



EMPOWERING PEOPLE TO LIVE GLUTEN FREE

Dr. Kim Faulkner-Hogg
Dietitian, Advanced APD
BSc, Post Grad Dip Nut & Diet, PhD
Kim@glutenfreenutrition.com.au
@Gluten.Free.Dietitian
<http://www.glutenfreenutrition.com>



Brought to you by



GLUTAGEN

1



Disclaimer

- I have recently welcomed the opportunity to join the Medical Advisory Committee at Glutagen
- Research with GluteGuard has been done and will continue in people with Coeliac disease and Dermatitis Herpetiformis

2

Talk overview

- Evolving Gluten Free Diet advice
- Different personalities and life stages
- Pillars of support
- Case study: NCGS
- Current research on milligrams of gluten in the diet
- Enzyme supplements
- Case study: Coeliac disease
- Case study: refractory coeliac disease novel treatment

3

My “90% Coeliac”

Just like you are not a ‘little bit pregnant’
you are also not a ‘little bit coeliac’

- 1992
- GFD allowed wheat starch and malt
- Self declared “90% coeliac”
- Demanded one slice of wheat bread each day with an otherwise gluten free diet



Gut

► Visit this article
► Submit a manuscript
► Receive email alerts
► Contact us

BMJ

Gut. 1989 Mar; 30(3): 333–338.
doi: [10.1136/gut.30.3.333](https://doi.org/10.1136/gut.30.3.333)

PMCID: PMC1378455
PMID: [2707633](https://pubmed.ncbi.nlm.nih.gov/2707633/)

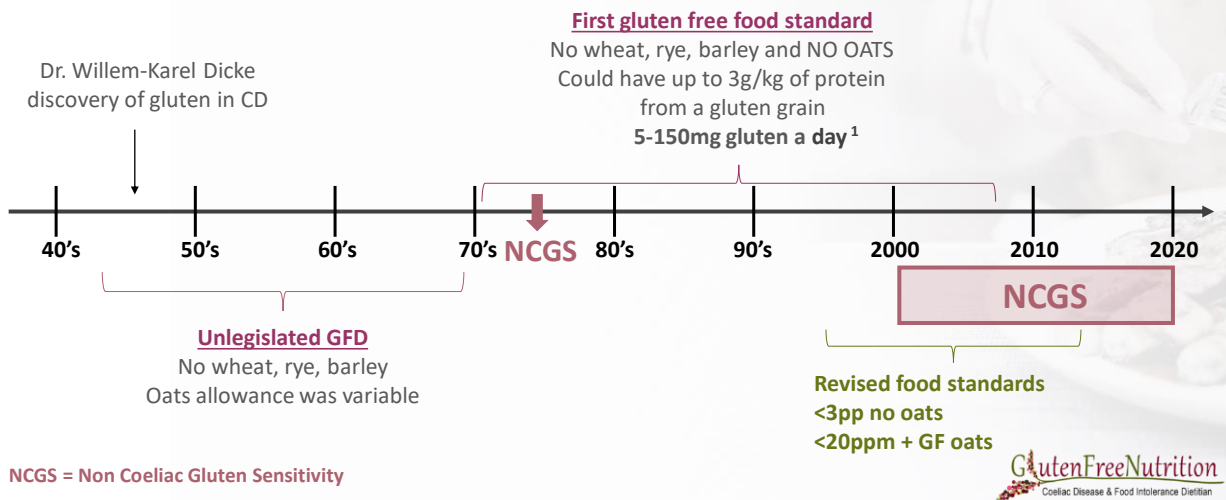
Malignancy in coeliac disease--effect of a gluten free diet.

G K Holmes, P Prior, M R Lane, D Pope, and R N Allan

► Author information ► Copyright and License information ► [Disclaimer](#)

4

Gluten free eating history



5

Coeliac disease

Compared to other chronic health conditions the burden of treatment of those with coeliac disease is high

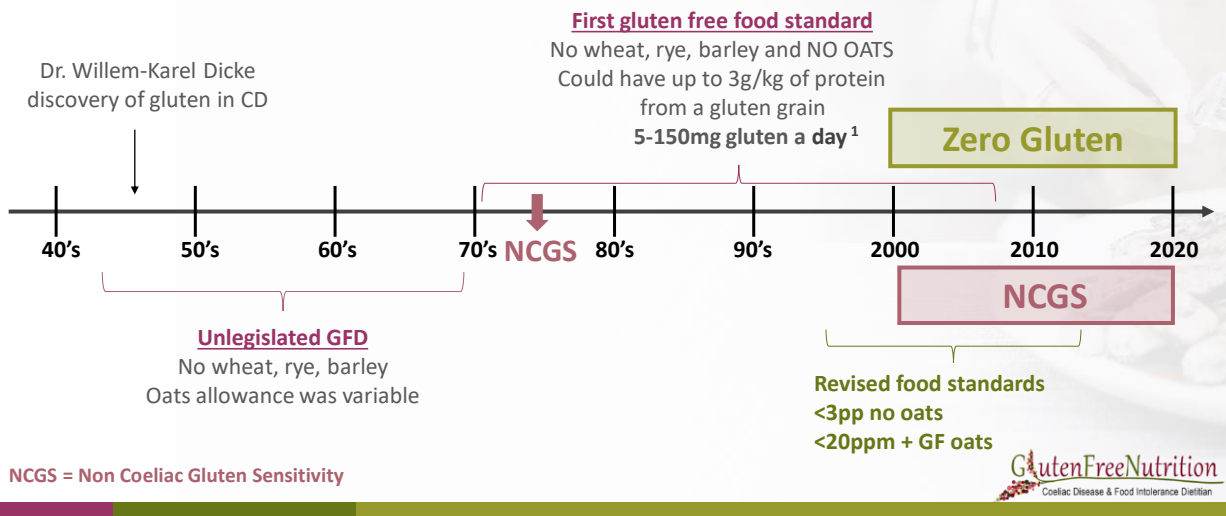
QOL varies

- Food fear
- Symptom fear
- Social fear
- Travel fear
- Healing fears
- Future health fears



6

Gluten free eating history



7

Zero gluten

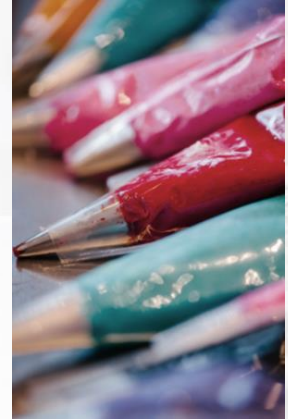
- Zero gluten pushes everyone down the same path
- We want them to come out with uniform
 - Happiness
 - Understanding



8

Interpreting the message

- Different reasons for eating gluten free
- Different risk factors
- Different countries in which you get the information!!
- Age of diagnosis and stage of life
- Different personalities



9

Personalities

Black and white rules

Assess the risks conservatively

Risk takers push boundaries

Flout the advice



GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

10

Early 2000's CD client



GIT symptoms mild
Marsh 3a partial villous atrophy

- Single lady in her 60's
- No dependents
- No kids, siblings or parents
- Living is for her enjoyment
- She wants to decide if she wants to live GF

GutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

11

Non-coeliac gluten sensitivity

Diagnosis is by exclusion

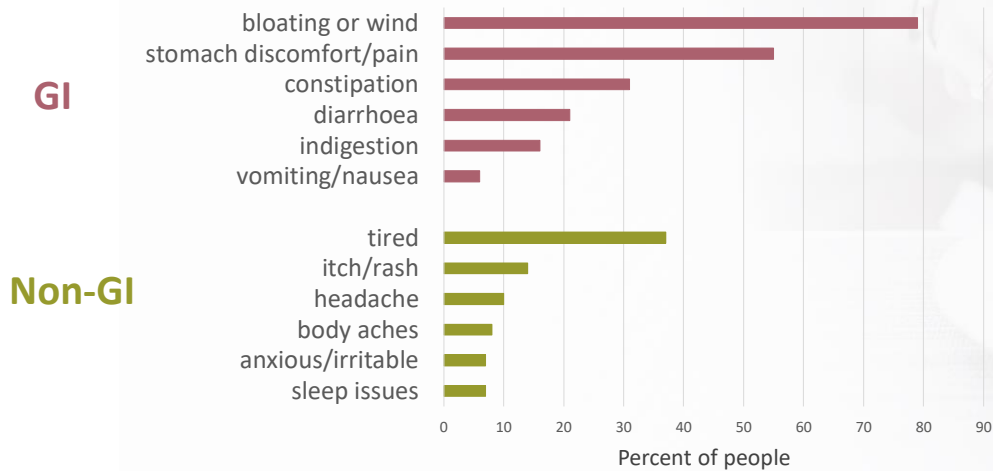
- Exclude coeliac disease and wheat allergy
 - Exclude other medical conditions
 - Wheat/gluten removal and challenge to show symptoms
-
- No damage to the small intestinal villi
 - May or may not be inflammation
 - Can occur at any age
 - Symptoms and severity can fluctuate over time
 - No definitive clinical test to diagnose this
 - Many tolerate 1-2 slices of wheat bread equivalent serves a day
 - Some are very, very sensitive to trace amounts

It's all about managing symptoms

GutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

12

Symptoms in those who avoid wheat and do not have coeliac disease ²



13

Pillars of support



Healthcare
Team



Coeliac
Australia



Friends &
Family



Social
venues

GutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

14

Healthcare team



Doctors

- Correct diagnosis
- Ongoing follow-up
- Refer to dietitian

Dietitian

- How to eat gluten free
- How to live gluten free
 - Co-ordinate and strengthen the pillars

Psychologist for some

- Acceptance

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

15

Coeliac Australia



Support for others going through the same experience

- Fact sheets to assist patients with the GFD
- Ingredient list Phone App for label reading
- Support groups, magazine, shared experiences and discussions
- GF Expo
- Friendships

Advocate for coeliacs as a whole, not an individual level

- Food standards and Food labelling
- Restaurant and catering training
- Increasing awareness of gluten free needs
- Cheaper food through partnerships with supermarkets

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

16

Friends and family: need to turn this into a sturdy pillar



- Help shoulder the burden of constant label reading and venue vetting
- Support the need for these activities
- Help plan travel
- Understand and help with more home food prep
- Take over the advocating for GF if circumstances required this
 - burnout
 - emotional
 - low coping day
 - fed up day
 - not good at self-advocating

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

17

Social venues: the crumbly pillar



- Training courses by Coeliac Australia
 - CA Accredited Business restaurant logo
 - www.coeliac.org.au/s/the-gluten-free-diet/accredited-businesses
- Dietitian suggested vetting strategies
- Constantly asking questions
 - Have I asked the right questions?
 - Was I heard?
- Family and friends support this step

Despite this, 'glutening' occurs

GluteGuard Enzyme back up support

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

18



Quality of life^{3,4}

Zero gluten: double edged sword

- Gives symptoms relief
 - so QOL increases
- BUT.....hypervigilance to achieve zero gluten leads to
 - more anxiety
 - social isolation
 - depression
 - which leads to a decrease in QOL



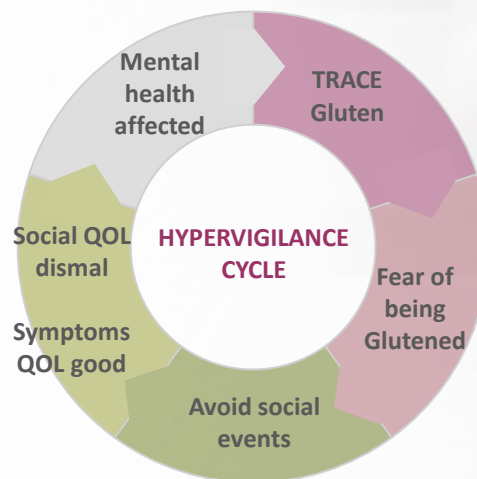
GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

19

Factors affecting vigilance

Internet messages for zero gluten

- Where is gluten hiding?
- One crumb is all it takes



GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

20

Role of the dietitian



- Decisions need to be guided by knowledge not fear

21

Role of the dietitian



Research...
& your risks

Dietitian

- More than just what is gluten free
- Risks associated with small gluten exposures
- Personalise the risk to their circumstances
- Their personality
- QOL
- Empowering someone to live gluten free

22

Dietitian support pillar

Educate

Empower people to make their own decisions

Support them with tools that can help with decision making

- Relate the science as we currently know it to THEIR presentation
- Expected risks and outcomes of non-adherence
- Vigilance but not hypervigilance for most
- Not all gluten is equal & oats
- Good label reading skills
- Sorting their kitchen
- Vet restaurants, takeaways, social venues
- Cross contact reduction skills
- Travel skills
- Enlisting family and friends support
- Join Coeliac Australia

GluteGuard - Need to educate them HOW to use GluteGuard....

Its not about skipping corners in cross contact protection

23



**Not a medical treatment for CD and
Does NOT allow a person to deliberately eat
gluten containing meals.**

Can mop up background gluten contamination

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

24

Non-coeliac gluten sensitivity

- 54 year old married lady.....Tricia
- Severe symptoms to trace gluten
- GIT and CNS
- Symptom severity increasing the last 10 years
- Used to be very social
- Husband threatening divorce



Doctor

- Excludes other disease
- Support medications
- Follow up

Personality:

She started here.....

- Black and White rules
 - Tell me what to avoid and I will be very good at it
 - Feeds the hypervigilance cycle

Need to coax out the side of her that can assess the risks by addressing the fears

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

25

Non-coeliac gluten sensitivity

- 54 year old married lady.....Tricia
- Severe symptoms to trace gluten
- GIT and CNS
- Symptom severity increasing the last 10 years
- Used to be very social
- Husband threatening divorce



Coeliac Australia

- NCGS can be registered as non-coeliac members of Coeliac Australia

Family and Friend Pillars

- Needed her husband to understand the issues

Health Care

- Psychologists
- Counsellor

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

26

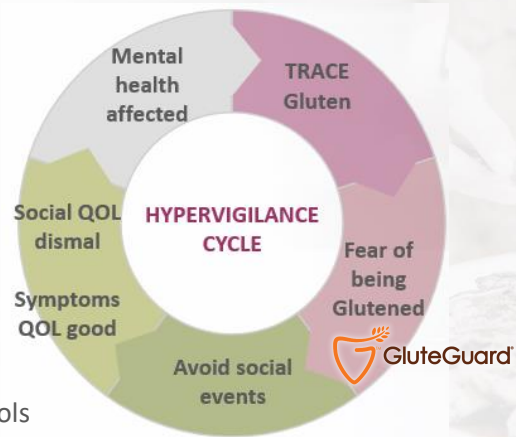
Non-coeliac gluten sensitivity

- 54 year old married lady.....Tricia
- Severe symptoms to trace gluten
- GIT and CNS
- Symptom severity increasing the last 10 years
- Used to be very social
- Husband threatening divorce



Dietitian
KNOWLEDGE EMPOWERS

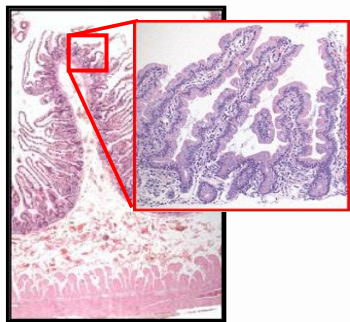
Add GLUTEGUARD to the support tools
Designed to mop up background gluten
that might get through unexpectedly



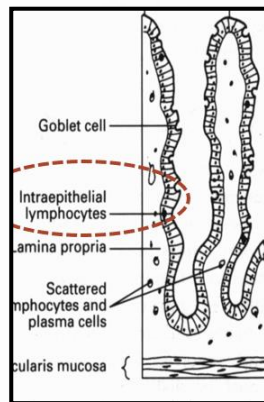
GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

27

Reporting Villous Damage



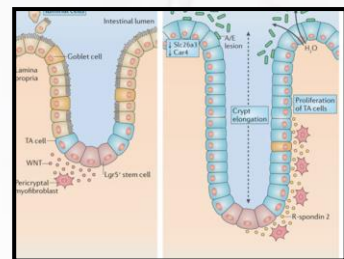
Normal



Intraepithelial Lymphocytosis

1

Grade A



Increase in crypt depth but no
change to villi height

2

Marsh grading:

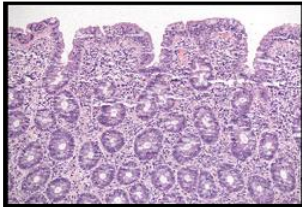
0

Corazza grading:

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

28

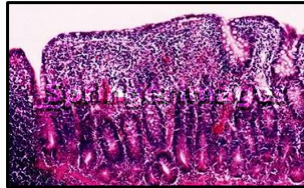
Reporting Villous Damage



PVA: partial villous atrophy

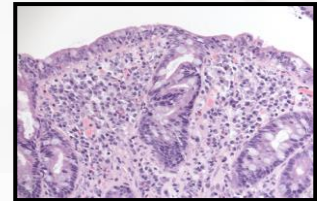
Marsh grading: 3a

Corazza grading: Grade B1



STVA: subtotal villous atrophy

3b



TVA: total villous atrophy

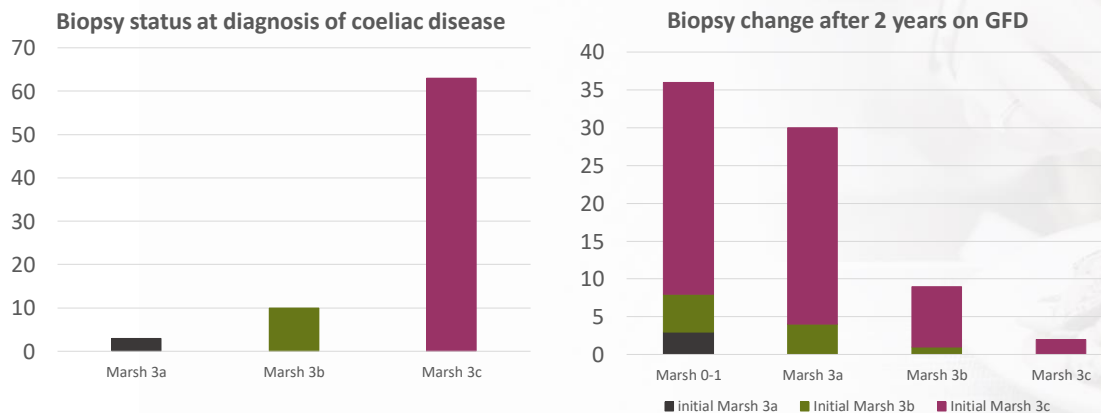
3c

Grade B2

GutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

29

Biopsy recovery in 76 people on a GFD for 2 years⁵



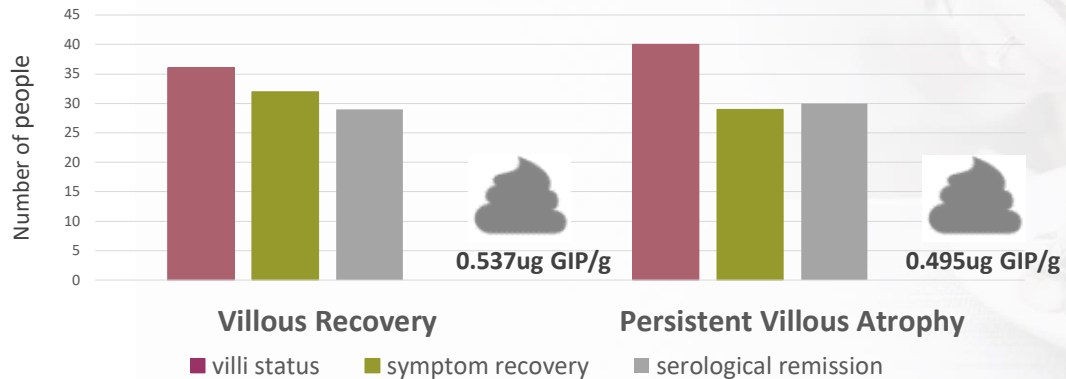
Fernandez-Bañares F. et al. Am J Gastroenterol 2021;116:1036–1043.

GutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

30

Comparison of clinical recovery between those with villous recovery and those without ⁵

Enzymes are the next step



Fernandez-Bañares F. et al. Am J Gastroenterol 2021;116:1036–1043.

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

31

Contamination potential: shared fryers ⁶



Gluten		Gluten Free in Australia		Gluten Free Internationally		Not Gluten Free	
		Under 5ppm		<20ppm		Over 20ppm	
Preparation Method	n	n	(%)	n	(%)	n	(%)
GF Fries sharing oil with wheat foods							
20 packets from 10 eateries	20	11	55%	4	20%	5	25%

n = number tested

75% GF Internationally

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

32

Unexpected background gluten exposure ⁷

- Mg gluten exposures did not align or predict villous atrophy outcomes
- Gluten ranged from 0.2mg - >80mg
 - (non-GF ate 3000-10 000mg a day)
- Most gluten exposures were unsuspected
- Symptoms were provoked only in some people
 - Gluten quantities to provoke symptoms are very variable

Are there clinical consequences of milligram ingestions over a lifetime?

Enzymes are the next step

GluteGuard vs other enzymes products

Current enzymes in research overseas^{8,9,10,11}

- ALV003
- AN-PEP
- Kumamax
- TAK-062

Products on the market: mostly USA

- Natures Way Plant Wisdom, Papaya digestive enzymes (Australia)
- Digest Gluten Plus
- Gluten-Ade
- Gluten Cutter
 - No clinical trials
- Gluten defense
 - Some enzymes don't cleave gluten at the right places
- Glutenaide
 - Contain lipases, lactase, proteases
- GlutenEase
 - May contain probiotics
- ZGlutn
 - Ref 12

GluteGuard vs other enzymes products



Designed to breakdown gluten in the background of a gluten free diet

- Clinical trials in CD ¹³ and DH ¹⁴
- Breaks down key toxic immunogenic peptides in gluten
 - 86% receiving GG + 1g gluten for 6 weeks, could complete the gluten challenge
 - No increase in damage to the villi

NOT A CURE FOR COELIAC DISEASE

TGA listed indications
Complementary Medicine
Use according to instructions on the label

Guidelines for use in adults in conjunction with a GFD

Not recommended for:

- Pregnant & breast feeding women
- Those on blood thinners
- Those with paw paw or rubber latex allergy



35

Coeliac disease

- 24 year old girl.....Mary
- Symptoms improved after 3 months on GFD
- Symptomatic to cross contact gluten
- PVA (Marsh 3a) at diagnosis
- TTG recovery by 6 months
- Villi recovery by 1 year

Symptoms at CD Dx

- ++ Stomach ache
- ++ Diarrhoea
- +++ Fatigue
- ++ Brain fog & Headache



First dietitian visit 18 months after CD Dx

- Diet information from the internet.....hypervigilant
- Bloods and villi healed and normal
- Symptom severity increased since going GF....when 'glutened'
- Could not read a food label properly for gluten
- Feared eating out

- Sick of symptoms a few times a week
- Social life was very poor
- Anxious
- Depressed (on medication)



36

Coeliac disease

- 24 year old girl.....Mary
- Symptoms improved after 3 months on GFD
- Symptomatic to cross contact gluten
- PVA (Marsh 3a) at diagnosis
- TTG recovery by 6 months
- Villi recovery by 1 year

Personality:

- Black and white rules

Needed to be given the confidence to assess the risks



GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

37

Coeliac disease

- 24 year old girl.....Mary
- Symptoms improved after 3 months on GFD
- Symptomatic to cross contact gluten
- PVA (Marsh 3a) at diagnosis
- TTG recovery by 6 months
- Villi recovery by 1 year

Add **GLUTEGUARD** to the support tools

- She feared eating out
- Sick of symptoms a few times a week
- Social life was very poor



GluteGuard

GluteGuard is an extra tool in social settings

Keep some

- in her handbag
- in her travel kit

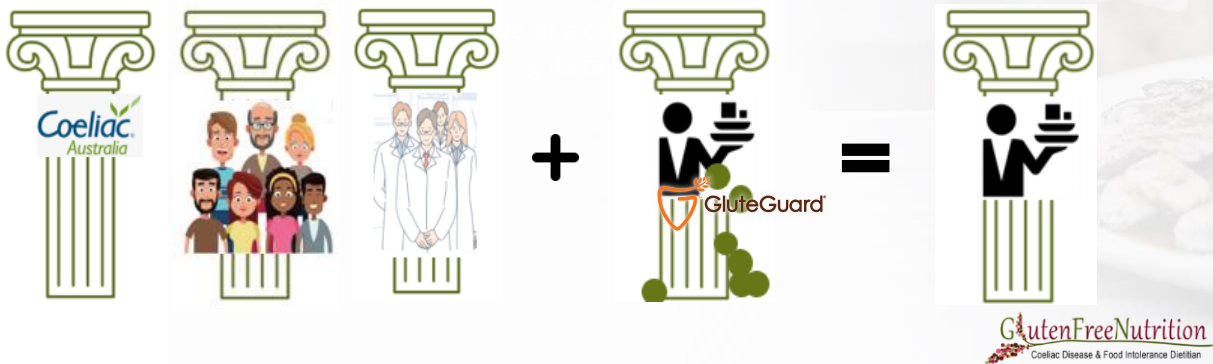
Supports a gluten free diet

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

38

Coeliac disease

Better QOL , less anxiety and greater contentment



39

Refractory coeliac disease: novel use

- Male, married, aged 62.....Gerald
- CD Dx 2008 age 50, Marsh 3c
- Asymptomatic
- TTG negative now
- Persistent Marsh 3c for years
- Adherent to GFD
- RCD Type 2 2021
- Enteropathy-associated T-cell lymphoma (EATL)
- Some possible mg gluten cross contact in his GFD



Diet intervention

Phase 1... for 3 months

- Gluten Contamination Elimination Diet¹⁶
- All fresh food, very little packaged
- 1 GluteGuard tablet at each meal

Phase 2...for as long as possible at this stage

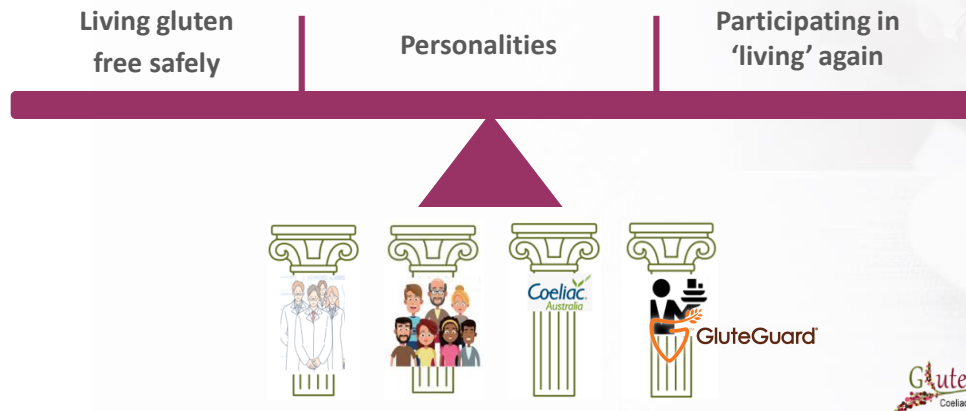
Only food labelled GF
GluteGuard tablets to continue with food

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

40

Balanced lifestyle for each person

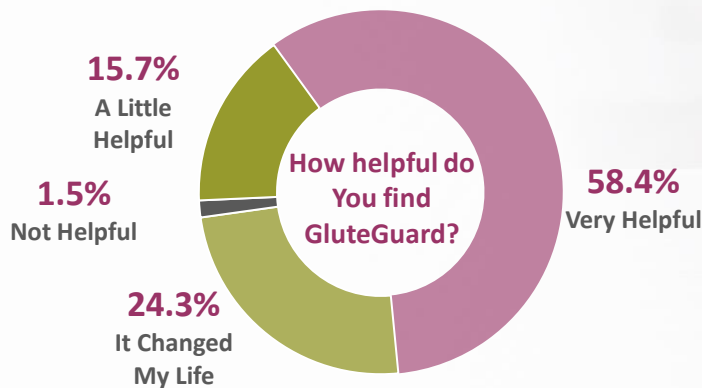
Decisions need to be guided by knowledge not fear



41

Survey 2020

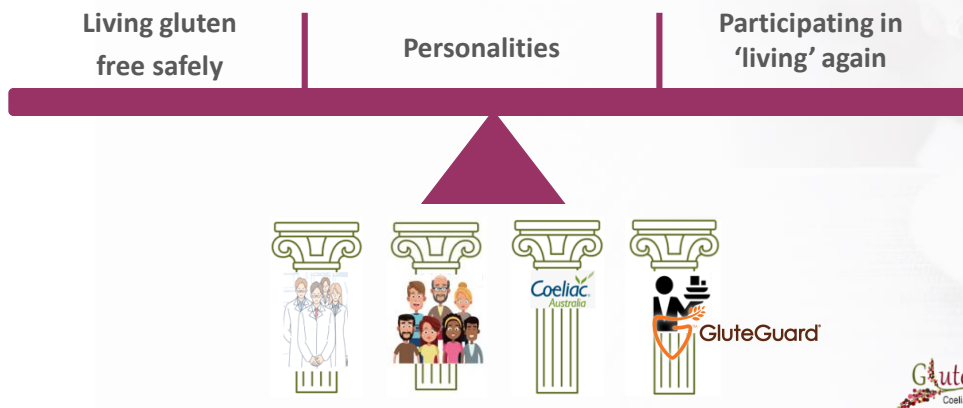
98.5% of GluteGuard users amongst the nearly 300 participants find GluteGuard **helpful in providing peace of mind** from symptoms caused by gluten cross-contamination



<https://glutagen.com>

GlutenFreeNutrition
Coeliac Disease & Food Intolerance Dietitian

42



43

References

1. Kaukinen K, Collin P, Holm K, et al. Wheat starch-containing gluten-free flour products in the treatment of coeliac disease and dermatitis herpetiformis. A long-term follow-up study. *Scand J Gastroenterol* 1999;34:164–169.
2. Golley S et al, 2015. Motivations for avoiding wheat consumption in Australia: results from a population survey. *Public Health Nutrition*, 18 (3) pp. 490 – 499. DOI: <https://doi.org/10.1017/S1368980014000652>
3. Zarkadas M et al. Living with coeliac disease and a gluten-free diet: a Canadian perspective. *J Hum Nutr Diet*.2012; 26, 10–23. doi:10.1111/j.1365-277X.2012.01288.x
4. Harnett JE & Myers SP. Quality of life in people with ongoing symptoms of coeliac disease despite adherence to a strict gluten-free diet. *Scientific Reports*, 2020;10:1144. <https://doi.org/10.1038/s41598-020-58236-8>
5. Fernandez-Bañares F. et al. Persistent Villous Atrophy in De Novo Adult Patients With Celiac Disease and Strict Control of Gluten-Free Diet Adherence. *Am J Gastroenterol* 2021;116:1036–1043. <https://doi.org/10.14309/ajg.0000000000001139>
6. Thompson et al. Gluten-Free Foods Cooked in Shared Fryers With Wheat: A Pilot Study Assessing Gluten Cross Contact. *Front. Nutr.*, 23 March2021. doi.org/10.3389/fnut.2021.652039
7. Silvester JA et al. Exposure sources, amounts and time course of gluten ingestion and excretion in patients with coeliac disease on a gluten-free diet. *Aliment Pharmacol Ther.* 2020;52:1469–1479. DOI: 10.1111/apt.16075
8. Lähdeaho ML et al. Glutenase ALV003 attenuates gluten-induced mucosal injury in patients with celiac disease. *Gastroenterology* 2014, 146: 1649-58.

44

References

9. König J et al. Randomized clinical trial: Effective gluten degradation by *Aspergillus niger*-derived enzyme in a complex meal setting. Scientific Reports, 2017. DOI:10.1038/s41598-017-13587-7.
10. Gordon SR et al. Computational Design of an α -Gliadin Peptidase. J. Am. Chem. Soc. 2012, 134, 20513–20520. dx.doi.org/10.1021/ja3094795
11. Swanson Pultz I. et al. Gluten degradation, pharmacokinetics, safety, and tolerability of TAK-062, an engineered enzyme to treat Celiac Disease. Gastroenterology 2021;161:81-93
12. Janssen G et al. Ineffective Degradation of Immunogenic Gluten Epitopes by Currently available digestive enzyme supplements. PLOS ONE, 2015. DOI:10.1371/journal.pone.0128065
13. Hugh J. Cornell et al. The Effect of Enzyme Supplementation on Symptoms and Duodenal Histology in Celiac Patients. International Journal of Celiac Disease, 2016;Vol 4;(2):40-47. DOI:10.12691/ijcd-4-2-2
14. Zebebrowska A et al. The Effect of Enzyme Therapy on Skin Symptoms and Immune Responses in Patients with Dermatitis Herpetiformis. International Journal of Celiac Disease, 2014, Vol. 2;(2):58-63. DOI:10.12691/ijcd-2-2-7
15. Lebowitz B et al. Association between celiac disease and mortality risk in a Swedish population. JAMA, 2020;323(13):1277-1285. DOI:10.1001/jama20201943
16. Hollen et al. Trace gluten contamination may play a role in mucosal and clinical recovery in a subgroup of diet-adherent non-responsive celiac disease patients. BMC.Gastroenterology 2013,13:40



45

Q&A

Please send me your questions!

Dr. Kim Faulkner-Hogg

✉ Kim@glutenfreenutrition.com.au

📷 @Gluten.Free.Dietitian

🌐 <http://www.glutenfreenutrition.com>



46

Thank you for attending!

Receiving by email shortly

- Quick feedback survey
- Link to access GluteGuard samples and resources

<https://professionals.glutagen.com/gluteguard-sample-request/>

