

## Gastroenterologist Opinion

Gastroenterologists in Australia generally do not use the terms "Leaky Gut Syndrome" or "Liver Detoxification". These terms are founded in pseudoscience and should not be used in evidence based medicine.

There are many serious diseases of the colon and small intestine where the tight intracellular junctions between the gut cells breakdown and the gut becomes porous, allowing translocation of bacteria and (possibly) unwanted molecules that may act as "toxins" or more likely act as antigenic stimuli. However this raises the question of which comes first, and this is an area of very active research. There is no doubt that particularly in the first couple of years of life, our gut is the portal of entry for multiple antigenic stimuli that has a huge impact on our immune tolerance later in life. Not all "leakage" is bad, lack of such exposure early in life may lead to allergy and autoimmune problems later on. Theoretically this is because our regulatory T cells need to be primed early in life that certain stimuli are OK and do not require an immune response when encountered from day to day[1]. There are no laboratory tests for increased permeability of the gastrointestinal tract that are routinely used in clinical practice. The lactulose/mannitol test is still a research tool since it is not a reliable marker, even in established Coeliac disease[2].

Of course we all want an easy way to "Detox" our liver but the truth is there is none[3]! Our livers are damaged by alcohol, drugs, viruses specific for the liver and being overweight (obese). A detox regime therefore depends on becoming sober, lean and fit. No pills or special diets have any proven value at all. Sorry folks, no easy out here. Enjoy life, but don't get fat and don't drink too much.

Doing a complete stool analysis is a bit like doing a total body CT scan, potentially misleading and unlikely to be helpful in people with non-specific problems. A targeted stool test is of course very valuable in certain clinical settings. For instance finding *C. difficile* toxin in someone with post-antibiotic diarrhoea could suggest they have *C. difficile* colitis - but not always! Each test has to be interpreted in the clinical situation. (For more information see our article on "[Validation, Use and Interpretation of Laboratory Tests.](#)") The word "dysbiosis" is often used now to describe an imbalance in normal faecal flora. (There are over a thousand species of bacteria that normally live in the colon making up over 90% of our gene pool[4]). Stool tests are best positioned to detect certain known pathogens, but as described above with *C. difficile*, even potential pathogens can reside harmlessly in the normal bowel. Like all tests, a stool examination whether it be a culture test for bacteria, a PCR test for the *C. difficile* toxin gene or a stool analysis for malabsorption of fat, needs to be as specific and targeted as possible according to the clinical situation. Just doing "everything on everyone" is expensive, misleading and just plain bad medicine!

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#### References

[1] Regulatory T Cells and Immune Tolerance. Sakaguchi S, Yamaguchi T, Nomura T, Ono M. *Cell* 133, May 30, 2008 775-7.

[2] Is the sugar intestinal permeability test a reliable investigation for coeliac disease screening? Catassi C, Fabiani E, R atsch IM, Bonucci A, Dotti M, Coppa GV, Giorgi PL. *Gut*. 1997 Feb;40(2):215-7.

[3] [WebMD article](#)

[4] Qin J, Li R; Raes, J et al. (2010). A human gut microbial gene catalogue established by metagenomic sequencing. *Nature* 464 (7285): 59–65. doi:10.1038/nature08821. PMC 3779803. PMID 20203603.