
- **Lifestyle changes** – things we can do that can support the body to detox



How Does Detox Work?

- Hepatic Portal Vein – all contents of stomach goes to liver
- If we can't use it in the body – it is a 'toxin' – foreign to the body, must be eliminated
- **HAS** to be eliminated out through the liver and gut or kidneys
- Use up precious resources and nutrients in the liver
- Phase 1 and phase 2 detox – process of liver detox that uses nutrients to bind to toxins – very 'expensive'
- Bile production – eliminates toxins from liver into gut
- Lymphatic system – supports removal of toxins from tissues



Remember.....

- You are what you eat?
- What you digest
- What you absorb
- What you don't eliminate - reabsorbed
- Sadly, we are absorbing toxins and toxicants all the time and if we don't eliminate them effectively, they get reabsorbed



Phase 1 Liver Detox

Phase I Liver Detoxification Pathway

Phase I liver detoxification is the first line of defense against toxins.

It converts fat-soluble toxins into water-soluble toxins so they can be processed further in Stage 2 detox.

It uses a group of enzymes called the cytochrome P450 family to do this.

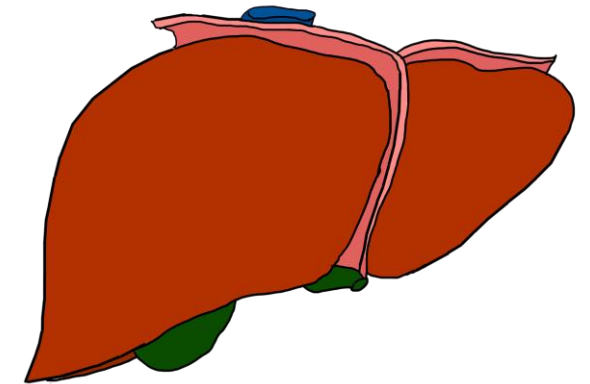
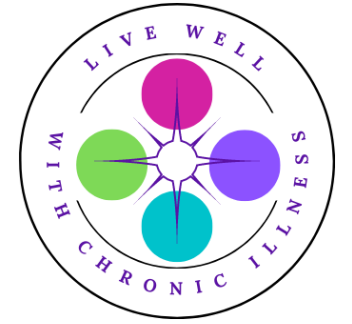
The byproducts of Phase I liver detoxification are even more toxic to the body.

If the toxins are allowed to build up and stay in the liver, they can damage DNA and proteins.

This process creates free radicals.

The liver is prone to damage by oxidative stress caused by these free radicals.

The liver needs to be protected by lots of antioxidants in order to function well.



<https://askthescientists.com/qa/liver-detoxification-pathways/>

Phase 2 Liver Detox

Phase II Liver Detoxification Pathway

It is essential that the products of Phase 1 detox are processed and removed by Phase II detoxification, to make sure that those toxins do not build up.

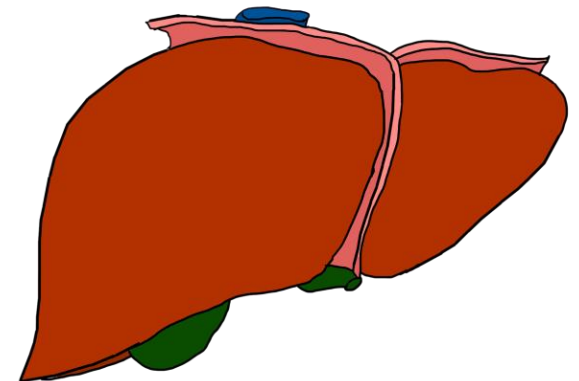
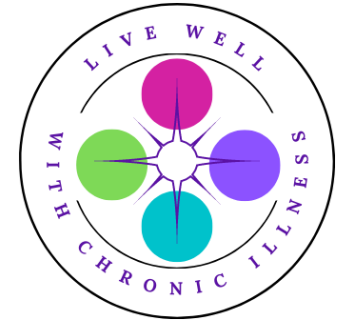
Phase II liver detoxification neutralizes the byproducts of Phase I liver detoxification and other remaining toxins.

This is done by 'binding' the toxins with various substances in order to make them water-soluble, so they can be excreted from the body.

This process is known as conjugation.

6 Different Phase II conjugation pathways

- Glucuronidation
- Acetylation
- Methylation
- Amino acid conjugation
- Sulfation
- Glutathione conjugation.

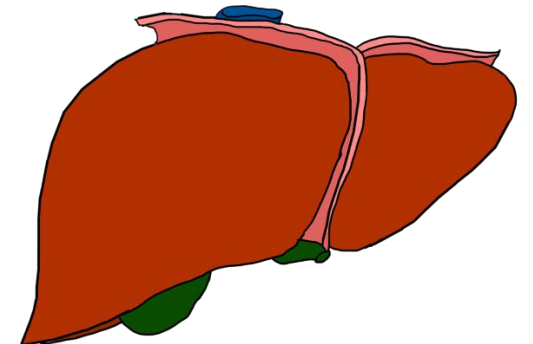


Phase 2 Liver Detox

Phase II Detox is extremely 'expensive' in terms of energy and nutrients

For Phase II Detox to happen, the body needs enough supplies of nutrients

- Glucuronidation utilizes carotenoids, magnesium, omega-3 and omega-6 fatty acids, probiotics, and flavonoids like quercetin.
- Glutathione conjugation relies on amino acids such as glycine, cysteine, and methionine and minerals like selenium and zinc.
- Sulfation utilizes sulfur-rich foods and amino acids in eggs, garlic, and taurine.
- Methylation requires magnesium, B vitamins, choline, and methionine.



Phase 2 Liver Detox

Glutathione

Glutathione – the body’s ‘master’ antioxidant and detoxing agent

Protects the liver from damage
Binds to toxins to allow them to be eliminated

How much we produce depends on diet and genetic factors

Lack of Glutathione supports Th2 dominance (MCAS)

High Homocysteine levels can indicate low glutathione

SNPs can block glutathione production

NAC is a precursor to Glutathione



Certain foods and nutrients contain the building blocks to make Glutathione

Selenium- brazil nuts, eggs, spinach, sardines, turkey, tuna, liver

Vitamin E – avocado, pumpkin seeds, peanuts, almonds, sunflower oil, spinach

Cruciferous Vegetables – Cauliflower, brussels sprouts, broccoli, kale, swede

Alpha-lipoic acid – red meat, carrots, spinach, broccoli, potatoes, beets, rice

Cysteine – high protein foods – dairy, meats, poultry, eggs, beef, whole grains

Milk thistle



Image by [Pictavio](#) from [Pixabay](#)



Image by [Robert Owen-Wahl](#) from [Pixabay](#)

<https://askthescientists.com/qa/liver-detoxification-pathways/>

Phase 3 Detox



The Elimination Pathways

Bile production and Bowel function

The by-products of Phase II detox

Transported to the Gall Bladder

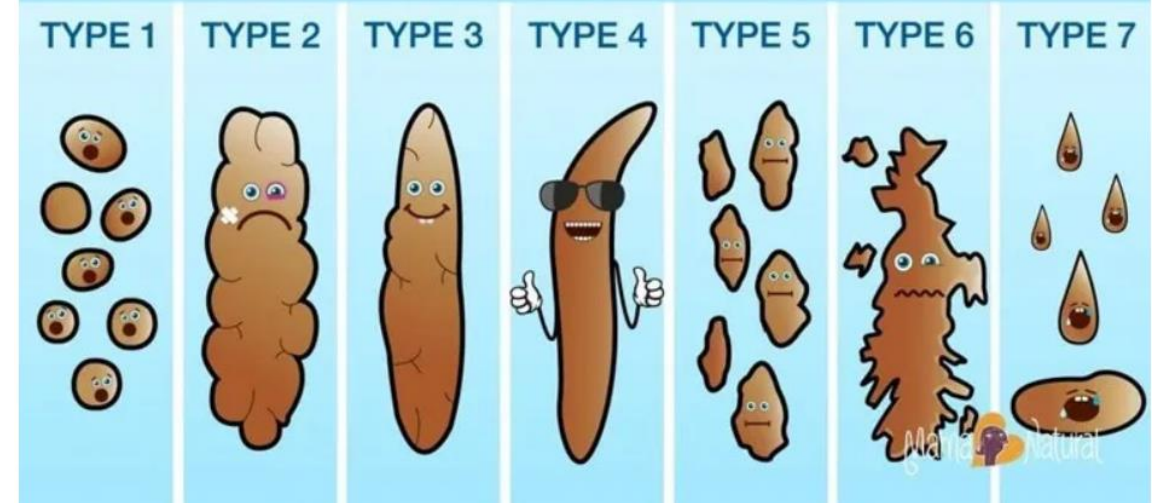
Transported in Bile to the small intestine for elimination in the stool

If the gall bladder, bile and bowel system is not working effectively – it backs up

The toxins can be reabsorbed – each time they circulate, they become more toxic



BRISTOL STOOL CHART



In order to be detoxing properly, you must be pooping daily!

Phase 3 Detox

I like this quote from Dr Laura Paris

‘Imagine Phase 1 as a constant water drip from a leaky faucet into a bathtub.

Phase 2 is the drain with small openings that can quickly become blocked.

Phase 3 represents the sewer line; you have a real problem if it becomes congested! When approaching a focused detox program, follow this sequence:

- 1.Begin with Phase 3 to ensure clear sewer pipes.
- 2.Provide support for Phase 2 through diet and supplements.
- 3.Gradually stimulate Phase 1 with food while minimizing exposure to chemicals and toxins.’



<https://www.parishealingarts.com/functional-medicine-phase-detox/>



Blockages to Detox



- If you have any of these blocks, toxins can build up and cause more problems.
- People with MCAS are often shown in tests to be 'poor detoxers'
- SNPs - Single Nucleotide Polymorphisms
- Excessive metabolic products - eg hormone imbalance, histamine issues, inflammation
- Prescription drugs and medications - all have to be detoxed
- Poor liver function - alcohol or toxin consumption - competition
- Poor bile production
- Dehydration
- Constipation
- Problems with kidney function
- Poor lymphatic drainage
- Lack of exercise/movement
- Lack of nutrients required for binding and glutathione production esp sulphur and glucosinolates



Blockages to Detox - SNPs



Single Nucleotide Polymorphisms.

Genetic variations

SNPs help predict an individual's response to certain drugs, susceptibility to environmental factors such as toxins, and risk of developing diseases.

<https://www.sciencedirect.com/science/article/pii/S2666765723000406>

This study looked at Genetic SNPs to determine if any were associated with Chemical Intolerance.

They concluded that

‘Several SNPs were identified which either increase or decrease the associated risk of CI. These SNPs include markers close to genes involved in mast cell activation pathways. ‘



<https://medlineplus.gov/genetics/understanding/genomicresearch/snp/>



Mould Illness

Mycotoxins released by Mould can be a big trigger for people living with MCAS and investigating mould as a possible factor in your MCAS is a good idea, particularly if you are aware of current or historic mould exposure.

Detoxing mycotoxins from the body is the primary treatment method for mould illness, and many people find that, by diligently and consistently detoxing mould over a period of time, their MCAS symptoms improve.

There are specific binders that bind to specific types of mycotoxin, so it's important to ensure you are taking the right binders for you.

Working with a practitioner is advisable to investigate and deal with mould toxicity.

Mycotoxins also 'block' the detox pathways, leading to toxic overwhelm and inability to eliminate other toxins.

This can be a major factor in development of intolerance to foods and chemicals. Particularly salicylate and oxalate intolerance.



A good source of information about mould illness as a factor in MCAS, and tips for how to recover, is Mast Cell 360

<https://mastcell360.com/how-to-detox-your-body-from-mold/>



Diet Support Detox

- Cruciferous Veg – cabbage, kale, cauliflower, brussels sprouts, swede contain glucosinolates that support liver detox
- Sulphur – onions, garlic, leeks – sulforaphane – sulfation
- Folate – Vitamin B9 in green leafy vegetables
- Dandelion – leaf and root teas – stimulate digestion and bile
- Bitters – before meals - Bile production – chicory, rocket, dandelion leaves, artichoke
- Fibre – bowel movements
- Water – essential for detox – make sure you drink lots of pure water
- Binders for specific toxins
- Improve gut health to support digestion and elimination
- Fasting – intermittent fasting promotes removal of waste from cells



Phytonutrients to protect the liver from toxic free radical damage

Phytonutrients

- Fruit and Vegetables contain phytonutrients
- Chemicals found in plants that are anti-oxidants

Help the liver detox and protect it from damage from free radicals, produced during the detox process

- **Green fruits** and vegetables – chlorophyll
- **Red fruits** and vegetables – lycopene
- **Orange fruits** and vegetables – beta carotene
- **Blue fruits** and vegetables – anthocyanins
- **White fruits** and vegetables – sulphur

Eat a rainbow!

<https://askthescientists.com/phytonutrients/>

- This is the **ideal** – that we want to work towards – but we must work within our tolerance



Alison Vickery

Binders for Chemicals



Glyphosate	Coseva Advanced Fulvic or Pure Body Extra Fulvic	Ion Intelligence by Nature
Pesticides & Herbicides	Cellcore HM-ET Binder	
Hormones	Quicksilver Ultrabinder	Psyllium (Estrogen)
General	Biopure Chlorella	Cellcore HM-ET Binder

Different binders ‘bind’ to different things – it’s important to work with a practitioner who can guide you with the correct binders for your particular toxin load

If you’ve tried using binders before and didn’t find they helped – it may be that you were using the wrong one.

Free Download – AlisonVickery.com



Lifestyle Support Detox



- Epsom Salt Baths – encourage toxins to be eliminated through skin
- Lymphatic drainage massage and dry skin brushing - support the lymphatic system to drain toxins
- Far Infrared Sauna – eliminate toxins through skin via sweat
- Movement – helps the body eliminate toxins more effectively
- Sleep – Glymphatic drainage in brain
- Castor Oil Packs [https://mastcell360.com/castor-oil-packs-how-they-can-help-with-mast-cell-activation-syndrome-and-histamine-intolerance/\(salicylate?\)](https://mastcell360.com/castor-oil-packs-how-they-can-help-with-mast-cell-activation-syndrome-and-histamine-intolerance/(salicylate?))
- Hot water liver flush first thing every morning
- Reduce exposure to environmental toxins – turn off the tap
- Remove internal sources – viral, bacterial, fungal, mould



WARNING



- Warning – Detoxing incorrectly can make us VERY SICK!
- Detox ‘flu’ reactions and MCAS reactions
- Overwhelm of toxic release from tissues into the blood stream faster than the liver can remove them
- Can trigger severe symptoms and MCAS flare
- Detox must be done really carefully, and slowly
- Start very low and slow and build up gradually
- Ideally work with a practitioner
- Detoxing from heavy metals in particular can be dangerous and needs to be done properly, so work with a practitioner if you suspect you may have heavy metal toxicity.



Detox Summary



- Filtered drinking water
- Air purifiers
- Eat Organic when possible
- Buy non-toxic cleaning products
- Buy non-toxic make-up and toiletries
- Don't smoke or vape
- Avoid perfume or 'fragrance', including household air fresheners
- Avoid aluminium deodorants
- Decorate with non-toxic paints
- Purchase furniture made with natural fibres
- Don't drink or eat out of plastic bottles or containers

Download the Yuka app and scan barcodes on products to see how toxic it is!



Detox Summary

Support Your Detox Pathways through Diet and Lifestyle supports – Vegetables, Far Infra Red sauna, Epsom Salts, Lymphatic Drainage.

Ensure regular bowel movements

Detox cautiously and with support. Do your research first!

It's important to state that detoxing is not a 'cure' for MCAS

There are many complex factor involved in MCAS, and you may always have underlying MCAS

If your MCAS is being made worse by exposure to environmental toxins, then detoxing and reducing your exposure can reduce current symptoms and make MCAS milder.

Emptying your toxic bucket might allow you to calm your mast cells and improve your tolerance to other things.



Download the Yuka app and scan barcodes on products to see how toxic it is!



Resources



Toxic – Dr Neil Nathan

Mast Cell 360

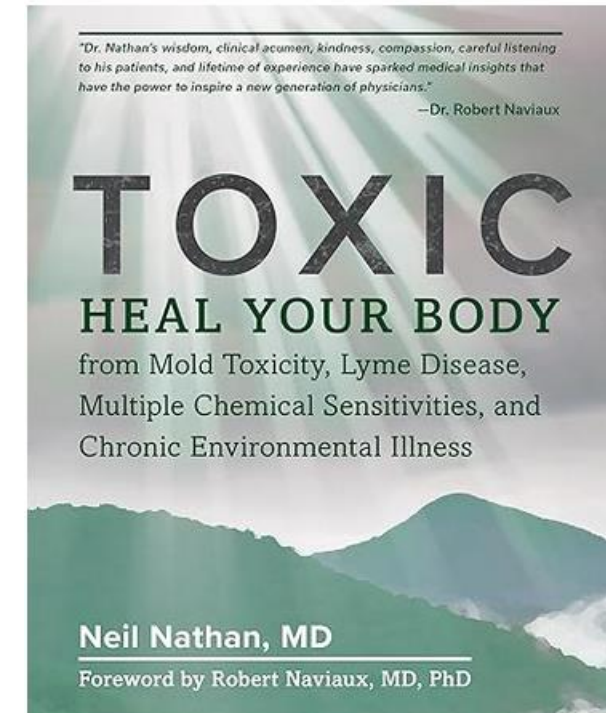
<https://mastcell360.com/7-most-common-detox-mistakes-made-by-sensitive-people-what-to-know-when-you-have-mast-cell-activation-syndrome-and-histamine-intolerance/>

Dr Tania Dempsey

<https://drtaniadempsey.com/whats-the-connection-between-mold-illness-and-mast-cell-activation/>

Amber Walker – Mast Cells United

<https://mastcellsunited.com/2018/07/01/reducing-toxic-burden-for-the-mcas-patient/>



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Email livewellwithchronicillness@outlook.com



Any Questions?

