Low Carb Factory

Explanation of oats and gluten in bread products

Professor Noakes recently mentioned Dr. Alessio Fasano a world-renowned paediatric gastroenterologist, research scientist, and entrepreneur. He founded the University of Maryland Centre for Celiac Research in 1996 and has published more than 200 peer-reviewed papers and has filed more than 160 patent applications. Dr. Fasano leads a team of about 30 researchers in nine countries and has research partnerships with institutions around the world, and their work has led to the discovery in 2000 of the ancient molecule zonulin, that regulates the permeability of the intestine in a condition known as leaky gut. In 2003, Dr. Fasano published the ground-breaking study in the Annals of Medicine that established the prevalence rate of celiac disease at 1 in 133 people in the US, which is a rate nearly a hundred times greater than the previous estimate. Dr. Fasano has been featured in hundreds of interviews and media outlets such as The Wall Street Journal, NPR, The New York Times Magazine, National Geographic, USA Today, the LA Times, Good Morning America, and he has also been named as one of America's Top Doctors by Castle Connolly for six consecutive years and was a finalist in 2005 for the NIH Director's Pioneer Award. Prof Noakes is absolutely correct when saying that Dr. Fasano is one of the leading experts on gluten and celiac disease. Dr. Fasano has made it absolutely clear on many occasions that there is no reason for people who does not have celiac disease to not eat gluten.

Here is what he recently said in an interview: "It's true that it's only relatively recently in evolutionary terms that we started to eat gluten. But for most of us, our bodies handle it just fine

What is quite clear is that "most of our bodies cope with gluten just fine", even though it's also true that we only started farming gluten-containing crops a few thousand years ago, which in evolutionary terms, is a blink of an eye, he says.

"We don't digest gluten completely, which is unlike any other protein. The immune system seems to see the gluten as a component of bacteria and deploys weapons to attack it, and creates some collateral damage we call inflammation.

"But our bodies are engaging in this war all the time, and for the vast majority of us, there's a controlled reaction, the enemies are defeated and nothing happens. Very few people eventually lose this battle and may develop celiac disease, gluten sensitivity or wheat allergy.

"So if you argue on that basis that we should all go gluten free, it's like saying that we should all get rid of germs or bacteria. That's ridiculous. Our bodies deal with bacteria all the time. We're awash with them."

Read more at https://celiac.org/blog/2014/02/dr-alessio-fasano-speaks-out-about-celebrity-gluten-bashing-celiac-disease-research/#0BUPA3gmmzSpiJlF.99

So why does Low Carb Factory bread products contain oats and gluten. How does that relate to a traditional LCHF diet?

To start with the oats is essential in the milling process specifically in relation to the nuts and seeds that have a high oil content and can potentially turn into a butter instead of flour.

Yes oats is reasonably high in carbs at 55g per 100g, but that is not how much ends up in our baked bread. As soon as yeast and water is added to our flour, the carbohydrates in the oats gets broken down into sugar which then gets consumed by the yeast which in turn causes the bread to rise. We also use a fairly small amount of oats. Without the oats there will not be enough sugar for the yeast to work. Our bread has been laboratory (Swift Siliker) tested to have just 4g of carbs per 100g. That means a slice has just 0.7g carbs and a pizza slice just 0.5g per slice. That makes it South Africa's lowest carbohydrate bread even with the oats because much of the carbs and sugar gets consumed by the yeast in the rising process. To put it in perspective by using another example: Grapes are very high in sugar and is not allowed on a LCHF diet including Banting, however wine is allowed. You have precisely the same process working here. Yeast consumes the sugar from the grapes and you end up with a product containing much less sugar than the original grapes.

As far as gluten is concerned, without it you will never get a bread with the lightness, texture and mouthfeel of traditional bread. Let me start by explaining that the core principles of a LCHF diet is low carbs, high fat and moderate protein. This is what makes a LCHF diet work. What banting has done is to add several peripheral add-ons like gluten that is not allowed. Firstly if you have coeliac disease, then absolutely yes you cannot consume gluten. For everybody else there is absolutely no credible scientific evidence that links gluten with the symptoms often

associated with gluten intolerance. In fact there is now credible evidence that shows that it is something completely different, a component of the carbohydrates always found with gluten, that is causing these symptoms. Below is some more info, articles and studies. So how does this relate to people following a LCHF diet and specifically banting. People need to look at the evidence for themselves and then make a decision based on the evidence. Here are the facts: there is no credible evidence to back up the perceptions around gluten, if you want a bread that has the texture, lightness and softness of real bread it must contain gluten. Gluten, specifically as found in our bread, will not negatively affect your LCHF diet on the contrary it will make it much easier to maintain a sustainable long term LCHF lifestyle.

Gluten:

https://sciencealert.com/scientists-who-found-evidence-for-gluten-sensitivity-have-now-shown-it-doesn-t-exist

https://www.realclearscience.com/blog/2017/05/16/non-celiac_gluten_sensitivity_still_probably_doesnt_exist.html

http://www.forbes.com/sites/rosspomeroy/2014/05/15/non-celiac-gluten-sensitivity-may-not-exist/

http://www.huffingtonpost.ca/2014/05/14/gluten-intolerance-fake_n_5327420.html

http://www.webmd.com/diet/news/20120220/gluten-sensitivity-fact-or-fad

http://www.inquisitr.com/1023170/gluten-allergy-myth-debunked/

Our main LCLSA product range does include gluten. We believe it is essential in having a widely available bread product with the traditional characteristics of traditional bread i.e. texture, lightness, softness, etc. As far as the evidence against gluten as healthy is concerned, except if you have celiac disease, it just does not exist. There is a lot of assumptions, speculation, observational studies, etc. but no clinical studies where gluten on its own is specifically associated with the traditional symptoms of so called gluten intolerance.

A very good example of this is the work of Peter Gibson, a professor of gastroenterology at Monash University and director of the GI Unit at The Alfred Hospital in Melbourne, Australia, published a study that found gluten, a protein found in grains like wheat, rye, and barley, to cause gastrointestinal distress in patients without celiac disease, an autoimmune disorder unequivocally triggered by gluten. Double-blinded, randomized, and placebo-controlled, the experiment was one of the strongest pieces of evidence to date that non-celiac gluten sensitivity (NCGS), more commonly known as gluten intolerance, is a genuine condition.

By extension, the study also lent credibility to the meteoric rise of the gluten-free diet. Surveys now show that 30% of Americans would like to eat less gluten, and sales of gluten-free products are estimated to hit $15 billion by 2016 — that's a 50% jump over 2013's numbers!

But like any meticulous scientist, Gibson wasn't satisfied with his first study. His research turned up no clues to what actually might be causing subjects' adverse reactions to gluten. Moreover, there were many more variables to control! What if some hidden confounder was mucking up the results? He resolved to repeat the trial with a level of rigor lacking in most nutritional research. Subjects would be provided with every single meal for the duration of the trial. Any and all potential dietary triggers for gastrointestinal symptoms would be removed, including lactose (from milk products), certain preservatives like benzoates, propionate, sulphites, and nitrites, and fermentable, poorly absorbed short-chain carbohydrates, also known as FODMAPs. And last, but not least, nine days worth of urine and faecal matter would be collected. With this new study, Gibson wasn't messing around. 37 subjects took part, all confirmed not to have celiac disease but whose gastrointestinal symptoms improved on a gluten-free diet, thus fulfilling the diagnostic criteria for non-celiac gluten sensitivity.** They were first fed a diet low in FODMAPs for two weeks (baseline), then were given one of three diets for a week with either 16 grams per day of added gluten (high-gluten), 2 grams of gluten and 14 grams of whey protein isolate (low-gluten), or 16 grams of whey protein isolate (placebo). Each subject shuffled through every single diet so that they could serve as their own controls, and none ever knew what specific diet he or she was eating. After the main experiment, a second was conducted to ensure that the whey protein placebo was suitable. In this one, 22 of the original subjects shuffled through three different diets — 16 grams of added gluten, 16 grams of added whey protein isolate, or the baseline diet — for three days each.

Analysing the data, Gibson found that each treatment diet, whether it included gluten or not, prompted subjects to report a worsening of gastrointestinal symptoms to similar degrees. Reported pain, bloating, nausea, and gas all increased over the baseline low-FODMAP diet. Even in the second experiment, when the placebo diet was identical

to the baseline diet, subjects reported a worsening of symptoms! The data clearly indicated that a nocebo effect, the same reaction that prompts some people to get sick from wind turbines and wireless signals, was at work here. Patients reported gastrointestinal distress without any apparent physical cause. Gluten wasn't the culprit; the cause was likely psychological. Participants expected the diets to make them sick, and so they did. The finding led Gibson to the opposite conclusion of his 2011 research:

"In contrast to our first study… we could find absolutely no specific response to gluten."

Instead, as RCS reported last week, FODMAPS are a far more likely cause of the gastrointestinal problems attributed to gluten intolerance. Jessica Biesiekierski, a gastroenterologist formerly at Monash University and now based out of the Translational Research Centre for Gastrointestinal Disorders at the University of Leuven in Belgium,*and lead author of the study alongside Gibson, noted that when participants consumed the baseline low-FODMAP diet, almost all reported that their symptoms improved!

"Reduction of FODMAPs in their diets uniformly reduced gastrointestinal symptoms and fatigue in the run-in period, after which they were minimally symptomatic."

Coincidentally, some of the largest dietary sources of FODMAPs — specifically bread products — are removed when adopting a gluten-free diet, which could explain why the millions of people worldwide who swear by gluten-free diets feel better after going gluten-free.

Indeed, the rise in non-celiac gluten sensitivity seems predominantly driven by consumers and commercial interests, not quality scientific research.

"On current evidence the existence of the entity of NCGS remains unsubstantiated," Biesiekierski noted in a review published in December to the journal Current Allergy and Asthma Reports.

Consider this: no underlying cause for gluten sensitivity has yet been discovered. Moreover, there are a host of triggers for gastrointestinal distress, many of which were not controlled for in previous studies. Generally, non-celiac gluten sensitivity is assumed to be the culprit when celiac disease is ruled out. But that is a "trap," Biesiekierski says, one which could potentially lead to confirmation bias, thus blinding researchers, doctors, and patients to other possibilities.

Biesiekierski recognizes that gluten may very well be the stomach irritant we've been looking for. "There is definitely something going on," she told RCS, "but true NCGS may only affect a very small number of people and may affect

more extra-intestinal symptoms than first thought. This will only be confirmed with an understanding of its mechanism."

Currently, Biesiekierski is focused on maintaining an open mind and refining her experimental methods to determine whether or not non-celiac gluten sensitivity truly exists.

"We need to make sure that this research is as well controlled as possible and is reproducible," Biesiekierski told RCS, subsequently adding the quintessential adage of proper science.