



# Pyrrole Disorder

## Information Sheet

Prepared by The Compounding Lab 2016

### What is Pyroluria

Pyroluria is a genetically acquired chemical imbalance in which the body produces an abnormally large number of pyrroles. A pyrrole is a chemical that is the by-product of haemoglobin synthesis and have no known function in the body; they are normally excreted in the urine.

Most people have very few pyrroles in their system at any given time; certain individuals, however, have an unusually high number of pyrroles in their bodies, resulting in a condition known as Pyroluria.

Also known as Mauve Factor (due to the mauve colour visible on testing paper during urinalysis) or Pyrrole Disorder, Pyroluria occurs when the pyrroles bind to pyroxidine (vitamin B6) and zinc, causing these vital nutrients to be excreted from the body in large amounts.

Deficiencies of B6 and zinc are associated with a wide range of emotional and psychiatric problems. Vitamin B6 is critical for the production of neurotransmitters and deficiencies can have a profound effect on both mental and physical health. Nervousness, extreme irritability, anxiety, depression, short-term memory problems, and explosive anger have all been linked to Pyroluria.

A large percentage of patients with psychiatric disorders such as schizophrenia exhibit high levels of pyrroles; emotionally dysregulated children and those with an excessive alcohol intake also tend to have an abnormally high pyrrole count.

In addition, zinc deficiencies have been associated with a number of physiological disorders, including poor immune function, poor growth, and delayed sexual development. Because zinc and B6 are so important to both our overall physical and mental health, identifying and treating this devastating condition is critical.

Included in this condition are changes to fatty acid metabolism which lead to high levels of an omega 6 fatty acid call arachidonic acid.

The Compounding Lab pharmacists are specialists in compounding for the special nutritional and pharmaceutical needs of patients with Autism Spectrum Disorder (ASD), allergies, asthma, & attention deficit hyperactivity disorder (ADHD).

Current research shows that neurological disorders such as ASD as well as psychiatric disorders have a high rate of remission with pyrrole treatment.

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The urine test for diagnosis costs approximately \$100.00 from Safe Laboratories. You can order a test kit [here](#).

Pyrrole Disorder can also be triggered by a traumatic event and high stress levels and is also often part of the picture for PDD, ODD, Tics, Tourette's Syndrome, Depression, and Bipolar Disorder.

## Is Pyrrole Disorder Unique to Autism?

We see more and more children who are testing positive to Pyrrole Disorder, both on the spectrum and in the general population. Pyrrole Disorder is not a condition specific to Autism nor does it cause Autism. It is thought that Pyrrole Disorder contributes to the retention of toxins and heavy metals seen in autistic children.

There are many markers of Pyrrole Disorder and we do notice a definite genetic pattern. Many times if a child is positive then one of the parents will also test positive and notice a significant improvement in symptoms when taking the supplements.

## How do I Know if my Child has Pyrrole Disorder?

Common symptoms associated with Pyrrole Disorder in children (may not include all symptoms):

- Sleep problems, particularly taking a long time to fall asleep and waking up easily at night
- Sensory sensitivity i.e. to the labels on clothes, to specific fabrics – e.g. 'feels prickly', to noises.
- Anxiety. (Anxiety can contribute to digestive upsets such as IBS)
- Poor tolerance of stress
- Depression, pessimistic outlook, mood swings, emotional lability
- Anger and violence out of proportion to the situation, including rage

- Poor functioning of the digestive system, including poor absorption of nutrients as well as food sensitivities
- Low immunity – constantly suffering with coughs and colds
- Motion sickness
- Reading and learning problems
- Poor memory
- Slow growth
- Delayed puberty
- Unpleasant body odour
- Stretch marks on skin
- Pain in joints and extremities
- Sweet fruity breath and body odour, problems with sugar metabolism, allergies

A simple, non-invasive urine test can establish the presence of pyrroles in the system. Once established and determined if the person is an under or over-methylator you can treat with effective nutraceutical supplementation specifically compounded for the individual.


There is often a family history of these factors as well as a history of addictions such as alcoholism, drugs and gambling as well as more severe symptoms such as mental illness, criminality, seizures and physical debilitation.

For further information on Pyrrole Disorder search for literature by Bill Walsh, Head Scientist at the Pfeiffer Institute or email our pharmacists [here](#).

## Clinical Use and Diagnosis:

Testing: The presence of urinary pyrroles can be established using a colorimetric biochemical screening test adapted from Carl Pfeiffer's method.

Urine is collected in two vials, one containing ascorbic acid, wrapped in aluminium foil then frozen immediately for transport. The analysis is very sensitive and results are expressed as ug/dL (micro grams of urinary pyrrole per decilitre of urine).



Samples containing urinary pyrroles at a level of 0 - 10 ug/dL are considered normal or negative, samples of 10 - 15 ug/dL are considered borderline, and samples above 15 ug/dL are considered positive.

Treatment: Treatment of Pyroluria consists of a replacement of zinc and vitamin B6. Because the treatment is replacing deficiencies not pharmacologic, it needs to be titrated to individual requirements.

A variety of factors are taken into consideration when developing a treatment regimen. Both Zinc and B6 supplementation need to be directed by a practitioner as too much can be toxic, use of wrong form ineffective, and avoiding competing minerals and supplements may be necessary. Other minerals such as Manganese may also be required along with Evening Primrose Oil.

The Compounding Lab can work with your practitioner to create a precise formula that is taken each morning and night. Supplementation is long term so finding an ideal method for you or your child is critical for compliance. In addition Omega 6 is important and we can find a suitable supplement.

We compound custom formulations to avoid gluten, casein, preservatives, corn, dyes, and artificial flavours. We specialise in making medications tasty and patient-friendly, which can be challenging in these patients, so we pride ourselves in working with parents and physicians to "think outside the box" and find unique solutions for unique needs.

We can also provide suspension and transdermal delivery methods to overcome the challenges with oral therapy.

Also in stock are several lines of high-quality nutraceuticals designed specifically for these patients, including many potent probiotics.