# Do Not Ignore ASD Children's Signs For Help!



ASD children often manifest signs that there are underlying behavioural and medical co-morbidities that make them and their families miserable. They may be affected by so many factors. It is our responsibility to be vigilant for signs of possible health problems, and to refer them to health professionals who are experienced in identifying them and treating them appropriately. No one health professional can deal with all the issues, it needs to be a multi-disciplinary approach.

### Gastrointestinal signs that they need help

- Bloating, flatulence, nausea
- Constipation huge , hard stools, small pebbles, infrequent stools
- Loose malodorous stools, +/- with mucus
- Loss of appetite
- Pain or pain behaviours

- Posturing leaning over furniture or assuming posturing positions like drawing up legs to abdomen
- Putting pressure onto abdomen
- Irritability (especially just prior to bowel movements
- · Probing and smearing behaviour
- Behavioural changes

### Dietary signs that they need help

# Dietary Opioid Peptides (Gluten & Dairy

- · Addiction to specific foods
- Hallucinations
- High pain threshold (very common)
- Inattention and spacey behaviour
- · Aggression (self and others)

#### Phenols/ Salicylates

#### **Symptoms**

- Red cheeks and ears
- Hyperactivity
- Aggression
- Sleeping disturbances
- Irritability
- Diarrhoea
- Head banging/ self injury

#### **Dietary Sources**

- Artificial phenols
  - Artificial colours, flavours, preservatives
  - ♦ Propionic acid
- Salicylates
  - Red grapes, apples, berries, citrus, cucumbers, tomatoes
  - ♦ Aspirin

#### **Amines**

#### **Symptoms**

- Can be same as salicylates
- Aggression/ defiance
- Migraines
- "Hangover"

#### Sources

- Banana
- Cheese, yellow
- Chocolate/ cocoa
- Fermented foods (yoghurt, sauer-

#### Hyperactivity

**Symptoms** 

- Hunger regulation imbalanced. Obesity
- Anxiety
- Gastrointestinal complaints

# Glutamates

- Sources

  MSG
- Soy sauce
- Vegemite
- Tomatoes
- Peas

Changing the way we think about treating autism.

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Helping Children Achieve Their Full Potential

#### **Mitochondrial Dysfunction**

Mitochondria are the energy organelles in cells that produce energy, and are present in most cells. Mitochondrial dysfunction was once thought to be uncommon but is now considered the most recognized cause of metabolic disease. *Mitochondrial disease* is higher in the ASD population (5%) than in the general population (0.01%). *Mitochondrial dysfunction is the most common metabolic abnormality associated with ASD*. An article in the Journal of the American Medical Association suggests that *mitochondrial dysfunction may be present in up to 80% of children with ASD*.

Mitochondrial dysfunction (not due to genetic abnormalities) is much higher than mitochondrial disease. Studies have shown that mitochondrial dysfunction prevalence in the ASD population present as:

- ✓ Developmental regression (52%)
- ✓ Seizures (41%)
- ✓ Motor delay (51%)
- ☑ Gastrointestinal abnormalities (74%)

Mitochondrial dysfunction in autism spectrum disorders: a systematic review and meta-analysis. DA Rossignol and RE Frye. Molecular Psychiatry 2012, 17, 290–314

A 1993 study has also linked behaviour and *language deficits* with mitochondrial dysfunction.

A preliminary <sup>31</sup>P MRS study of autism: Evidence for undersynthesis and increased degradation of brain membranes. Nancy J. Minshew et al. Biological Psychiatry. Volume 33, Issues 11-12, Pages 762–773, 1993.

Causes of mitochondrial dysfunction are well documented. If mitochondrial dysfunction is suspected, there are appropriate tests that can be ordered to confirm the dysfunction and to guide treatment.

#### **Symptoms of Mitochondrial Disease / Dysfunction**

- There are many clinical presentations
- Can affect the eyes, ears, cardiovascular and gastrointestinal systems
- Neurologic
- Movement disorders: Posturing, writhing, jerking
- Hypotonia
  - ♦ Weak suck and swallow
  - ♦ Poor head control; floppy
  - ♦ Drooling
  - ♦ Decreased activity tolerance
  - ♦ Curved back while sitting
  - ♦ Difficulty knowing self in space
  - Gross and fine motor defects



## **Pyroluria**

- Poor morning appetite and/or tendency to skip breakfast
- Pale skin / poor tanning
- Abdominal tenderness and constipation
- Light / sound / odour intolerance
- Stress intolerance and emotional sensitivity

- Explosive anger / anxiety / withdrawal
- Cold hands and feet
- Night terrors
- Motion sickness

There are so many other conditions which are found to be more prevalent in ASD children, e.g

- Neurochemical abnormalities
- Cerebral folate deficiency
- Anti-folate receptor antibodies
- Abnormal microglial activation in the brain
- High inflammatory markers

How we treat ASD children is continuously evolving, and we are getting better at identifying children who fit into certain sub-groups in order to offer treatments that help them gain their full potential.