APPLIED ANALYTICAL LABORATORIES

Urinary Pyrroles Test

QUICK REFERENCE GUIDE

Mental health symptoms can be a precursor to other health issues. A urine sample - collected, stored, transported and assayed in accordance with the AAL protocol, may indicate other causes for mental health symptoms. Referral may be indicated for exploration of kidney, liver, gall bladder, biliary blockage, infection and more.

Excess pyrroles in urine are an indicator of oxidative stress. Pyrroles are only associated with mental health when mental health symptoms are present. Pyrroles presence, absence, concentration (severity), and change demonstrating response to treatment, are all important measures. This urine test is non-invasive and inexpensive. See www.apanlabs.com for links to training and lectures informing of the science of this test.

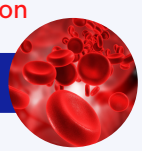
The AAL urine test quotes BIOMARKER measures for the following. Treatment involves biochemical intervention and identifying causative factors for stress. (red = further investigations and action indicated)

1. UROBILINOGEN

Generated by bacterial action on bilirubin (on regulatory haem) in the gut, in vivo.

Absence: May indicate high/chronic adrenal stimulation, and/or blocked biliary flow. (Often associated with anxiety). Gastro investigation

Excess: May indicate impaired renal function. Quite often low positive urobilinogen levels determined by Siemens 10SG are false readings (produced by reaction of pyrroles with the reagent). Urology investigation



2. PYRROLE FRACTION

The pyrroles fraction in urine is an unstable waste product not normally found in excess in healthy people. Pyrroles in urine originate from the reaction of reactive oxygen species (ROS - metabolically generated peroxide, super oxide, and nitrous oxides) with haem resulting in the oxidative degradation of electron-rich regulatory haem components bilirubin and/or biliverdin.

Absence: From our evidence absence may be associated with:

- Methylation changes associated with psychosis and anxiety with Whole Blood histamine less than 0.5µmol/L. Pyrroles are being eliminated along with other metabolic waste.
- Methylation changes associated with catatonia and depression that are extreme and Whole Blood histamine is >1µmol/L.

Note: Retention occurs through the pyrrole fragments "trapped"/stored in inflammatory tissue.

The pyrrole derivatives move through the body and are not efficiently eliminated when the body is not detoxing properly (or has excess inflammation). Targeted nutrient therapy may release these, resulting in an increase in pyrroles reading. (Symptoms often generically referred to as "copper dumping").

Excess: Indicates that the body's filtering mechanism (the liver) is not quenching the oxidative stress load.

Adult Reference Ranges: (Relevant biochemistry testing will guide treatment focus).

< 40	Normal
40 - 150	*Mild* elevation. Should respond quickly to targeted treatment.
150 - 400	*Moderate* Group. Need to treat quickly or could become severe.
> 400	*Severe*. Treat urgently or could trigger DNA damage. Health practitioner notified with haste.

3. OTHER MEASURES

Siemens Advantus (10 SG) POC Chemistry (Semi Quantitative) provides a range of measures of differential diagnoses, or correlation/confirmation. (Not just a yes/no answer as per the dipstick).

QUOTES a range of measures :

- Nitrites (presence indicates infection (urinary tract), further investigation required)
- Ketones (indicates anaerobic metabolism - as occurs in rapid weight-loss or eating disorder)
- Blood (intact and lysed) (can be the result of infection)
- Leukocytes (presence can indicate infection or heightened immune system)
- Glucose (indicates diabetes Type I and/or II)
- Bilirubin (presence indicates jaundice, compromised liver function or Gilbert's syndrome)
- Urobilinogen (non-Specific Ehrlich's response) (confirmation tool)
- Protein (confirms liver dysfunction) (Refer for Liver Function Tests)

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Urinary Pyrroles Test - Collection Protocol

Introduction

The compounds measured in urinary pyrrole analysis (DMAB active pyrroles or DAP test) are very sensitive to heat and light. If samples are not collected in the correct manner, examination results may be dramatically affected, leading to the possibility of incorrect or misleading diagnoses.

Notes for Patients / Parents / Carers

1. The first morning void should not be collected. All subsequent voids are okay for collection – as long as it's not the first. Please note the time of collection.
2. Samples should be collected at a designated collection centre, NOT AT HOME. It must be guaranteed that the collection protocol is consistent. If this is not practical, please follow the notes for pathology collection below.
3. If the patient is taking a ZINC SUPPLEMENT, please note on appropriate paper-work, as zinc supplements affect measured results and are part of the treatment protocol.
4. If patient / parent / carer / doctor requires a "base-line" reading, the patient must CEASE SUPPLEMENTATION of Zinc (at least) 3 days prior to sample collection. It is understood that in some cases this is not possible or appropriate, in which case please make a note on the request form. Please DO NOT abstain from Zinc supplements for **subsequent** urinary pyrrole analyses unless directed by your physician.
5. It is important for the patient NOT to over-hydrate. To induce a specimen, for adults, drink 250mL (100mL for paediatrics) of water 30 to 40 minutes prior to providing a specimen.
6. Samples should NOT be collected from female patients during menstruation.

Notes for Pathology Collection:

1. Sample to be collected into vial containing AR ascorbic acid.
   For example, for a 50ml vial, 0.50g (500mg) of AR Ascorbic Acid is added prior to collection.
2. Collection should be performed in a low lit room – not in strong light or direct sun-light (total darkness is not necessary).
3. Upon collection, the sample is to be sealed, wrapped in aluminium foil (to avoid light exposure) and FROZEN PROMPTLY at -15°C (standard freezer). If possible, "snap" freezing on dry ice (-30°C) is preferred.
4. The sample must remain frozen until analysis, therefore must be kept on dry ice during transit, (-30°C). If the sample thaws at all during transport, the final result will be void.

*** If in doubt, please contact Applied Analytical Laboratories on (07) 3133 1615 ***