

# Functional Liver Detoxification Profile (FLDP)



The Functional Liver Detoxification Profile (FLDP) challenges the liver's Phase I and Phase II detoxification capacity with low doses of Caffeine, Aspirin and Paracetamol. Saliva and urine specimens, collected at timed intervals, are then analysed for metabolites of the three compounds to determine the efficiency of the liver in their conversion and clearance from the body.

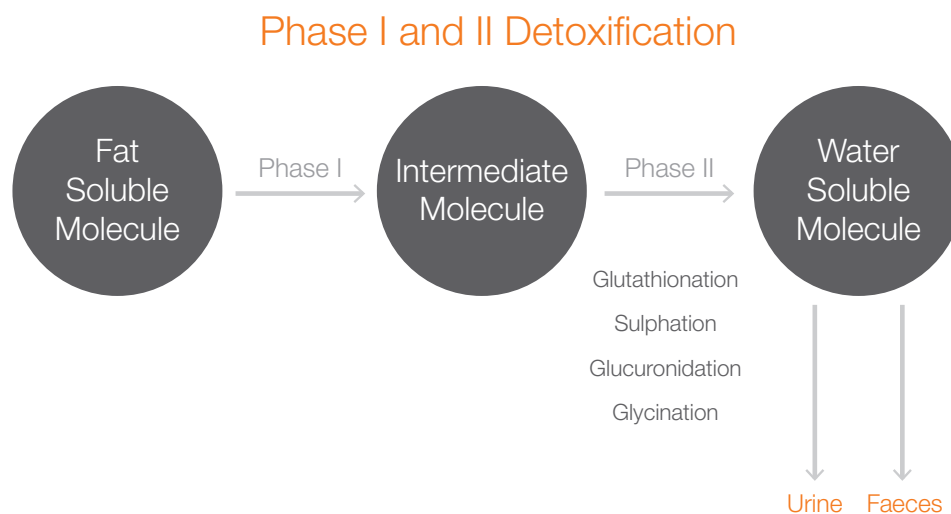
Phase I reactions utilise the Cytochrome P450 mixed function oxidase (MFO) enzymes. The primary function of these enzymes is to oxidise endogenous and exogenous chemicals for excretion. This provides a mechanism of protection from a wide variety of toxins.

Phase I is followed by an intermediate phase where oxygen-free radicals may be generated in substantial quantities, which in some instances may change harmless compounds into potentially toxic substances.

Phase II reactions involve the addition of a small polar molecule to the substance, a conjugation step that may or may not be preceded by Phase I. Several types of conjugation reactions occur in the body, including glutathionation, sulphation, glucuronidation and glycation.

The results of an FLDP will support accurate identification of the individual's detoxification profile and assist in the direction of treatment. The FLDP may particularly provide valuable information in the management of patients who suffer from food allergies, multiple chemical sensitivities, chronic fatigue syndrome, "leaky gut" and hormonal imbalance eg. premenstrual syndrome and menopausal symptoms.

Diagram 1: Liver Detoxification Pathways



## Test Kit

Once the practitioner has given the patient their request form the patient can order their test kit online at [www.functionalpathology.com.au](http://www.functionalpathology.com.au) or by calling Healthscope Functional Pathology customer service on 1300 55 44 80 between the hours of 8.30am and 5.30pm AEST. The test kit contains full instructions.

## Specimen Requirements

- *Two specimens of clear saliva and one urine specimen are required. The test kit provided contains everything required to complete this test.*

## Children

This test is also suitable for children between the ages of 4-12 years. Healthscope Functional Pathology provides a children's test kit on request.

## Patient Preparation

- *Patients must ensure they do not eat or drink anything containing caffeine or take any analgesics or Non-Steroidal Anti-inflammatory drugs (NSAIDs) on the day before and the day of the test, as these may interfere with the results*
- *During the Aspirin and Paracetamol challenge, the patient must not eat or drink anything except water until after they have collected their 10 hour overnight urine specimen*
- *Patients allergic to aspirin must not take the aspirin, but can still do the test. A glycation result will therefore not be reported*

## Turnaround Time

The standard turnaround time for this test is 7 – 10 working days from the date the patient's specimen/s are received at our laboratory.

## Test Results

Patient results will be delivered via mail, unless requested otherwise. However, we can also issue results via:

- Fax
- Electronic Download
- Web Based Results

## Technical Support

All Healthscope Functional Pathology tests are accompanied by an Interpretive Guide to assist practitioners in their clinical understanding and patient management for each result. Healthscope Functional Pathology also has experienced full time Technical Advisors available for practitioners to discuss appropriate test selection, interpretation of test results, individual cases and other technical matters. Please call 1300 55 44 80 between the hours of 8.30am and 5.30pm AEST or email [infofp@healthscope.com.au](mailto:infofp@healthscope.com.au)

## Companion Tests

- **Complete Digestive Stool Analysis (CDSA)**
- **Intestinal Permeability (IP)**
- **Hair Mineral Analysis (HMA)/Comprehensive Urine Elements Profile (CUEP)**
- **Baseline Hormone Profile (BHP)**

The results of the FLDP may be further supported by additional Healthscope Functional Pathology tests. For example, poor digestive function can contribute to poor liver function. Healthscope Functional Pathology offers the specialised Complete Digestive Stool Analysis (CDSA), which provides the practitioner with valuable information in understanding the many causes of poor digestive function and malabsorption.

The Intestinal Permeability (IP) test may also be a useful adjunct to the FLDP. A "leaky gut" may contribute to or be caused by poor liver function. Thus, these tests are commonly requested together. Combining the FLDP with either or both the CDSA and IP tests will provide a comprehensive overview of liver and gut function and alert the practitioner to the additional need for digestive support and gut repair.

If there is suspected accumulation of toxic elements, a Hair Mineral Analysis (HMA) or Comprehensive Urinary Elements Profile (CUEP) may be indicated. Evidence suggests that toxic element exposure can adversely impact on liver as well as renal, immune and neurological function. HMA measures the levels of nutrients and toxic metals found in hair whilst the CUEP assesses urinary excretion of elements acquired through either acute or chronic exposure.

Finally, the Baseline Hormone Profile (BHP) should be considered as an important companion test to the FLDP, particularly for patients presenting with symptoms of hormonal imbalance. Impaired liver function may be an important underlying cause of elevated levels of sex hormones.