

LIVER DETOX PROFILE

The process of detoxification is one of the chief roles of the liver. It works to convert lipid-soluble xenobiotics into water soluble substances that can be excreted from the body. It does this via a two-step process designated phase I and phase II. When the function of the liver is suboptimal, toxins can build-up and poison the body. Conditions that may be associated with an imbalance in liver function include autism, chronic fatigue, food intolerances, headaches, multiple chemical sensitivities and rheumatoid arthritis. The liver detoxification profile evaluates the ability of an individual to process caffeine, aspirin (salicylate) and paracetamol (acetaminophen) by assessing certain metabolites in salivary and urinary specimens. Specific measurements of the different phases of liver detoxification including phase I and phase II (glycination, glucuronidation, sulfation and glutathionation) are obtained, guiding the design of effective and specific therapeutic strategies which can optimise liver function.

Chemical Exposure

Since World War II the quantity of synthetic chemicals that have been produced and introduced into the environment has increased exponentially. In the 1930's only 1 million tons was produced per year, in comparison to over 200 million tons today. This increase in chemical exposure has had an impact not only on the environment but on human health. Many of these substances including xenobiotics and heavy metals are known to affect the immune system, detoxification pathways and the central nervous system, as well as promote inflammation. Conditions ranging from fatigue, cancer, dermatitis, renal disease, chemical sensitivities, autism and other mood disorders are associated with exposure. Ensuring optimal detoxification of these toxins is therefore a vital step for the prevention and treatment of these and other chemical associated disorders.

SYMPTOMS AND CONDITIONS ASSOCIATED WITH IMPAIRED LIVER FUNCTION

Adverse drug reactions	Headaches or migraines
Autism	Menopausal symptoms
Cancer	Motor neuron's disease
Chronic fatigue	Multiple chemical sensitivities
Digestive complaints	Muscle pain
Dysfunction of the immune system	Parkinson's disease
Fibromyalgia	Premenstrual syndrome (PMS)
Food intolerances	Rheumatoid arthritis

Liver Detoxification

The process of detoxification is one of the chief roles of the liver. It works to convert lipid-soluble xenobiotics; foreign chemicals derived from environmental, pharmaceutical and endogenous sources, into water-soluble substances that can be excreted from the body. It does this via a two-step process designated phase I and phase II. When the function of the liver is suboptimal, toxins can build-up and poison the body. An imbalance in liver function may be associated with conditions such as chronic fatigue, food intolerances, headaches, multiple chemical sensitivities and rheumatoid arthritis (see Table 1). Recent data also suggests that close to 100% of autistic children have irregularities of liver detoxification. One of the pathways that is highly affected is phase II sulfation; a process which helps process phenolic foods and xenobiotics. Compromised liver detoxification activity has also been implicated in adverse drug reactions.

The Liver Detoxification Profile: The True Function Test

This assessment of liver function is unlike standard liver function tests which only provide a measure of hepatic damage (released hepatic enzyme levels). In contrast, the liver detoxification test is a true functional test. It evaluates the ability of an individual to process caffeine, aspirin (salicylate) and paracetamol (acetaminophen) by assessing certain metabolites in salivary and urinary specimens. Specific measurements of the different phases of liver detoxification including phase I and phase II (glycination, glucuronidation, sulfation and glutathionation) are obtained, guiding the design of effective and specific therapeutic strategies which can optimize liver function.

LIVER DETOXIFICATION PROFILE (saliva and urine) [Test code: 4010]

- ❖ Phase 1 Detoxification: Caffeine clearance.
- ❖ Phase 2 Detoxification: Acetaminophen glucuronide (measure of glucuronidation), Salicylic acid (measure of glycination), Acetaminophen mercapturate (measure of glutathionation), Acetaminophen sulfate (measure of sulfation).

A 10 hour urine sample and two saliva specimens are collected after caffeine, aspirin and paracetamol are ingested.

How to order a test kit:

To order a test kit simply request the test name and/or test code on a NutriPATH request form and have the patient phone NutriPATH Customer Service on 1300 688 522.



Phone **1300 688 522** for further details
www.nutripath.com.au