

# Gluten Free and Casein Free Diet

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Many children on the autistic spectrum have limited diets and crave crackers, breads, muffins (gluten) and milk and cheese (casein). They seem almost addicted to these foods. Gluten is the protein contained in wheat, barley and rye. Casein is a protein in milk products, such as milk, butter, yoghurt, cheese, cream and ice-cream.

There are several theories as to why these children often become healthier, more interactive and their behaviour less autistic when gluten and dairy are eliminated from their diet.

The enzyme needed to digest gluten and casein is not made by humans but by gut bacteria called enterococci faecium. Scientists in Australia studied the stool bacteria in children on the autistic spectrum and found that these enterococci bacteria were not present in the gut of children with ASD. This means that gluten and casein are not broken down into amino acids, but remain as peptides (small chains of amino acids).

Many children on the autistic spectrum have abdominal pain, constipation or diarrhoea, which can be signs of inflammation and a leaky gut. A leaky gut means that there are little holes in the gut wall, which can let peptides leak into the blood stream.

Gluten and casein peptides can be mistaken for endorphins (the body's natural morphine) by the body and attach to endorphin receptors in the brain. The effects are similar to morphine: a high pain threshold, an altered mental state (dreamy), constipation and addiction to the substance (ie bread and milk).

Once gluten and dairy are eliminated from the diet, children can go through withdrawal from their "drug". Their behaviour can get worse. Most children settle after a short period and parents describe them as:

More connected – coming out of their own world/ brain fog lifting

Making better eye contact

More interactive

Calmer – with less tantrums

More talkative (with better speech)

Fewer autistic behaviours (such as stimming)

Looking healthier: less pale and less dark circles under the eyes

It takes about 3 weeks for casein to be eliminated from the body and a minimum of 3 months for gluten to be eliminated. Many parents notice an increase of autistic behaviours for several hours or a day if their child has a dietary infraction, such as an ice-cream or cake from a well-meaning grandparent or friend. This is sign, that your child is still reacting to dairy or gluten, and that you need to continue the elimination diet.

I recommend a 3 months trial of the gluten free and dairy free diet for every child on the autistic spectrum.

### ***How to go gluten and dairy free***

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There are many different ways to eliminate gluten and dairy from you child's diet. The younger your child, the more control you have over what he eats, and the easier to implement the new diet. Older children need to understand why they are asked to not eat their favourite foods for a while – and involved in the decisions. This diet can be a challenge to the child and the family, but it is usually worth it.

Some families decide to go gluten and dairy free from one day to the next and this can work well, especially in younger children, who do not have free access to food. Offer healthy food choices and do not force your child to eat anything – you will never win a food battle!

Other families take a more gradual approach: it is usually easier to eliminate milk products first, starting with replacing dairy milk with rice milk (such as Vitasoy Rice Milk - protein enriched with garbanzo beans). Gradually replace yoghurt with soy yoghurt, butter with tahini, nut butters, avocado or omega 3 spreads; cream with coconut cream, ice-cream with sorbet and cheese with soy cheese (which does not taste very much like cheese, but works well melted on pizza or toast).

At the same time read up on gluten-free foods, look around your super market and health food store for alternatives to gluten. The first foods to replace are generally bread

and crackers. Venerdi makes a tasty grainy bread available at supermarkets, best when toasted. Replace wheat crackers with rice crackers – SAKATA makes additive-free whole-grain ones and are sold at supermarkets. The next step is to eliminate all other sources of gluten – and there are many hidden ones, such as in soy sauce, sausages and commercial sauces. You will need to read labels carefully. It is best to avoid commercially prepared foods and start cooking from scratch. The meals do not have to be complicated – many children on the autistic spectrum prefer simple meals of vegetables, a protein (meat, fish, egg or legumes such as lentils, chickpeas or beans) and a grain (such as quinoa, millet, brown rice). Home cooking also eliminates hidden artificial additives, which is beneficial to your child's health and behaviour.

If your child has withdrawal symptoms, you have two choices: you can go slowly and keep giving him small amounts of gluten for a few weeks or you can go "cold-turkey" and take all gluten and dairy out of the diet. Withdrawal lasts only a few days in most children, but some take weeks to get over it and in these children it may be easier to decrease gluten and dairy more slowly.

## ***Testing***

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I generally order blood tests for gluten antibodies and allergy markers (RAST) for wheat and dairy before starting the diet. If these tests are positive you can get subsidies for gluten and dairy free foods. But even if the tests are negative, I still recommend a 3 months trial of the diet, as there is no test to predict whether the diet will work for an individual child. About 70-80% of children with ASD improve on the diet.

## ***Hidden gluten and dairy:***

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### **Modified Food Starch**

Modified food starch is a term which does not indicate the source of the starch (wheat or corn). You need to contact the manufacturer with all questions and/or concerns about a product ingredient label which contains "modified food starch".

**Natural Flavorings/Hydrolyzed vegetable protein** Both of these may contain hidden gluten or casein. The manufacturer is not required to list wheat flour as an ingredient if it is part of "natural flavorings" or "hydrolyzed vegetable protein". It is best to call the

manufacturer for confirmation on ingredients which include either "natural flavorings/ingredients" or "hydrolyzed vegetable protein".

### **Anti-caking agents**

Wheat flour may be used as anti caking agents. It may be used to dust processing lines to prevent sticking. It may be used to prevent items, such as dried fruits, from clumping together. The manufacturer is not required to list wheat flour as an ingredient in this case. However, the presence of wheat flour changes the status of what might have been a gluten-free product to gluten-containing.

### **Luncheon Meats, Sausages & Frankfurters**

Most processed meats are not gf/cf, even the cooked chickens at the supermarket have gluten in or on them. Find a great organic butcher who makes their own hams, sausages etc. Stockists listed later.

### **Cocoa Butter**

This is the fat extracted from the seed of the Theobroma cacao tree. Cocoa butter with no added ingredients is gf/cf. It becomes unacceptable if casein or gluten are added e.g. most chocolate!

### **Lactic Acid**

Lactic acid is found naturally in sour milk but can also be commercially produced from whey, potatoes, molasses, sugar beet, cane, grape sugars, corn and alfalfa. If listed on a product as an ingredient, you must verify its source from the manufacturer.

### **Caramel**

The caramel colour added to some foods often contains gluten and casein.

### **Vinegar**

Some have traces of gluten. Check with manufacturer. Do not use malted vinegar.

Use: rice vinegar, apple/cider vinegar, white wine vinegar, balsamic vinegar

## **A note on Calcium:**

A child's calcium requirement changes with age:

From 1-3 years: 500mg per day

From 4-8 years: 800mg per day

From 9-18 years: 1300mg per day

Choose enriched rice milk, which contains as much calcium as dairy milk (200mg per glass). Provide calcium rich foods, such as nuts and seeds (sesame seeds, tahini), tofu, soy beans, figs, chickpeas, broccoli, kale, apricots, sardines and whitebait. You can also give a calcium supplement – I recommend calculating how much calcium your child consumed during the day and giving the balance of their requirement in the evening.

Vitamin D is necessary for calcium absorption into the bones – so make sure your child gets at least 20 minutes of sunshine every day. Some children may need a supplement. A blood test will show whether their vitamin D level is optimal.

## ***How long do you need to stay on the diet?***

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The diet is supported by probiotics and anti-inflammatory herbs (such as slippery elm) to re-establish a normal gut flora, which includes enterococci faecium, the bacteria that produce the enzyme to digest gluten and dairy. Once this has been accomplished and the child is healthier you can try re-introducing small amounts of dairy and gluten. I do not recommend doing this the first year. The transition usually happens quite naturally, when the child tries a gluten or dairy containing food and no longer shows a negative reaction. In some children this can take several years.

## ***Gluten Free Casein Free recipes***

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<http://www.BestGlutenFreeRecipes.com>

<http://www.kidswithfoodallergies.org>

<http://members.ozemail.com.au/~coeliac>

<http://www.csaceliacs.org/recipes.php>

## ***Where to Buy Gluten and Dairy Free Food***

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Huckleberry's, Harvest Wholefoods and IE Produce all have healthy gluten and dairy free foods for sale.

### **Specialist Shops:**

#### **Angel Food**

Delicious gluten free, dairy free cakes for special occasions:

**Phone:** 846 9386    **Website:** [www.angelfood.co.nz](http://www.angelfood.co.nz)    **Email:** [info@angelfood.co.nz](mailto:info@angelfood.co.nz)

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