

## Why would I - or my child - try a gluten or dairy free diet?

Because.... the gut, brain and body are all intrinsically connected, each one affecting the other in ways you really might not expect.

This means that while the brain, joints and muscles etc are all connected through the nervous and blood systems, so too are the organs and the brain- in this case specifically the digestive system and the brain.

If there is alteration in brain/ body/ gut function, this is why you or your child may have been recommended to try a gluten or dairy free diet (usually among other recommendations). Ask your chiropractor why this may specifically apply to you or your child, as everyone is different.

### What would make me think there may be brain/body/gut dysfunction?

*Examples of symptoms we MAY see could include (but are not limited to):*

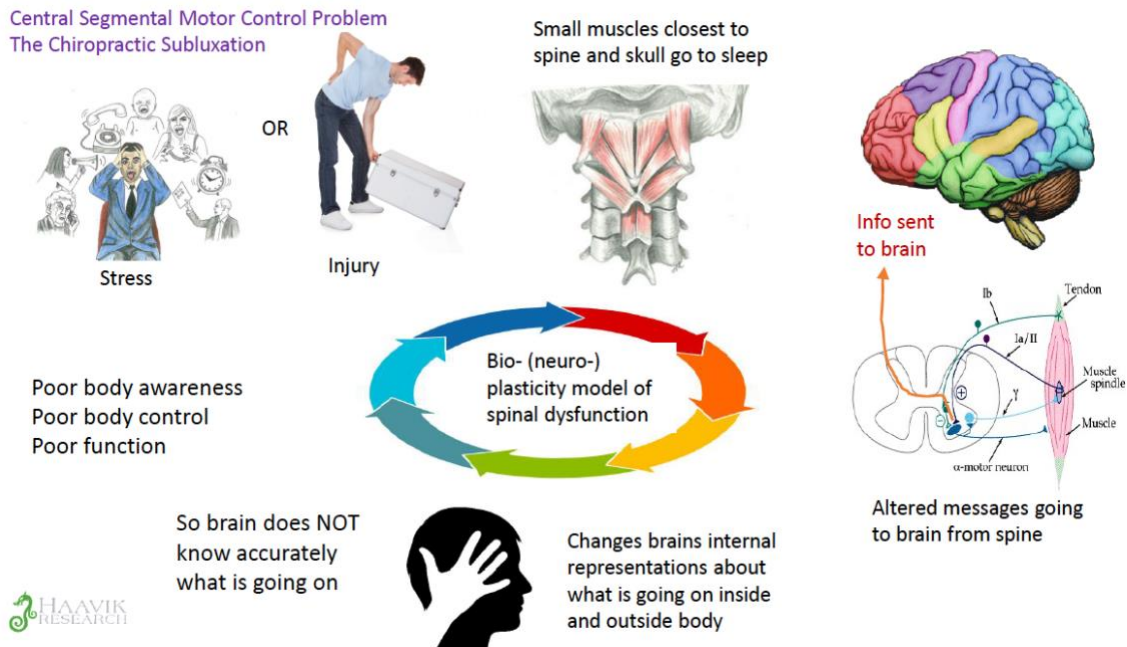
<b>Body</b>	<b>Brain</b>	<b>Gut</b>
Poor Coordination/ Body Control <sup>(3),(7)</sup>	Poor Concentration or memory/ Hyperactivity <sup>(1)</sup>	Constipation/ Diarrhea <sup>(1)</sup>
Poor Balance <sup>(3),(5)</sup>	Poor emotional control	Bloating/ Farting <sup>(1)</sup>
Tight muscles/ cramps <sup>(1)</sup>	Anxiety/ Depression <sup>(1)</sup>	Nausea
Headaches/ neck and back pain <sup>(1)</sup>	Poor Spatial Awareness	Difficulty with weight gain or loss
Poor Flexibility	Poor Sleep	Reflux/ Colic
Skin irritation eg eczema <sup>(6)</sup> or Dark circles under eyes (could be lack of sleep or a mild allergy response)	Learning difficulties (tied in with poor concentration/ memory, and changes in brain communication)	Abdominal Pains <sup>(1)</sup>

Your chiropractor will perform a thorough examination of your neurological and musculoskeletal systems, and at Chiro Connect, we also do a screen of gut and organ health as a part of our assessment. These tests help us to determine what we need to consider as part of a treatment plan for all of our clients.

These symptoms could be from dysfunction of all or any of these brain-body-gut connections, and often will require a multifaceted approach for improvement.

NB: when a gluten or dairy free diet is recommended, it is important to understand that we are NOT saying that a gluten or dairy free diet will cure these conditions, but that a gluten or dairy free diet may remove a stressor to your brain and body's ability to function and adapt and may make a difference to your symptoms. *(See the note on gluten towards the end of the document).*

**How your body communicates with your brain under stress or injury:**



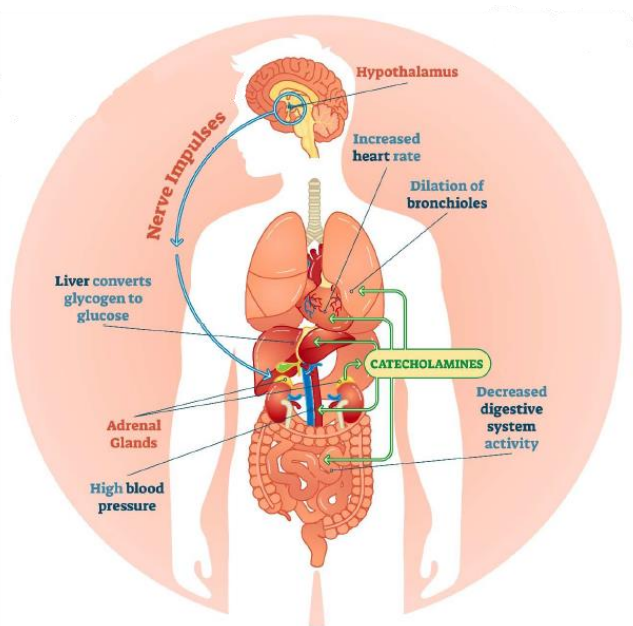
*Courtesy of Heidi Haavik Research Course notes- Chiropractic, Colic and the Microbiome 2019. References available on request.*

- Senses that feed into brain stimulation: touch, taste, sight, sound, smell, pressure, movement, immune system etc

*Examples of Stressors to these links:*

- Poor movement/ tight muscles
- Poor posture
- Build-up of minor falls and injuries
- Emotional Stress
- Anything causing inflammation (Could include injury, stress, illness, or gut distress)
- Tight muscles, ligaments, fascia

**How your Gut and Brain communicate- through the blood and nervous systems:**



**What might affect this connection?**

- Emotional Stress
- Bacterial Imbalance/ Infection
- Medications
- Food intolerances/ allergies
- Inflammation
- Poor Immune System

*Courtesy of Heidi Haavik Research Course notes- Chiropractic, Colic and the Microbiome 2019. References available on request.*

## What are the essentials of how the brain may be affected by physical, chemical or emotional stressors?

- In SOME people, gluten and/or dairy can act as opioids on the brain, interfering with neurotransmitters- i.e interfering with brain function. <sup>(1)</sup> This basically means that the brain is affected *similar* to morphine, changing the way the brain functions. It can also mean that people with this may become addicted to gluten and/or dairy, and it may make it difficult for them to want to change.
- In some people, gluten and/or dairy can interfere with the protective barrier of the gut lining, creating something called 'leaky gut'. This leaky gut can mean that non-nutritive particles can cross the gut into the blood stream, and activate an immune response, and affect brain and body function that way. <sup>(2)</sup> For more on leaky gut, see our document on Read Me page on our website- [www.chiroconnect.co.nz](http://www.chiroconnect.co.nz).
- The body being under real or perceived stress (physical, chemical or emotional stress) can cause the body to function in 'fight/flight' mode. This means that blood (therefore oxygen and nutrients) are diverted away from the 'non-essential' organs- such as the logical and rational 'thinking' part of the brain<sup>(4)</sup>, digestive system and small core stabilising muscles of the spine<sup>(5)</sup>- and is sent to the big movement muscles of the arms and legs.

This is an evolutionary response so you can run away from the stress as fast as possible. This is not always useful in the context of the chronic stress of modern-day lifestyle stressors.

This means that the digestive system might slow down and reduce in function, and the brain- particularly the prefrontal cortex part of the brain- can also reduce in function. <sup>(4)</sup> Being in fight/flight mode could impact on both adults and children in terms of ability to focus and concentrate <sup>(1)</sup> (difficult to do if many things are a perceived potential threat), and difficulty remembering things- think how this might affect you at work or school!

Basically, gluten or dairy may be a chemical stressor/ contributing factor to the different symptoms described above on the first page. Physical stressors include poor range of movement, not enough movement, and poor posture. Emotional stressors could include many things- often self-explanatory.

When you have changes in brain/body/gut function, the aim is obviously to reduce stressors to you or your child's system. Reducing stressors may include physical recommendations such as stretches and exercises, chemical recommendations such as dietary changes, and/or emotional recommendations such as apps for stress management, meditation, or counselling. Chiropractic care is another way to reduce neurological and physical stressors on the brain and body (find out more on our website at [www.chiroconnect.co.nz](http://www.chiroconnect.co.nz)). The training your chiropractor receives means their scope of practice includes nutrition and lifestyle advice, as well as exercise and movement advice and whole-body treatment.

The approach here is multi-factorial, as there is no 'one-size-sits-all' solution. So, if you are recommended to trial a gluten or dairy free diet, you will almost always be recommended to try other things as well. Your chiropractor will be able to talk to you about you or your child's individual treatment plan.

### **A note on gluten:**

Most people have heard of Coeliac Disease, but few have heard of Non-Coeliac Gluten Sensitivity (NCGS). This is a disorder of gluten intolerance (as opposed to allergy) labelled in 2012 <sup>(1)</sup>. Because this is a relatively new term, it may not even have been heard of by your medical practitioner- depending on what research articles they have been exposed to.

NCGS is NOT coeliac disease.

This is important because the test used for coeliac disease is a blood test or ideally a biopsy of the bowel. NCGS will NOT show up in these tests, because this disorder functions differently to coeliac disease.<sup>(1)</sup> Currently, the only publicly available way to determine if you have NCGS is to trial a 100% gluten-free diet (for a minimum of 4 weeks) and notice any changes, then reintroduce gluten and similarly notice any changes.

If you notice positive changes on a gluten-free diet, or you notice negative changes when re-introducing gluten after being on a gluten-free diet, a longer-term GF diet would most likely be worthwhile. To ensure quality nutrition is still achieved, speak to your chiropractor, a nutritionist or a dietician for advice.

See this article from 'Contemporary Paediatrics': <https://www.contemporarypediatrics.com/modern-medicine-feature-articles/gluten-free-diet-not-all-children>

It is also a myth that you MUST have gastrointestinal symptoms as a sign of gluten intolerance. For example, one possible sign of gluten intolerance includes 'gluten ataxia' - a problem in some people where the cerebellum (balance and coordination part of the brain) is affected by the ingestion of gluten, where few of these patients had gastrointestinal symptoms.<sup>(3)</sup> Although there are no current studies looking into dyspraxia (a movement difficulty impacting on learning ability etc), you could see how gluten intolerance could *potentially* be a contributing factor, if present in someone with dyspraxia.

The same may be said for dairy intolerance as opposed to an outright dairy allergy (in regard to both the necessity of a dairy-free diet trial, and the possible absence of gastrointestinal symptoms).

As you can see, there are quite a number of reasons someone may suspect a gluten or dairy intolerance- and quite a number of them have nothing to do with gut disturbances. The main treatment takeaway? A short 4-week trial of a gluten or dairy free diet and see how things go, monitoring for changes in all areas.

Talk to your Chiropractor at your next appointment for more information.

## References:

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