PINK THERAPY
Working with gender, sexuality and relationship diversities

Detoxification and Biotransformation

If there's one aspect to health that is most misunderstood it is the concept of 'the detox'.

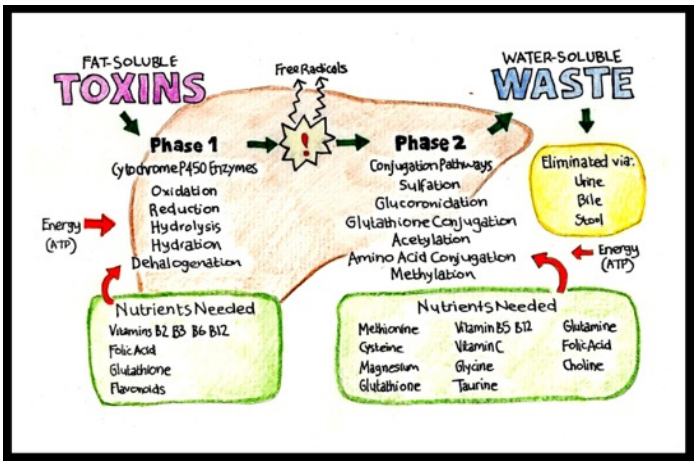
Whilst our bodies are in a constant process of detoxification - it is the liver, the largest internal organ's primary function! - the way most of us hear about it is in the context of the lucrative 'detox industry'. In the last decade, the concept of detoxing has entered common vernacular and most frequently connotes juice diets, fasting, or consuming the latest 'super food'.

Whilst these fads cannot rid you of unspecified 'toxins', having a better understanding of how the body processes and eliminates the things we consume (particularly drugs and alcohol), can hep when we are thinking about substance use. One of the ways we can support our health and well-being as drug users, is to understand the impact drugs have on our physiological systems.

Recreational drugs, the chemicals they are often cut with, and the surge in neurotransmitters or hormones they produce (eg. excess dopamine following Meth use) all need to be processed and eliminated from the bloodstream. The liver filters the blood, and converts these fat-soluble toxins into water-soluble forms that can be excreted. This two phase process requires nutrients, vitamins, minerals, enzymes, energy and other co-factors. The liver is an extremely forgiving organ that manages it's job in most people well, despite a sometimes heavy burden, but there are ways we can support this process to ensure our liver remains supportive of our lifestyle.

Physiology

The liver functions in two phases, analogous to first bagging up the household waste, and then taking it out. Phase one 'biotransforms' the toxin and achieves one of three outcomes: it makes it water-soluble, it converts it to a less toxic state, or, if it can't do either of those things, it converts it into a more bioactive substance ready to be passed on to phase two. Continuing the rubbish analogy, if phase one is working more quickly than phase two, or if phase two is hampered, the 'bagged waste' accumulates and these intermediary metabolites produce free radicals, a bit like bin juice emitted from the accumulated bin-bags. Therefore when we think about liver function, we want to assist bifunctionally. Certain nutrients effect the phases differently. For example, the phytochemical Naringinen found it grapefruit significantly reduces the Cytochrome P450 enzymes needed in phase 1, resulting in a dramatically reduced biotransformation for some drugs – hence why many prescription medications state to avoid it. Curcumin, the phytochemical responsible for Turmeric's bright yellow, slows phase 1 down whilst speeding up phase 2, which can be very helpful for clearing a backlog of accumulated bin-bags!



Free Radicals and Antioxidants:

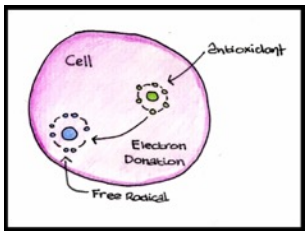
A free radical is simply an unstable molecule; in chemistry, unstable molecules seek out electrons so that they can stabilise themselves – this totally natural phenomenon takes place constantly and is essential to all life – however – in our bodies, as these unstable molecules seek out electrons, they damage cells – we call this damage 'oxidation' (it's the same thing that turns a piece of fruit brown when cut). In order to limit this damage, we can aim to produce fewer free radicals, whilst also making sure we consume plenty of the substances that help 'mop up' the free radicals; we call these molecules 'antioxidants'. Antioxidants safely interact with free radicals, stabilising them and halting the chain reaction of 'electron stealing', and thus, ceasing cellular damage.

Bifunctional Modulators are nutrients that help both phases of liver detoxification symbiotically, such as:

- Sulphur containing foods (broccoli, cabbage, Brussels sprouts, cauliflower, raw garlic, onions, leeks and shallots)
- B Vitamins
- Folic Acid
- Adequate protein intake (for the full range of Amino Acids)

To avoid speeding up phase 1 of liver detoxification (particularly important after using drugs) avoid:

- Alcohol
- Caffeine
- Paint fumes
- Exhaust fumes
- Barbiturates



Powerful antioxidants include:

- All brightly coloured fruit and vegetables (the phytochemicals responsible for natural bright colours are powerful antioxidants, particularly sweet potatoes, carrots, berries, red onions)
- Vitamin's A, C and E
- Green and White tea
- Dark or raw chocolate