METABOLIC PROFILING

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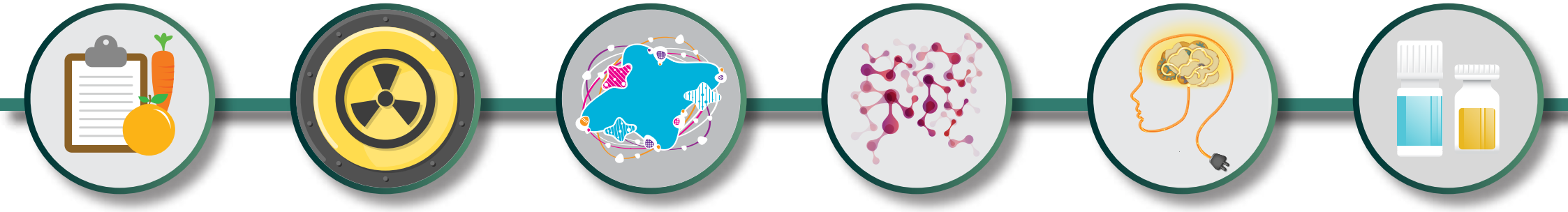
What are Metabolites?

Metabolites are compounds found in urine that are by-products of the metabolic process.
These metabolites can reveal how diet and lifestyle can contribute to risks for certain diseases.

What is Metabolic Profiling?

Metabolic profiling is a widely-used advanced diagnostic tool that analyzes the level and the presence or absence of metabolites in your body. This analysis specifically tests for organic acids which are metabolic intermediates produced in pathways of central energy production, detoxification and neurotransmitter breakdown and excreted in the urine.
Metabolites give you an insight into an individual's health status including metabolic blocks and digestive abnormalities. Abnormal concentrations or accumulation of these organic acids in urine is often a signal of a metabolic inhibition in biochemical pathways.

These abnormalities may be due to any of the following:



NUTRIENT DEFICIENCIES

TOXIC EXPOSURE

INTESTINAL BACTERIAL OVERGROWTH

IMPAIRED ENZYME FUNCTION

NEUROENDOCRINE ACTIVITY

DRUG EFFECT

PARAMETERS TESTED

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Physical Activity Profile
- Weakness, fatigue and malaise
- Muscle pain and poor recovery
- Musculoskeletal dysfunction
- Energy production markers

Nutritional Status Profile
- Micronutrient in-adequacy, Nutritional deficiencies- such as anaemia
- Skin irritations, hair fall and brittle nails
- Amino acid metabolites
- Carbohydrate, Ketone & Fatty acid oxidation

Neurological Profile
- Decreased cognitive function
- Neurological and behavioural problems (anxiety, depression, mood imbalances etc)
- Neurotransmitter metabolism

Environmental Pollutants Profile
- Allergies, skin rashes
- Irritability, poor concentration etc

Detoxification Profile
- Chronic fatigue, low energy
- Oxidative stress
- Hepatic detoxification

Dysbiosis Profile
- Intestinal malabsorption
- Intestinal dysbiosis (intestinal microbial overgrowth)
- Acid reflux and flatulence
- Incomplete digestive proteolysis or leaky gut

Lifestyle Disease Risk Profile
- Cardiovascular disease
- Adrenal insufficiency
- Hyperinsulinemia

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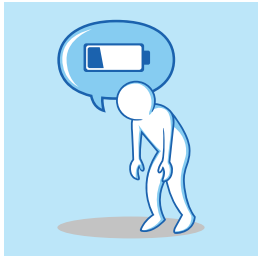
How does Metabolic Profiling help and what are its advantages?

This analysis can help reveal changes at the metabolic level which can be a useful tool to predict certain impending diseases. Often there could be nutrient deficiencies, bacterial overgrowth or toxicity in the body that could cause metabolic pathways to be compromised.

Intervention strategies can help balance out these out through targeted recommendations, dietary modification, antioxidant protection and detoxification support.

When should a Metabolic Profiling test be considered?

It can be done to optimize health & performance and is also suggested for individuals experiencing any of the following:



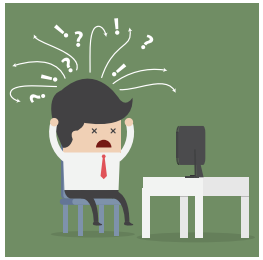
CHRONIC FATIGUE

FOOD ALLERGIES

JOIN PAIN

SKIN DISORDERS

IMMUNE DYSFUNCTION



ANXIETY, DEPRESSION, HEADACHE, INSOMNIA

NUTRITIONAL DEFICIENCIES

LEARNING DISORDERS

DIGESTIVE & GI ISSUES, IRRITABLE BOWEL SYNDROME (IBS)

CASE STUDIES

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Specific dysbiosis markers for bacterial and yeast overgrowth

Urine contains unique products of microbial metabolism which are used to measure small bowel yeast and bacterial overgrowth. Unfriendly intestinal microorganisms can produce them in relatively high quantities. These compounds are absorbed into the blood from the intestines and eventually appear in urine.The profile measures the by-products of microbial metabolism, and is particularly useful in detecting the presence of pathogenic microbial overgrowth.

Symptoms of dysbiosis can be as diverse as:

- Behavioral disorders
- Chronic fatigue
- Depression, Headache, Insomnia
- Immune dysfunction
- Irritable Bowel Syndrome (IBS)
- Joint pain
- Learning disorders
- Nutritional deficiencies
- Food allergies
- Skin disorders, acne

Treatment of dysbiosis & intervention:
Probiotics (fermented foods and drinks), Digestive enzyme supplementation and customised nutrition guidelines for improved gut health. Further investigation also includes Gut Microbiome Analysis.

Vitamin B12 Deficiency

Vitamin B12 is a water soluble vitamin with a key role in the normal functioning of the brain and nervous system and for the formation of blood. Deficiency of Vitamin B12 in the body can often correlate to inefficient neurotransmitter metabolism

Manifestation :

- Weakness, light headed or prolonged tiredness
- Pale skin
- Bleeding gums
- Numbness in fingers or toes
- A poor sense of balance
- Decreased performance of mental abilities
- Depression and in some cases dementia

Treatment :
Vitamin B12 and B complex supplementation & dietary modifications

FAQ'S

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What are the prerequisites for doing the test?

Before taking the test, you must avoid apples, grapes (including raisins), pears, cranberries and their juices 24 hours prior to specimen collection.

It is also recommended to have a good night's sleep (6-8 hours) the day before collection of the sample.

How do I do the test?

You will receive a test kit with a filter paper and a consent form. Take few drops of your urine sample on the two rectangular filter paper strips provided in the kit and air-dry it.

Fill in the consent form pertaining to specific health conditions and/or any other medical information that is relevant and return the kit to the PHD office. We shall then have it shipped to the Navigene Lab in Mumbai.

What do I get?

You will receive a comprehensive Metabolite Analysis Report which is easy to interpret and includes actionable recommendations. The report also outlines nutritional insufficiencies that may be a contributing factor in complex chronic conditions.

The Metabolic Profile Report categorizes test results into these major areas:

- Physical Activity Profile
- Nutritional Status Profile
- Neurological Profile
- Environmental Pollutants profile
- Detoxification Profile
- Dysbiosis Profile
- Lifestyle disease risk profile

At PHD, we offer counselling sessions where a Health Coach will take you through your report and make recommendations for personalized supplementation and nutrition guidelines.

ABOUT NAVIGENE (LAB)

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Navigene is a company undertaking screening, diagnosis and research in Metabolomics along with helping laboratories and institutions across the world to implement its unique services. Navigene uses a revolutionary GC-MS Technology and Planar methodology for non invasive preventive screening and diagnosis of metabolic disorders and disturbances.

Navigene works out of a central global standard laboratory in Mumbai, and has a sales presence across India. They work with Corporate hospitals, Birthing centers, top pediatricians, High end IVF & Genetic clinics.Their services in the segment are unique, robust, are made available at a very affordable price and implementable at a mass scale. Navigene takes pride in being the first Indian company in the field of genetics and metabolomics to have exported its revolutionary technology and established a fully functional world class facility outside India catering to the entire south East Asia.

The team comprises of an experienced and hands-on team with 20+ years of experience in the field of genetic screening and diagnosis. The lab has of analyzed more than 50,000 cases of genetic disorders Navigene uses the latest technologies, equipment, reagents and other paraphernalia in the field. The equipment is sourced from the best institutions of the world and meet highest quality standards like F.D.A. – U.S.A, such as Shimadzu Corporation (Japan) and Bio-Rad laboratories (USA).

Certification and Quality Initiatives – Process:

- Navigene is ISO certified and complies to 6-Sigma practices.
- Navigene has registered and cleared several international quality assurance programs like:
- ERNDIM from Organic Acid analysis 2013.
- EQA program by Preventive Medicine Foundation, Taiwan for DBS analysis.
- CDC Atlantas quality control programme.