

## Plastic bioaccumulation, health implications and enhancing biotransformation using Herbal Medicine

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Plastic contamination has recently been shown to be a vector for heavy metal contamination. Plastic is ubiquitous. Recent studies have highlighted that plastic is in bottled and tap water and in food products including honey, sugar and beer. 3-10 tonnes is estimated to fall on Paris per year. Global concern regarding the health implications is mounting, with the World Health Organisation (WHO) announcing a risk assessment review of plastics. Meanwhile we remain to eat, drink and inhale plastic without knowing what it is doing to us or indeed if we can eliminate it. Carina will discuss the scale of global microplastic contamination, where it comes from, how plastic enters the body, the health implications of inhaling and ingesting plastics and most importantly how plastic is detoxed and what are the most effective liver herbs to maximise plastic detoxification.


Learn how plastic is detoxed and affects Phase 1 cytochrome P450 enzyme group and Phase II pathways including glutathione, glucuronidation and sulphation and the importance of supporting our endogenous antioxidants, catalase, glutathione (GSH), glutathione peroxidase (GPx), glutathione reductase, glutathione S-transferase (GST) and superoxide dismutase (SOD). Carina will discuss specifically how ingested plastics, including phthalates and BPA, and inhaled plastics, including dioxins and furans are detoxed by these processes and what herbal medicine and nutritional supplementation can maximise plastic metabolism and excretion. The presentation will also cover the danger of

inadequate plastic detoxification and how this can damage RNA and DNA and contribute to early ageing and cancer formation.

### Speaker Biography

Carina Harkin BHSc.Nat.BHSc.Hom.BHSc.Acu. Cert IV TAE. MPH (pending), holds 3 internationally recognised level 8 (EQF/AQF/NFQ/Level 6 Ofqual) Bachelor of Health Science degrees in Complementary and Alternative Medicine (CAM), being the world's first triple degree CAM graduate and she is completing a Master in Public Health MPH. Receiving substantial training in pharmacology and having worked in pharmacies. She is adept in drug/nutrient and drug/herb safety and specialises in matching the pharmacological action of drugs with active constituents found in herbs. Carina has an online herbal dispensary and supplies organic pharmacy grade herbal extracts worldwide. Carina has experience treating antimicrobial resistant disease including MRSA, MDR-TB, MDR Streptococcus pneumonia and Haemophilus influenza, MDR Candida, Neglected Tropical Disease (NTD) and the rising tide of Non Communicable Disease. She holds a teaching qualification and is an experienced lecturer with 20 years clinical experience. She has worked in Public Health, as an acupuncturist at the Northern Hospital Melbourne, where she conducted a world first trial A Prospective, Randomised Control Trial of Acupuncture for Select Common Conditions within the Emergency Department and in Box Hill Hospital's Drug and Alcohol Rehabilitation Unit. Her goal is to see the integration of CAM into mainstream healthcare hence she is completing a master's in public health. She wants help shape future Public Health Policy to improve Global Health Outcomes using Traditional Medicines and she is writing her dissertation on The Use of Herbal Medicine to Address the Greatest Global Threat; Antimicrobial Resistance.

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