The ABC's of Gluten-Free

Available FREE to help Coeliacs live an easier life

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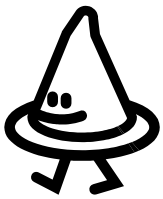
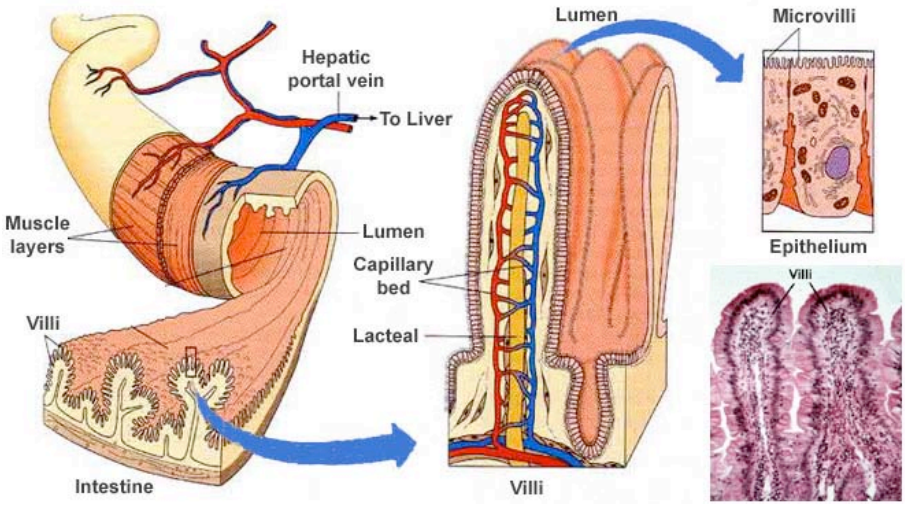


WHAT IS THIS THING CALLED COELIAC DISEASE?

Pronounced Seel-ee-ak, sometimes spelt CELIAC (in the USA).

Coeliac disease is a lifelong medical condition where the lining of the small intestine (villi) is intolerant (allergic) and damaged due to gluten or gliadin (wheat protein), secatin (rye), hordein (barley) or avenin (oats).



Gluten is the protein component which is found in wheat, rye, oats, barley and other derivatives of these which include malt and triticale, that gives cereal doughs their elastic texture.

People who have coeliac disease have a decreased ability to absorb healthy nutrients from food. This can result in many gastrointestinal symptoms as well as other seemingly unrelated symptoms. These will be discussed in a later chapter.

Coeliac disease has been around for many years, first recorded in medical papers even as far back as the 2nd Century A.D., when the Greek physician Aretaeus of Cappodocia noted some common symptoms of the disease and defined "coeliac"

from Greek "kolliakos" as "suffering in the bowels". It is however, considered as a relatively 'new' disease since some of the symptoms of coeliac disease can also be attributed to irritable bowel syndrome or due to other food allergies such as lactose and dairy intolerance. Often it can take people many years to discover that the various symptoms which had previously been diagnosed as other ailments are actually symptoms of coeliac disease.

Recently it has become trendy to have gluten free meals, where cakes, gourmet breads and other exciting products have been observed to be 'popping up' rapidly in food outlets in the past four-five years. There are possibly more people who are being diagnosed and therefore the demand is greater for alternative foods, as the increase in awareness of allergies is becoming an important issue for many caterers, food manufacturers and shops involved in the food industry. Awareness of coeliac disease and gluten intolerance has also increased in the Australian community, which has provided a greater incentive for food manufacturers to explore new ways of creating food which can cater for gluten free.

HOW COMMON IS COELIAC DISEASE?

Coeliac disease is not an uncommon condition, affecting one in 100 Australians (1% of the population).

Various factors that appear to be linked to the development of coeliac disease include a genetic predisposition, (with first degree relatives-parent, child, sister, brother, having about a one in ten risk of developing the disease) as well as environmental influence. It is believed that the genes which are associated with the immune system could be partly responsible for the onset of coeliac disease together with an environmental stimulus (such as a virus).

However, many people are unaware that they have Coeliac disease. Many of the possible symptoms such as bloating, wind, diarrhoea and stomach cramps are associated with Coeliac disease, however as they are non-specific, it is possible to misdiagnose the symptoms as other conditions such as irritable bowel syndrome, rather than as coeliac disease. So, often only one in five people with Coeliac Disease are properly diagnosed. Diagnosis is best made through a biopsy of the small intestine together with blood screening tests.

SYMPTOMS OF COELIAC DISEASE

Some people have no symptoms at all, whilst others can have extreme symptoms. The symptoms vary from one person to another.

Many symptoms are gastrointestinal (gut-related) in nature and include:

CHILDREN

- Diarrhoea and/or
- Constipation
- Nausea and vomiting
- Passing a lot of wind (gas)
- Swollen, bloated stomach
- Painful stomach cramps
- Poor appetite (refusal to eat certain foods)
- Loose, bulky and foul-smelling faeces (Not so common)

ADULTS

- Diarrhoea and/or
- Constipation
- Abdominal cramping and bloating
- Flatulence (gas)
- Bulky, foul smelling faeces (not so common)

- Unexplained weight loss
- Unexplained weight gain
- Nausea and vomiting
- Acid reflux

Non-Gastrointestinal symptoms include:

CHILDREN

- Mouth ulcers
- Anaemia
- Delayed or stunted growth or delayed puberty
- Tiredness
- Irritability
- Easy bruising of the skin

ADULTS

- Headaches
- Weakness and fatigue
- Low calcium levels with muscle spasm and cramping
- Vitamin and mineral deficiencies
- Mouth and/ or tongue ulcers
- Dental enamel deficiencies
- Skin rashes such as dermatitis herpetiformis
- Joint and bone pains
- Early onset osteoporosis
- Infertility issues
- Low blood sugar (hypoglycaemia)
- Altered mental alertness
- Psychological issues such as depression
- Respiratory problems

MALABSORPTION CONSEQUENCES

Malabsorption refers to the low or non absorption of necessary nutrients through the small intestine. Deficiencies in iron, calcium, folic acid and other vitamins and minerals can occur in undiagnosed or untreated coeliac disease.

Upon diagnosis with coeliac disease, a strictly gluten free diet must be adhered to for life, because gluten sensitivity does not disappear. Any gluten will cause some damage, which with frequent exposure may become progressively worse.

As coeliac disease is caused by a sensitivity/ intolerance to gluten, by permanently removing the cause of the intolerance, the damage to the lining of the small intestine is able to recover and repair itself in most people.

What happens if you have never had any symptoms even before diagnosis?

For a minority of people who are 'asymptomatic' (who have no gastrointestinal symptoms) and found to be positive for coeliac disease, they still require a gluten free diet for life.

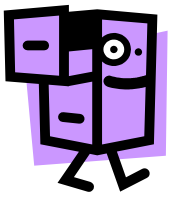
Ignoring this advice can have serious consequences for the individual.

CONSIDER THE RISKS IF YOU DO NOT GIVE UP THE GLUTEN:

Nutritional-

- Anaemia- due to iron deficiency, deficiency of Vitamin B12 or folate.
    - This can cause fatigue, retarded growth and poor immune function.
- Osteoporosis (osteopenia/ osteomalacia)- due to inadequate absorption of calcium and vitamin D.
    - This can cause a decrease in bone density, an increase in bone fractures as well as possible loss of height and distortion of body shape.
    - According to The Gut Foundation, osteoporosis can occur in up to 30% of coeliac patients with the frequency increasing when a coeliac diagnosis is made later in life.
- Infertility and repeated miscarriage – due to folate deficiency.

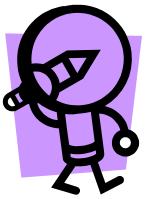
For further information on other related conditions see the section on Associated Conditions.



OTHER ASSOCIATED CONDITIONS

Coeliac disease is an autoimmune condition. This is a term used to describe a disease where the immune system attacks the body, since it does not recognize itself and therefore it creates an immune response against its own cells and tissues. Other autoimmune conditions that are associated with coeliac disease are listed below.

Autoimmune Diseases



TYPE 1 DIABETES (JUVENILE):

- Also known as Insulin-dependant diabetes and often diagnosed in children, this type of diabetes occurs when the hormone cells of the pancreas are destroyed and are unable to produce insulin in order to regulate a person's blood sugar.

- Insulin is a hormone which is produced by the pancreas which enables glucose to move from the blood into the cells of the body to be used as fuel for energy. When glucose is unable to be transported to the cells, it builds up in the blood (high blood sugar) causing various symptoms including increased thirst and urination, lack of energy and fatigue, possible weight loss and blurred vision. Therefore, treatment involves regular insulin injections or the use of an insulin-infusing pump combined with regular healthy preferably low fat and low GI (Glycaemic Index-carbohydrate) meals, as well as regular physical activity.

- The Coeliac Society of Australia suggests that between 3 to 10% of children with type 1 diabetes develop coeliac disease.

AUTOIMMUNE THYROID DISEASE-
autoimmune hypo- or hyper-thyroidism)

Hashimoto's Autoimmune Thyroid disease (HAIT)-

An **underactive** thyroid occurs when the patient's own immune system attacks itself. The thyroid gland, a butterfly-shaped organ that lies flat against the windpipe in the throat, becomes enlarged and inflamed (called a goitre), firm, and rubbery but not usually tender. The thyroid is unable to produce enough thyroid hormone to regulate the metabolism.

Symptoms may include:

- weight gain
- increased sensitivity to cold
- fatigue, weakness, sluggishness
- depression
- dry skin
- constipation
- muscular and joint pain
- forgetfulness
- menstrual irregularities
- hair loss

Treatment involves lifelong management of the condition using thyroid hormones.

▪**Graves' disease**-

An **overactive thyroid** or Hyperthyroidism is when the thyroid becomes overactive (due to the autoimmune antibodies stimulating the thyroid to make excessive amounts of thyroid hormone) and releases too much thyroid hormone into the blood. A person with too much circulating thyroid hormone finds they have a metabolism that is continually 'revved up'.

Symptoms include:

- weight loss, despite an increased appetite
- diarrhoea
- nervousness, agitation and anxiety
- tiredness
- rapid pulse
- tremor (shaking) of the hands
- sweating and sensitivity to heat

Graves' disease usually begins in the 30s or later. It's nine times more common in women than men, and it often occurs with other autoimmune diseases like diabetes and rheumatoid arthritis.

Treatment involves drugs to slow the increased thyroid hormone production to a normal rate, radioactive iodine treatment or in severe cases, surgery to remove the thyroid gland.

According to The Gut Foundation, a coeliac patient seems to have twice the chance of the general population in developing an autoimmune thyroid disease, therefore patients who have been diagnosed with coeliac disease are also screened for the above condition.

ADDISON'S DISEASE (HYPOADRENOCORTICISM)-

This is a rare hormone or endocrine disorder which affects about 1 in 100,000 people of any age, when the adrenal gland produces insufficient amounts of the hormones cortisol and/or aldosterone due to about 90% of the adrenal cortex (outer layer of adrenal gland) being destroyed. About 70% of reported cases of Addison's disease are caused by autoimmunity, whilst according to The Gut Foundation, 10% of people with this condition also have coeliac disease.

Cortisol is essential in helping the body to respond to stress and is also necessary for: regulating blood pressure, stimulating insulin production, regulating the metabolism and slowing the immune system's inflammatory response.

Symptoms include:

- chronic fatigue
- muscle weakness
- loss of appetite
- weight loss
- nausea, vomiting & diarrhoea
- dizziness & fainting from low blood pressure
- dark tanned skin pigmentation sections
- craving for salty food
- hypoglycaemia (low blood sugar)
- In an Addisonian crisis (severe symptoms that progress quickly during a stressful event), if left untreated, can be fatal.

Treatment includes replacement of the insufficient hormones, usually via oral hydrocortisone tablets.

This ASSOCIATION is EXTREMELY important to note, as the steroid treatment which is used in Addison's disease may hamper the diagnosis of coeliac disease. Due to the malabsorption issues associated with coeliac disease, medications which are used to treat Addison's disease may be poorly absorbed.

Therefore all patients who have Addison's disease are advised to be screened for coeliac disease.

There are many other autoimmune conditions which may share a relationship with coeliac disease, however, the above conditions are the major ones which are often tested for when a coeliac diagnosis is made.

Genetic Disorders

SELECTIVE IMMUNOGLOBULIN (IgA) SYNDROME:

 A lack of immunoglobulin A (IgA), a type of antibody that protects against infections of the mucous membranes lining the mouth, airways, and digestive tract. Therefore patients often have frequent sinusitis infections and an increased susceptibility to pneumonia.

Treatment includes antibiotics for the associated infections.

There is an association with autoimmune disease and having IgA deficiency can complicate the diagnosis of coeliac disease as the deficiency can often mask the high levels of certain IgA antibodies usually seen in coeliac disease.

Other related conditions which present a risk for coeliac disease include Down Syndrome, some forms of Arthritis and Autoimmune liver diseases (Hepatitis).

Nutritional Deficiencies

Some consequences of malabsorption of some essential nutrients have already been mentioned under Malabsorption consequences, including anaemia, osteoporosis and infertility. Consequences of other nutritional deficiencies are listed below.

Vitamin A deficiency is linked with the development of 'night blindness', impaired vision at night.

Vitamins B1 (thiamine), B2 (riboflavin) and B3 (niacin) deficiencies can cause fatigue and weakness.

Vitamin B12 and folate deficiencies are associated with anaemia.

Vitamin C deficiencies- may suppress the immune system and lower iron absorption.

Vitamin D deficiency can cause stunted growth (rickets in children) and osteoporosis in adults.

Vitamin K deficiency can cause bleeding disorders and problems with bile secretion

Malignant Disease

Due to the chronic inflammatory nature of the disease, untreated coeliac disease can lead to a rare form of bowel lymphoma (type of cancer).

HIDDEN GLUTEN AND CONTAMINATION ISSUES

So you have been diagnosed with coeliac disease-

NOW- How do we search for GLUTEN and eliminate it from our diet?

OBVIOUS SOURCES OF GLUTEN

- **wheat**
- **rye**
- **barley**
- **oats**
- **triticale – a hybrid of wheat and rye**

People on a gluten free diet must also avoid products containing ingredients derived from 'wheat' such as wheatgerm, wheat bran, wheat starch, hydrolyzed wheat protein, wheat flour, wheat flakes.

The exception is BUCKWHEAT, a grain like fruit relative of the rhubarb family- which is Gluten Free, despite its name!

- **Other types of wheat include: durum, kamut, burghul, faro, couscous, semolina and seitan. These should also be avoided as they contain gluten.**

Other derivatives of gluten-containing grains which must also be avoided include:

MALT (a derivative of Barley)
Malt vinegar
Malt extract
Wheaten cornflour

HIDDEN SOURCES OF GLUTEN

Gluten can be found in many processed foods as wheat and barley products are often used as fillers and binders and to thicken foods. Unless the labels on the following products state that they are GLUTEN FREE, they commonly are made with a gluten-containing ingredient. Be aware and check labels prior to consuming.

- **Beer and other alcoholic drinks (rye whisky)**
- **Soy sauce**
- **Gravies, sauces, dressings, marinades**
- **Mayonnaise**
- **Stock cubes/powder-containing hydrolysed plant protein**
- **Some coffee products or coffee substitutes (contain grain products such as barley)**
- **Malted milk products**
- **Chocolate drinking powder**
- **Commercial sweets (contain grain products) and bars**
- **Processed meat products- sausages, meat loaf (fillers)**
- **Stuffing for meat and seasonings, spices (if not pure)**
- **Croutons**

- **Icing sugar mixture**
- **Some medication-clarify this with your pharmacist.**

Food additives may also contain traces of gluten.

For a full list of ingredients and their gluten free status, please refer to the Coeliac Society of Australia's 'Ingredient List' booklet or at their website- www.coeliacsociety.com.au

Also note that food standards vary in different countries, so if you are travelling overseas, it may be useful to contact the coeliac society in the countries which are being visited, to clarify their Food Standards in relation to a food being considered to be gluten free.

CONTAMINATION

Cross-contamination of gluten can be an issue in food manufacture – in both commercial and non commercial food production and preparation.

Grain Processing

Products that are theoretically gluten-free can be contaminated with 'trace' amounts of gluten as contamination can occur at various stages in food processing.

Unless a grain is grown, milled and packaged in a strictly gluten-free environment, there is a chance of cross-contamination at any stage from the growing of grains, transport, storage and milling.

Shared Equipment and Facilities

Unless the facility is strictly gluten –free, various products that are made on the same production line could be contaminated from previous traces of gluten that remain on the lines, even though companies are supposed to clean down equipment between different production lines.

This also applies to bakeries which produce 'gluten-free' breads, yet are unaware that although the grain products themselves are 'gluten-free', the facility is contaminated by gluten (minute particles of flour) which could still be remaining in the air and therefore 'contaminate' the gluten free bread as it settles.

Food Preparation at Home

<u>Suggestions to avoid cross-contamination:</u>

Cleanliness isn't an Option, it's crucial to preserving a pure, gluten-free lifestyle.

CRUMBS

▪Purchase separate jars of jam, peanut butter, mayonnaise and tubs of margarine, to prevent contamination of bread crumbs in the shared jars.

▪Keep benches and cutting boards clean to remove gluten-containing crumbs.

▪Purchase a second toaster for gluten-free bread or buy toaster bags to cook your toast inside (or dedicate a section of a multi-sectioned toaster- one of four slots, to only gluten free bread.)

KITCHEN UTENSILS

▪Either clean cooking utensils, pans and colanders carefully between use, or use separate pasta servers and colanders to prevent contamination by remnants of gluten from cooking both gluten-free pasta and gluten-containing pasta in the same kitchen.

▪Chopping boards, tongs, grills and barbeques need to be thoroughly cleaned as they can hide small crumbs of gluten.

DEALING WITH DIPS AND SPREADABLES

▪'Double dipping' of knives (which are used to spread 'normal bread') into spreads, mayonnaise, margarine and dips is OUT.

▪Using separate knives instead of re-dipping, is IN.

FOOD STORAGE

▪Make a separate storage section in the pantry for gluten-free foods so that they are easily identifiable as well as separated from the gluten-containing products.

FOOD LABELS-

-HOW TO READ AND UNDERSTAND THEM

-WORKING OUT WHAT IS 'GLUTEN FREE'

The Gluten Free Label Overrides the Ingredient Listing

Australian Food Laws (The Australian Food Standards Code) determine that a **gluten free food** must NOT contain *any detectable gluten.*

If a food is labelled as **low gluten,** it contains less than 0.02% gluten.

This has been determined by extensive laboratory testing known as the ELISA (enzyme-linked immunosorbent assay) technique, where the presence or absence of gluten in the form of wheat, rye, barley and triticale can be detected in processed, raw and cooked foods.

Low Gluten is unacceptable for someone with coeliac disease.

Understanding ingredients written on a food label can help to determine if a product is Gluten Free, as many products are gluten free even though they do not claim to be so.

*** * See Hidden Gluten section, for gluten-containing ingredients.* ***

Food labeling laws enforce that ingredients and food additives derived from wheat, rye, barley and oats must be declared on food labels. Ingredients where the source grain is not specifically identified are considered to be gluten free.

For example: Frozen supermarket chips that are labelled with dextrose are considered to be gluten free, whilst mixed spices that list flour in the ingredients are NOT Gluten Free.

Products with statements within the ingredient list such as 'starch (wheat or maize) should not be considered to be gluten free (unless the overall label states 'Gluten Free') – Stock Powder lists Vegetable Protein Extract (Wheat derived), yet the Main label states that the stock is Gluten Free.

*** * Exceptions * ***

- Glucose syrup from wheat or wheat glucose syrup
- Dextrose from wheat
- Caramel colour from wheat

ARE GLUTEN FREE- they contain no detectable gluten as they are highly processed.

PRODUCTS TO INCLUDE-
NATURALLY GLUTEN FREE FOODS

- Fresh fruits and vegetables
- Legumes and beans
- Eggs and nuts
- Milk
- Oils
- Fish and unprocessed meat

GLUTEN FREE GRAINS & STARCHES

- Amaranth- high in fibre and protein, from South America
- Arrowroot-used as a thickener
- Buckwheat (kasha/groats)- often used in soba noodles
- Corn- also known as maize
- Millet-low carbohydrate, deriving from China
- Polenta- corn meal
- Potato starch
- Quinoa (keen-wa)-high in protein, from South America
- Rice
- Sago-a starch made from the Sago palm tree
- Sorghum- high in iron
- Soy
- Tapioca/Cassava- used as a thickener

□ □ Legume Flours: chickpea (Besan/Gram/Channa), lentil, lupin (high in protein and fibre) □ □

* * See the Coeliac Society of Australia Inc. Ingredient List, for more information on Food Additives. * *

PRODUCTS TO AVOID-

Wheat, wheaten cornflour, wheat bran, graham flour, oats, oatmeal, oatbran, rye, barley, triticale, burghul/bulgur, semolina, couscous, malt, faro, bread batter, seasoning, stuffing.

KID FRIENDLY IDEAS

All children need a balanced diet made up of a variety of fruit, vegetables, cereals, grains, dairy products, meat and fish, in order to provide the best chance for physical and psychological growth.

So, how do dietary restrictions such as the Gluten Free diet fit in?

- Knowing which foods are **always** Gluten Free will allow many options to create meals and snacks

- Keeping in mind which foods to avoid, will open up a whole new world for us to create 'new' meals and snacks using alternative and often more nutritious ingredients. Often many recipes can be substituted with a Gluten Free ingredient to create the same meal and people can often cannot taste the difference when compared with the original recipe containing gluten.

- Many caterers, food manufacturers and suppliers (health stores and supermarkets) are making it easier for people to prepare meals by offering an ever increasing range of Gluten Free ingredients and even ready-made Gluten Free meals.

E.g. Tender Loving Cuisine _ http://www.tlc.org.au
Freecall: 1800 801 200, produces healthy ready-made meals for busy Mums who are on the go.

SNACK IDEAS –For school, home or outings:

Gluten Free alternative (GF)	Non Gluten Free
▪Rice or corn crackers	Savoury wheat or rye biscuits
▪Gluten free bread sandwiches	Regular bread sandwiches
▪Gluten free fruit/ muesli bars	Muesli bars (oat and gluten based)
▪Plain potato chips or corn chips or alternative GF grains- chickpea, quinoa, sweet potato	Flavoured potato chips, flavoured corn chips, pretzels
▪GF savoury/ sweet muffins	Regular muffins
▪Milk shakes with GF flavouring	Malted milkshakes
▪Plain popcorn	Flavoured popcorn

Other snacks include:

- dried fruit and nuts and fresh fruit
- yoghurt
- GF vegetable and legume based dips eg. Hummous
- Hard boiled eggs
- Cheese sticks
- GF soups
- GF quiche or vegetable slices
- Baked potato with spinach and ricotta or other GF topping
- GF pizza slice
- Fried rice with GF soy sauce/ sushi
- Salad vegetables
- GF cold meats
- Tinned tuna or salmon (check for GF) with rice crackers

PARTY TIME

Being diagnosed with Coeliac disease does NOT mean missing out on party fun! There are many party foods available which ARE Gluten Free and others that can be substituted, sometimes with a little extra imagination.

FOOD WHICH CAN BE BOUGHT

- Plain potato chips
- Marshmallows
- Gluten free range of lollies
- Freddo frogs and other chocolate
- Chocolate chips for decorating
- Gluten free decorating icing/gel writers or for piping
- Gluten Free Ice- cream cones
- Jelly crystals
- Fruit
- Ice-cream
- Gluten free cake/muffin mixtures or GF flours
- Gluten free pretzels
- Popcorn (ready made or raw)
- Gluten free bread
- Gluten free 100s and 1000s/sprinkles
- Food colourings
- Cocoa
- Pure icing sugar
- Desiccated/shredded coconut

Create a theme and then make matching food and games.

NOW, WHAT TO MAKE?

- Fruit skewers- cut up cubes of mixed seasonal fruit such as melons, strawberries, grapes, pineapple and link on bamboo sticks.

-Gluten Free sandwiches or fairy bread

-Themed birthday cakes using cake moulds or cutting cakes into various shapes and decorating with lollies and coloured icing gels

-Jelly mixed with fruit

-Gluten free rice puff chocolate crackles

-Cheese cubes

OTHER TIPS-

- Allow children to be involved in making their meals and snacks.

- Educate others on the easy way to serve gluten-free food and foods which are acceptable (to encourage children to be invited to other friend's places)

- Educate all teachers and relevant staff at the school so that they are better prepared to deal with your child's diet and can offer alternatives for class cooking.

- Provide the teacher with a stash of treats for those unexpected treat times.

- Make your home environment 'normal' for your child and enable her/him to become familiar with the 'language' of Gluten-Free so as to develop an understanding of what to eat and what to avoid.

- Don't avoid eating out- check ahead with restaurants and educate them about gluten-free and cross contamination issues.

ISSUES FOR SENIORS

Coeliac disease was originally considered to be a childhood disease, however, today, diagnoses occur at any age. It may be identified at around two years of age, also around the mid-thirties and even in people aged in their eighties and nineties.

Starting a Gluten- Free diet as a senior may be overwhelming as they have had a lifetime of unrestricted food habits which now need to change. It is vital that any person of any age who is diagnosed with coeliac disease, remains on the diet in order to help their body to 'recover'. A bone density test, which can determine the risk of osteoporosis, is also recommended for all people diagnosed with coeliac disease. As osteoporosis is associated with senior years in the general population, it is particularly important that bone status is known in a person with coeliac disease.

The Coeliac Society of Australia recommends that adults follow the Australian Dietary Guidelines (ADG) for Australian adults. These are healthy eating recommendations that are produced by the National Health and Medical Research Council (NHMRC).

(See www.nhmrc.gov.au/publications/nhome.htm)

The Coeliac Society has adapted them for people with coeliac disease and have published them in various resources including the 'Coeliac Society Handbook', as well as 'The Australian Coeliac magazine' (March 2007 issue).

- EAT A VARIETY OF FRUIT, VEGETABLES AND LEGUMES
- EAT MANY GLUTEN FREE CEREAL GRAINS
- EAT FISH, LEAN MEAT, POULTRY AND ALTERNATIVES
- LIMIT SATURATED FATS AND CHOOSE LOW FAT ALTERNATIVES
- INCLUDE MILK,CHEESE AND YOGHURT
- LIMIT SALT CONTENT IN FOOD
- LIMIT ALCOHOL INTAKE
- INCREASE WATER INTAKE
- INCLUDE MODERATE AMOUNTS OF SUGAR

Tender Loving Cuisine (TLC) offers an easy way to coping with a change of diet, with a range of ready made meals which are made according to the Heart Foundation's Tick of Approval; to meet the Diabetes Australia criteria and many are also Gluten Free.

Meals can be ordered either by telephone on

Freecall 1800 801 200 or on http://www.tlc.org.au/

and kept frozen until they are ready for use.

OTHER CONSIDERATIONS for Seniors and other people who have coeliac disease.

- EASILY CHEWED FOOD- It is important to ensure that all gluten-free food is easily chewable if a person has swallowing difficulties or wears dentures.

- IMPORTANCE OF REMAINING GLUTEN-FREE- After diagnosis, once a gluten-free diet has started, the severity of the symptoms should ease off. Depending on the amount of damage to the gut from malabsorption and severity of the symptoms will relate how quickly a person will feel better. However, taking risks eg. eating gluten will only increase the risk of developing an associated condition such as diabetes, osteoporosis or anaemia.

- DINING OUT- Once you have had some experience on the gluten-free diet, dining out can be a pleasant experience. It is recommended to speak to the chef (in advance) at restaurants. Many chefs will try to accommodate your needs and offer alternatives. Some restaurants may allow you to bring your own gluten-free bread, pasta or pizza base for them to cook. It is important to still discuss with them suitable preparation to prevent cross contamination.

- MEDICATION- Pharmacists have access to computer medical programs or may be able to contact manufacturers

to determine if a medication contains gluten. Sometimes the medication is labelled as gluten-free. Wheat starch may be used as a filler or binder, rendering it not gluten-free.

- TRAVELLING- It is important to note that not all AIRLINES provide gluten-free meals, so CHECK AHEAD. It is advisable to bring some gluten-free snacks with you, just in case.

  CRUISES/ COACH AND TRAIN TOURS- check with these individually, however, generally their expert chefs are able to cater for coeliacs as well as many other dietary issues.

  ACCOMMODATION AND EATING OUT ON HOLIDAYS- a little research in advance of a holiday is useful in finding out what food may available. By contacting other coeliac societies (if travelling interstate or overseas) and possibly tourist information in the place of visitation, to determine what gluten-free food is already available may help to prevent the anxiety of worrying about meals. Even supermarkets are sourcing greater amounts of gluten-free products, (such as pizza bases) which could be purchased as an option to be cooked in a restaurant (many catering establishments are becoming more aware of gluten-free and may be willing to make sandwiches or pizza using your own 'brought in' products.)

- HOSPITAL STAYS- As many hospitals have dietitians available after admission into hospital, it is important to

consult with the dietitian who can adapt the hospital menu for gluten-free meals. If a dietitian is unavailable, contact the registered nurse who is in charge and the catering department.

In a planned hospital admission, apart from the above, it is beneficial to also bring in some extra gluten-free supplies including biscuits or even gluten-free confectionary if needed for hypo management of diabetes, (many confectionary contain gluten.)

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