



September 2015

Mission Statement

Kia whakareia te ōranga o
ngā tāngata o Aotearoa ma
te whakamana i ngā wawātā
hei tohu kai hauora, kai
reka, hei oranga kakama.

To enhance the quality of life of
New Zealanders by encouraging
informed, healthy and
enjoyable food choices, as
part of an active lifestyle.

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CEO UPDATE:

MEMBER BENEFITS

In this edition of Nutrition News we have a summary of the latest two white papers – on Dietary Fibre and Probiotics, bringing the number of these reviews completed to five (see pages 4-7). The full papers, with references, are now available to read and download from the members' area of www.nutritionfoundation.org.nz.

The papers are part of a plan to improve the benefits available to all our members. The Members Area also contains other resources, including archived Healthy Ageing Bulletins and Nutrition News, with table of content listings to assist when searching for a particular topic. There is a page dedicated to 'key articles' which have been selected to provide more in-depth information from experts on important issues. The articles are on a range of topics including vitamin D, sodium, fish oils and the search for the best diet.

All members of the New Zealand Nutrition Foundation - Individual, Student and Corporate are able to access our [Members Area](#). To login you just need the email address and password which you used to sign up to New Zealand Nutrition Foundation. If you are unsure of your login details please feel free to [email us for a reminder](#).

As I write this, we are getting ready for our AGM on September 29. The nutrition update accompanying this meeting is the latest in our series offered quarterly to members. Originally available only for corporate members we now offer them to all members at no charge. This includes our student members who also are not charged for their membership.

If you are not currently a member of the Foundation but you would like to join, go to: www.nutritionfoundation.org.nz/about-nznf/membership for more information about the benefits of NZNF membership and application forms.

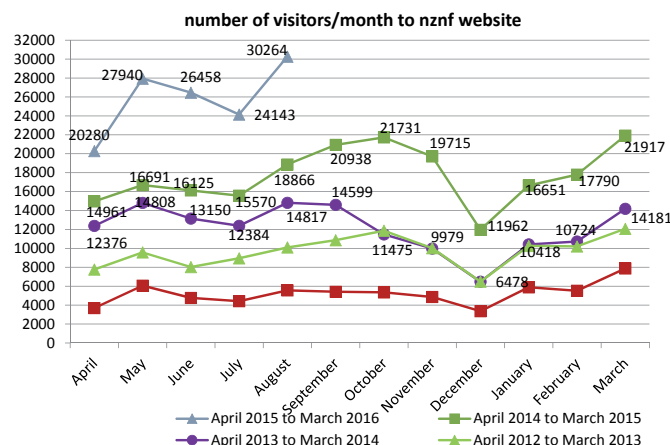
COMMUNICATION

Another area in which we have an 'improvement strategy' is our communication with New Zealanders, whether they are consumers, members, stakeholder or colleagues.

I was pleased to read in this week's 'Bite' (NZ Herald), chef Ray McVinnie extolling the value of home cooking to keep 'healthy and sociable' and expressing his cynicism for 'food trends' such as paleo diets, detoxing and adding coconut oil to everything.

Many of these fads are promoted and discussed ad nauseum on social media, so it's important we have balanced views out there too. So we applaud Ray's comments – and are putting more time and effort into our own communication programme:

- The 2014-15 Annual Report noted an exponential increase over the past five years in visits to www.nutritionfoundation.org.nz. The graph on this page shows a record for August, and this has been exceeded in September - to 32,000 visits and 73,000 page views.



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CEO UPDATE:

- Our likes on Facebook have increased from 373 in January this year to over 1300.
- Our Just Cook programme is using a variety of media with equally pleasing results - website, Facebook, Instagram, YouTube and Snapchat.
- We are about to launch a new website on Healthy Ageing

Sue Pollard

NUTRITION FOR OLDER PEOPLE – LOOKING FOR SUPPORT

We are recruiting partners to enable us to roll out nutrition and cooking programme, Senior Chef across New Zealand, starting with Auckland. YMCA Auckland runs AUT's Never2 Old activity programme and is keen to complement this with a nutrition and cooking programme and we aim to start this later this year. We are also in conversation with a church group, with the goal of offering this programme from 2016 to complement the current activities they offer to community living older people.

You can do your bit to help this get off the ground - go to 'Give a Little' at: <https://givealittle.co.nz/cause/cookingprogramme4olderpeople> and give a little.

JUST COOK



CREATE A FAMILY MEAL CHALLENGE

Thank you to all who entered the JUST COOK Create A Family Meal Challenge. We are really impressed with all the creativity, time and effort put into creating your family meal. Congratulations to the category winners.

Recipes for Tegel, Sanitarium, Beef + Lamb NZ and I Love Eggs category winners can be found at <http://justcook.co.nz/downloads/>

SANITARIUM WINNER

Deja Kelly, Savoury Scones with Tomato Lentil Soup



SAVOURY SCONES WITH TOMATO LENTIL SOUP

Soup ingredients:

1 tin tomato soup
bunch of spinach or silverbeet
1 ½ cups lentils
½ a leek
2 carrots
5 - 6 cups water
2 stalks celery
1 cube veggie stock
1 tsp Italian herbs
salt and pepper to taste

Method:

1. Take any stones out of the lentils and rinse them.
2. Put lentils and water in a pot. Bring to the boil.
3. Add chopped vegetables, tomato soup and veggie stock.
4. Simmer until lentils are soft.
5. Let it cool then blend and add herbs, salt and pepper to taste.
6. Reheat and serve with the scones.

Savoury Scones ingredients:

Dough:

2 cups flour
1 tsp baking powder
Pinch of salt
5 tsp margarine
1 tbsp. vinegar
½ cup milk
Water

Filling:

1 block soft tofu
1 tsp salt
1 tsp lemon juice
1 stalk celery finely chopped
1 carrot finely chopped
½ red capsicum
½ a small onion
1 tbsp. soy sauce or tamari

Method:

1. Put the milk and vinegar in a cup and leave till curdled.
2. Mix flour, salt and baking powder in a bowl.
3. Rub in the margarine and add the curdled milk.
4. Mix in enough water to form a soft dough.
5. Leave in the fridge while you make the filling.
6. Blend tofu, salt, lemon juice, soy sauce or tamari, pepper and herbs of choice. (A hand blender works well or you can just mash it together)
7. Lightly fry the onion then add the rest of the vegetables.
8. Cook until soft. Mix with tofu.
9. Roll the dough into a rectangle. Spread filling evenly on top then roll up carefully.
10. Cut into slices about 5cm wide.
11. Lay flat on a greased tray and bake at 180°C for about 12 minutes or until golden.
12. Serve with the soup.

TEGEL WINNER

Sarah Bahoo
Popcorn Crumbed Chicken



BEEF + LAMB NZ WINNER

Anna Caldwell and Stacey Wood
Meatloaf with Country Mash and Salad

I LOVE EGGS WINNER

Olivia Moore
Caramelised Onion
and Feta Tarts with
Poached Eggs and
Bean Salad

WATTIE'S COLOUR YOUR PLATE VEG DRAW:

Serah Hartley
Alessandra MacDonald
Rylee Penman
Chloe Ashton
Jonathan McLeay



CONGRATULATIONS TO THE CATEGORY WINNERS.



THANK YOU TO ALL OUR JUST COOK PARTNERS.
JUST COOK WOULD NOT BE POSSIBLE WITHOUT THEM.



NEW MEMBER BENEFIT NOW AVAILABLE

In 2014 the Foundation commissioned a series of white papers. The goals of this initiative were:

- To inform the Foundation's nutrition communication, enabling us to provide timely, clear, consistent, evidence-based nutrition and food information.
- To provide our members with a comprehensive review of the latest science on specific food and nutrition issues.

To date we have completed papers on *The role of eggs in a healthy diet*, *The role of sugar in the diet*, *Dietary fats and oils*, *Dietary fibre and Probiotics*. A white paper on *Nutrition for non-elite athletes* is in the pipeline.

Each paper includes a review of the current literature, with key recommendations and messages. The papers' authors are all New Zealand based academics or graduate nutritionists or dietitians. The papers are peer reviewed by experts on the topic before publication.

The topics chosen relate to issues of topical interest and importance to the health of New Zealanders, and for which an overview for the New Zealand situation (e.g. white paper, position paper, literature review or other publication) is not readily accessible from other reputable sources.

These white papers are now available to our members in the members-only area of www.nutritionfoundation.org.nz.

In this edition of Nutrition News we have two articles summarising our latest white papers, on dietary fibre and probiotics.



DIETARY FIBRE

This paper reviewed the current evidence of health benefits associated with dietary fibre. While there is not currently one universally accepted definition of dietary fibre, the Australia New Zealand Food Standards Code (2008) have defined dietary fibre as; *"The fraction of the edible parts of plants or their extracts, or synthetic analogues, that are resistant to digestion and absorption in the small bowel, usually with complete or partial fermentation in the large bowel"*.

Dietary fibre includes many different components, many of which are found in or associated with the cell wall of plants. Starch and simple sugars are components of dietary fibre that are broken down and absorbed in the small intestine. Fructans are also included in the definition of dietary fibre. These are carbohydrates with a chain length longer than ten, which are poorly absorbed in the small intestine. One of the most commonly found fructans in food is inulin. Other components of dietary fibre are referred to as non-starch polysaccharides (NSPs) (cellulose, hemicellulose, lignin, pectin and B-glucans). These NSP's resist hydrolysis and absorption and pass through to the large intestine where they are fermented.

Dietary fibre and wholegrains contain many beneficial nutrients such as vitamins, minerals, phytochemicals and antioxidants. Research regarding dietary fibre and its benefits for health has gained considerable attention over the last decade. Dietary fibre is primarily responsible for bulking faecal matter, increasing viscosity, increasing transit time and producing short chain fatty acids.

The benefits of dietary fibre include

- Reduction in the risk of obesity
- Reduction in the risk of type 2 diabetes
- Reduction in the risk of coronary heart disease (CHD)

It is also likely adequate fibre, particularly from grains reduces the risk of colorectal cancer.

OBESITY

In many studies, higher fibre intake and wholegrain consumption have been associated with lower body weight and prevention of weight gain. There are several proposed mechanisms that are likely to be responsible

for weight loss and weight management. These include; increased satiety, decreased food intake, fermentation and changes in gut hormones.

DIABETES

Dietary fibre has also been recognised to play an important role in glycemic control. Foods high in dietary fibre have a lower glycemic index as they release glucose slowly into the blood, therefore helping prevent and control diabetes. It has also been found that soluble fibres (such as B-glucan, psyllium and guar gum) reduce the rise in post-prandial blood glucose and improve insulin sensitivity in people with and without diabetes.

Fibre has also been investigated to determine the role it plays in the prevention of diabetes. Several studies found that fibre consumption was not associated with the incidence of diabetes. However a meta-analysis showed that low GI diets (that were also high in fibre) were protective against type-2 diabetes, indicating that low GI diets in conjunction with high fibre may reduce the risk of developing type-2 diabetes. Another randomised control trial (RCT) supports these findings, showing that low GI and high fibre diets were best for managing and preventing type-2 diabetes, rather than high fibre diets with only moderate GI indices. It is worth noting that the fibre used in this RCT was sourced from vegetables.

In addition, consumption of fibre from cereals and grains have also found to be inversely associated with the risk of type-2 diabetes. Overall, a high intake of whole grain cereals and their products, such as whole wheat bread, has been associated with a 20 - 30% reduction in the risk of type-2 diabetes.

CORONARY HEART DISEASE AND CARDIOVASCULAR DISEASE

A large case-control study, the INTERHEART study, found that obesity and diabetes are two of the most important risk factors for coronary heart disease. In addition, type-2 diabetes alone can increase the risk of CHD by 2-5 fold. Due to the association of fibre in controlling obesity and preventing type-2-diabetes, there is an indirect association of fibre reducing the risk of CHD. However it is also thought fibre may directly reduce the risk of CHD by acting on other risk factors specific to heart disease such as inflammation and cholesterol. As well as lowering the risk for CHD alone, fibre intake has also been seen to reduce the risk of risk factors for CHD, such as insulin resistance, dyslipidemia, inflammation and oxidative stress.

The US FDA (Food and Drug Administration) have allowed a health claim regarding viscous fibre and the benefits regarding cardiovascular disease (CVD); this claim is supported by a large pooled analysis that found that viscous fibre significantly reduced the risk of CHD deaths compared to insoluble fibre. Another recent study found that a high-viscosity fibre blend in comparison with moderate (Psyllium) and low-viscosity (wheat-bran) fibre showed a positive reduction in LDL-cholesterol. This was evident even when the quantity of high-viscous fibre consumed was lower than the low and moderate viscosity fibre groups.

While there is strong evidence to suggest that viscous fibre, along with low GI foods can lower CHD risk by reducing risk factors including LDL-cholesterol, type-2 diabetes and obesity, it is less clear whether whole grains reduce CHD risk or not.

COLORECTAL CANCER

There is significant interest in fibre intake for the prevention of colorectal cancer. The putative protective mechanisms behind fibre consumption include increasing stool weight which subsequently reduces transit time and therefore decreases contact time with toxins. The other mechanism is through increased butyrate production by gut bacteria increasing energy for colonic epithelial cells. Butyrate has also been associated with DNA repair and induced death of transformed cells. These mechanisms are thought to be protective against colorectal cancer by keeping the intestine healthy.

Overall, the results of studies investigating fibre consumption and the risk of colorectal cancer are inconsistent. However, the results of the larger, higher quality studies suggest that fibre intake from wholegrains probably decreases the risk of colorectal cancer.

HEALTH IMPLICATIONS

Excessive amounts of dietary fibre may inhibit adequate absorption of certain vitamins, minerals, energy and protein. For healthy adults consuming fibre within the New Zealand reference range, it is unlikely that fibre consumption will pose any such harm. However, excessive fibre in children may be inappropriate, though there is a lack of evidence in this area. Fermentation of dietary fibre will produce gas and therefore some individuals may experience abdominal distention and flatulence.

When an individual is increasing their dietary fibre intake, fluid intake should also be increased to accommodate the change and allow the gut to adapt.

Inadequate fibre, below that of reference values may limit intake of vitamins and minerals, decrease gut transit time and cause constipation. Inadequate fibre is also thought to be associated with diverticular disease.



RECOMMENDED INTAKES

The Ministry of Health advises adequate intakes for Adult (19yrs- >70yrs) Men 30g/d and Women, 25g/d.

Findings from the 2008/2009 Adult Nutritional Survey showed that New Zealand Adults are consuming less than the daily adequate intake, mean intakes for male and female adults were 22.1g and 17.5g, respectively.

The 2002 Children's Nutritional survey found that the mean dietary fibre intake was 17.9g. In comparison to NZEO and Maori children, Pacific children had a lower intake.

RECOMMENDATIONS FOR THE PUBLIC

- Consume fresh fruit or raw vegetables as an in-between meal snack rather than high fat or sugary snacks. This will keep you feeling more satiated.
- Avoid peeling the skin off fruits and vegetables, especially when juicing, as the peel is a good source of fibre.
- Consume high fibre cereals, particularly ones including oats, bran and wheat.
- Incorporate barley, chickpeas and lentils into soups and stews.
- Add kidney beans, baked beans or grated carrot to mince dishes for more fibre and to make the dish go further. Baked beans on toast are also a simple breakfast idea for children.
- Consume a small handful of nuts or seeds as a snack. These can also be used as an extra salad or meal topping.
- When buying food products, aim for those with more than 3g of fibre per serve (on the food label).
- Adhere to the Food and Nutrition guidelines for Healthy adults, with particular focus on consuming at least 2 serves of fruit and 3 serves of vegetables a day.
- Make simple food swaps:
 - White Bread → Wholegrain bread
 - White pasta → Wholemeal pasta
 - White rice → Brown rice
 - White flour → Wholemeal flour



PROBIOTICS AND HEALTH

There has been vast interest in the health benefits of probiotics, which is reflected in the large number of studies now published in this field. The paper considers the current evidence on the effects of probiotics on health, focusing mostly on well-studied areas, while briefly discussing emerging areas.

Probiotics are live microorganisms that, when administered in adequate amounts, confer a health benefit on the host. Although certain effects can be ascribed to probiotics as a general class, including their contribution to a healthy gut microbiota, supporting a healthy digestive tract and a healthy immune system, many effects of probiotics are strain-specific. This means that if a certain health effect is found for one strain, no conclusions can be made on the effect of another strain, and vice versa. Probiotics do not become established members of the intestinal gut flora, so for them to confer a long-lasting benefit, they must be consumed regularly.

Probiotics have been widely studied in people suffering from irritable bowel

syndrome (IBS) since a role of the microbiota in the gastrointestinal (GI) tract has been implicated. Evidence from Randomised Controlled Trials (RCTs) suggests use of probiotics is associated with a significant reduction in the risk of symptom persistence and also significantly reduces global IBS symptoms, abdominal pain, bloating and flatulence. Combinations of probiotics are generally effective, while the role of single *Lactobacillus* (L.) and *Bifidobacterium* (B.) strains is unclear, possibly due to a limited number of studies. In children with IBS, *L. rhamnosus* GG is associated with a significantly higher rate of treatment responders and reduced frequency of pain, although other strains and combinations may be effective too. Overall, the evidence suggests that IBS sufferers may benefit from taking probiotics.

Constipation is widespread and greatly affects patients' quality of life. A significant proportion of people with constipation are dissatisfied with pharmacological treatments and are seeking alternatives. The use of probiotics is promising for the

treatment of constipation in adults by increasing stool frequency and consistency. On average, bowel movement frequency increased by 1.3 bowel movements per week. Studies using *B. lactis* were effective, while *L. casei* Shirota was not. Probiotics also significantly improved bloating in patients with constipation, significantly reduced sensation of incomplete evacuation and significantly reduced the occurrence of hard stools (all with significant heterogeneity), while no influence on flatulence was found. Probiotics have to date failed to convey a benefit in constipated children.

Inflammatory bowel disease (IBD), such as ulcerative colitis (UC) and Crohn's disease (CD), greatly affects quality of life of those affected by it. It has been suggested an altered gut flora has a role to play in the development and aggravation of IBD. Probiotics have been found effective in the management of UC. The strain *Escherichia* (E.) coli Nissle 1917 was as effective as the gold standard treatment mesalazine in maintaining remission, while the multi-strain probiotic VSL#3 taken with medication was significantly superior to placebo in improving UC disease activity. For other strains or combinations of strains the evidence is to date limited. UC sufferers who undergo surgery have a high chance of developing an infection of the artificial pouch which replaces the colon (pouchitis). The probiotic combination VSL#3 was found to be effective in maintaining remission in those suffering from chronic pouchitis, and also in lowering the risk of developing pouchitis in the first place. Evidence to date does not suggest that probiotics are effective in the treatment and management of CD.

Diarrhoea is a common side effect of treatment with antibiotics, with rates of antibiotic-associated diarrhoea (AAD) varying depending on the type of antibiotic used. A large number of studies have investigated the effect of probiotics



in preventing AAD. Overall, probiotics are effective in reducing the risk of AAD in both children and adults by around 42-48%, but may not be effective in older adults. There was no evidence the effectiveness of probiotic interventions varied between different types of probiotics, although strains used were often not well documented. A number of studies investigated a specific type of AAD caused by the toxigenic bacteria *Clostridium* (*C.*) *difficile*. Systematic reviews and meta-analyses have found probiotics can lower the risk of *C. difficile*-associated diarrhoea (CDAD) by more than 60% in children and adults (outpatients), and in adult inpatients. In one of the reviews probiotics were associated with a lower risk of CDAD but not with a lower occurrence of positive stool cytotoxin/culture for *C. difficile*, suggesting probiotics may be effective in preventing symptoms of infection or limiting the extent of infection rather than inhibiting the colonisation of *C. difficile* itself. One recent large multicentre trial from the UK (not included in above mentioned reviews) did not find a beneficial effect of a combination of two Bifidobacteria and two Lactobacilli strains in hospitalised patients, although the occurrence of CDAD was generally very low in this study (clearly lower than in other studies).

Acute diarrhoea from bacterial or viral infections is a leading cause of childhood morbidity and an important cause of malnutrition. Numerous studies have investigated the use of probiotics in treating acute diarrhoea, and overall were found to be effective and shorten the duration of diarrhoea by an average of one full day. The most studied probiotics are *L. Rhamnosus* GG, *Saccharomyces* (*S.*) *boulardii* and *Enterococcus* lactic acid bacteria SF68, which were all effective. A limited number of studies have investigated the effectiveness of probiotics in treating persistent diarrhoea (>14 days), with evidence suggesting probiotics may be effective in shortening duration.

Probiotics have the potential to regulate critical components of the immune system, thereby lowering the risk of infections such as respiratory infections, including the common cold. A review found that on average use of probiotics reduced the number of patients experiencing episodes of upper respiratory tract infections by around 47% and the duration of an episode by almost 2 days. However, these findings need to be interpreted with caution due to the overall low quality and risk of bias of the included studies.

The use of probiotics has also been studied in relation to allergies, in particular relating to atopic dermatitis (or eczema) and asthma. Evidence to date suggests that use of probiotics during pregnancy and during pregnancy and infancy, but not during infancy alone, is associated with a reduced risk of atopic dermatitis. The most commonly studied strain is *L. rhamnosus* GG, which proved effective in lowering the risk of atopic dermatitis, as were combinations of probiotic strains. There is some evidence to



suggest that *Lactobacillus* strains, but not *Bifidobacterium* strains, are effective in treating atopic disease in children, although the observed effect was small and possibly clinically insignificant. Evidence to date does not suggest that probiotic use during pregnancy and/or infancy reduces the risk of wheeze and asthma.

Probiotics, as well as prebiotics, are increasingly used in infant formulae in an attempt to promote a gut microflora resembling more closely that of breastfed infants. While probiotics are considered safe to use in infant formulae, evidence to date is considered too limited to draw reliable conclusions. However, the supplementation of formula with probiotics is considered an important field of research, and well-designed RCTs are needed to investigate the effect of probiotics on growth, GI infections, respiratory symptoms, colic and crying.

There is emerging evidence for a role of probiotics in treatment of obesity and for bone health, but more evidence is needed before any conclusions can be drawn.

Use of probiotics is generally considered safe for the general population, although a more systematic approach to monitor adverse events is warranted.

Probiotics are usually administered orally and are available in various forms, including food products (e.g. dairy food), capsules, sachets or tablets. The choice of the format has much to do with personal preference and individual needs, but also shelf life and convenience.

Overall, evidence suggests that there is a clear benefit of taking probiotics in order to prevent or treat certain health issues. A diversity of strains have been studied, making it difficult to identify which specific strains are effective, although for certain areas such as AAD a variety of strains seem to be effective.

The paper concludes that research is underway to identify whether and how healthy consumers can benefit from taking probiotics.



Evaluating the role of protein in public health: a summary of findings from Protein Summit 2.0

In October 2013, experts from around the globe gathered to explore the role of dietary protein in public health at 'Protein Summit 2.0'. The evidence presented at the conference highlighted the importance of high quality protein-containing foods in ensuring adequate protein intake for optimal health.

Five comprehensive reviews detailing the presentations and discussions from the conference were published in the June 2015 supplement of the American Journal of Clinical Nutrition and some key findings are presented below.

KEY FINDINGS

- Current recommendations for protein intake refer to the minimum daily amount required for growth and maintenance of lean body mass. However, they may not be adequate for everyone and do not consider possible health benefits of consuming quantities above the minimum.
- Research is providing us with a greater understanding of the importance of high quality dietary protein for health benefits beyond maintaining lean body mass e.g. weight management, maintenance of muscle and healthy ageing.
- Some people may benefit from higher protein intakes (1.0-1.6g/kg body weight/day) compared to the existing recommended dietary intakes (RDI; 0.6g-0.84g/kg body weight/day for most adults). For example:
 - o middle- and older-aged people, to help offset age-related losses in muscle mass and bone
 - o those striving to achieve and maintain a healthy weight
 - o athletes and physically active individuals wishing to improve their performance
- Nutrition and healthcare practitioners can consider both the RDI and the Acceptable Macronutrient Distribution Range (AMDR) as guides to help clients optimise protein intake for health.
- A focus on nutrient- and protein-rich foods such as dairy, meat, eggs may be beneficial to achieve an optimal intake of high quality protein containing all the essential amino acids.
- The amount of protein consumed at individual meals may be more important to help manage weight and maintain healthy muscle mass than the total amount of protein consumed in a day.

HEALTHY AGEING

Research findings published in "Protein and Healthy Aging"¹ support optimising protein intake to help reduce older adults' risk of sarcopenia. Sarcopenia describes the gradual loss of muscle mass and function in middle-aged and older adults that can lead to frailty, increased risk of falls and limited ability to perform daily activities. A decreased muscle protein synthesis response to dietary protein also appears to occur in this age group, leading to increased protein requirements.

Combined with regular physical activity, consuming a moderate amount of protein (1.0-1.5g/kg body weight a day) spread out evenly over each eating occasion appears particularly beneficial to help slow muscle loss and even prevent sarcopenia in older adults. As discussed in "Defining Meal Requirements for Protein to Optimize Metabolic Roles of Amino Acids"², consuming 20-30g of protein per meal appears to be optimal for skeletal muscle synthesis in this age group. This approach may also be considered in the middle years (~ 40-60 years) to help maintain muscle mass and function and to reduce sarcopenia risk.

WEIGHT MANAGEMENT

Shorter-term controlled feeding studies reviewed in "The Role of Protein in Weight Loss and Maintenance"³ support the use of higher protein weight loss diets i.e. 1.2-1.6g protein/kg body weight a day. Such diets resulted in greater losses of body weight and body fat, preservation of lean body mass and reductions in triglycerides, blood pressure and waist circumference, compared to similar lower protein diets.

Evidence demonstrating the role of protein in inducing satiety as a potential mechanism for weight management was discussed, although whether this leads to subsequent caloric reductions over the course of a day or longer is under investigation.

Emerging research indicates that distributing protein intake evenly throughout the day (~20-30g per eating occasion) may potentially contribute to body weight management and appetite control.

The longer term (\geq one year) effects of higher protein diets and weight loss and weight regain are inconsistent and may be explained in part by difficulty in adhering to higher protein diets over the long term.



PROTEIN QUALITY IS IMPORTANT

Alongside dietary protein quantity and distribution, protein quality is also a key factor in metabolic health. Individual amino acids act as signals influencing a number of functions including protein synthesis, inflammation responses and satiety². Leucine, for example, has a unique role in stimulating muscle protein synthesis. It is therefore important to ensure any nutrition plan contains adequate amounts of all essential amino acids for good health.

High quality or “complete” proteins commonly found in animal-based foods such as dairy products, meat, fish and poultry contain all the essential amino acids and tend to be highly bioavailable due to their high digestibility and absorption in the gut. However, many plant-based proteins contain lower levels of certain amino acids and, without a high degree of processing, may have lower bioavailability. Therefore, extra care may be required to combine sources of proteins to ensure an optimal intake of essential amino acids.

CALCULATING PROTEIN NEEDS: USING RECOMMENDED DIETARY INTAKES (RDI) AND THE ACCEPTABLE MACRONUTRIENT DISTRIBUTION RANGE (AMDR)

Both the RDI and AMDR can be used to assess daily protein requirements. The RDI⁴ relies solely on an individual’s body weight and recommends a single amount of protein for growth and maintenance of lean body mass

only. This equates to around 37-64g/day for most adults.

By contrast, the AMDR for Australia and New Zealand⁴ recognises the need to balance macronutrient intake for optimal health, chronic disease reduction and to ensure adequate micronutrient intakes. A higher range of 15-25% energy is recommended for protein, which equates to 75-125g protein for an adult consuming 2000kcal (8360kJ) a day. While a prudent limit of 25%E was set due to limited data observing the longer term health effects of protein at intakes above this level, it is understood that “for some highly active communities or certain individuals, higher intakes may be consistent with good health”.

Beyond the benefits already described, working with a range of protein intakes also allows dietary recommendations to be customised based on an individual’s activity levels, health status and goals.

In conclusion, intakes of high-quality protein above the RDI may offer additional health benefits beyond maintenance of lean body mass, including weight maintenance and healthy ageing. Nutrition and healthcare practitioners may take into account both the RDI and AMDR when assessing an individual’s nutrition needs for optimal health. Protein quality and distribution over the course of a day appear to be important considerations, as well as the quantity consumed.

The June 2015 supplement of the American Journal of Clinical Nutrition can be found at <http://ajcn.nutrition.org/content/101/6.toc#content-block>.

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CORPORATE MEMBER NEWS

CORPORATE MEMBERS TAKE UP THE HEALTH STAR RATING SYSTEM



The Health Star Rating (HSR) System is a labelling system designed specifically for packaged foods that was adopted by New Zealand and Australia in 2014. The system is voluntary for manufacturers and will be implemented over a five year period so consumers should expect to see more products with stars over time.

The number of stars is calculated based on the energy, saturated fat, salt and sugar as well as fibre, protein, fruit, vegetable, nut and legume content of packaged foods. When comparing similar packaged foods, the more stars means healthier the food.

We asked our corporate members about their commitment to the HSR system, and which of their products already or will soon display the HSR rating. This is what they said.

Fonterra Brands support and intend to implement the HSR.

Frucon is committed to supporting the HSR system by implementing the new energy icon with the Percentage Daily Intake (%DI) declaration of a 'per serve' representation. They have started rolling out these changes on new products and for existing products as labels are updated.

As a result of the consultative HSR development process, the beverage industry also agreed on standardised serve sizes to be used for the HSR. For products less than or equal to 600mL, the serve size is the entire product. For products greater than 600mL, the serve size is 250mL. The NZ Beverage Council is encouraging all beverage industry members to support this integrated approach of the HSR system. Frucon is also committed to supporting the HSR consumer campaign.

Heinz Wattie's have rolled out the Health Star Rating (HSR) across a number of categories including frozen vegetables, baked beans, legumes and their soup range, with a commitment to roll the system out across additional categories in line with packaging and reformulation changes.

In April, **Kellogg's** announced that they were putting Health Stars on the front of all their cereal packs. Shoppers started seeing Health Stars on Kellogg's packs from May, and they are now on many of their brands such as Special K, Coco Pops, Sultana Bran, Corn Flakes, Guardian and All Bran. By the end of 2015, Kellogg aims to have the Health Star Rating on all their cereal packs. Kellogg's wide variety of cereals have ratings from 2 to 5 stars, with 70% of the Kellogg's cereal range in New Zealand at 4-5 Health Stars. www.kelloggs.co.nz/en_NZ/health-star-rating.html

Nestlé is pleased to support the Government led HSR initiative. The HSR can be seen on Nestlé products, including MILO powders, UNCLE TOBYS, MILO and NESQUIK cereals and MAGGI gravies, side dishes and curries. Nestlé are actively educating people about the HSR in magazines and are developing a school resource as part of the Be Healthy Be Active school health and physical activity programme (aimed at years 5 to 10).

www.behealthybeactive.co.nz/

At **Prolife Foods** (Mother Earth Brand), 31 of 70 (44%) products (SKUs) either have or will have HSR by year end. 85% of whole foods products (SKUs) in Alison's Pantry bulk bin range currently have HSR on bins. This represents approximately 100 bins/products (SKUs) per store.

Sanitarium is committed to the HSR and UP&GO, Weetbix, Light'n'Tasty, So Good Milks, Sanitarium Muesli and Peanut Butter already feature the new labelling

www.sanitarium.co.nz/health-and-wellbeing/health-star-rating

In 2014, **Unilever Australia and New Zealand** confirmed they would begin progressively implementing the voluntary Health Star Rating. Unilever Continental gourmet pasta, rice and risotto dishes launched with the HSR earlier in 2015.

www.unilever.co.nz/brands-in-action/detail/Understanding-the-Health-Star-Rating-system/421085/

Wrigley confectionery products including STARBURST and SKITTLES will use the HSR energy icon in conjunction with the Be Treatwise, percentage daily intake logo.

Goodman Fielder hasn't as yet committed to using the HSR on pack. They will revisit their position in 12 months and continue to monitor developments in this area with particular interest in the findings of the two year review, considering the level of evidence for consumers using the device to support healthier diets. Meanwhile they will maintain the use of the DIG and interpretive labelling devices such as the Heart Foundation Tick and the Coeliac Society's Crossed Grain Logo.

HSR is not currently applicable for industry organisation corporate members, (5+ A Day, Beef + Lamb NZ, Eggs Inc., NZ Pork, NZ Sugar and the Poultry Industry Association), nor fast food outlets such as McDonald's, Subway and Burger King. However, McDonald's have put a number of their core items through the algorithm and are having ongoing conversations with stakeholders regarding how Health Star could be used in a retail food environment in the future.

More information about HSR can be found on MPI's Food Smart website: www.foodsmart.govt.nz/whats-in-our-food/food-labelling/front-pack-labelling/



CORPORATE MEMBER NEWS

NEW RESOURCE:

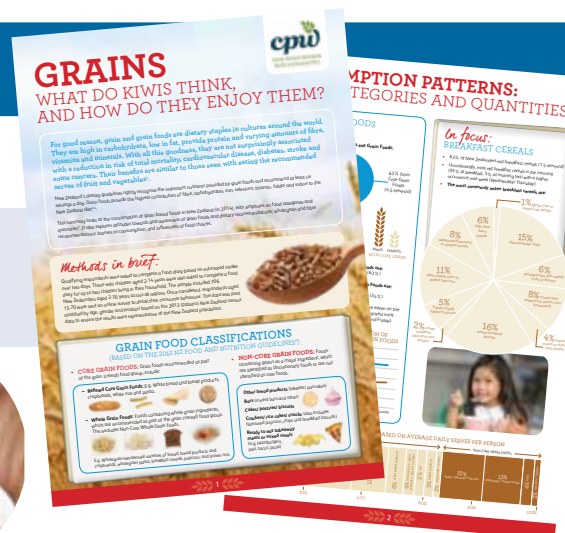
GRAINS - What do Kiwis think and how do they enjoy them?

Download from: www.nutritionfoundation.org.nz/nutrition-facts/Nutrition-Resources

Developed specifically for New Zealand Dietitians and other health professionals, it summarises 2014 consumer research to provide valuable insights into local consumption patterns and attitudes towards grain-based foods.

Evidence continues to grow on the benefits of Whole Grains. The Grains and Legumes Nutrition Council (GLNC,) recommends a Whole Grain Daily Target of 48g for adults and the Ministry of Health specifically recommends choosing Whole Grain varieties of grain foods whenever possible.

Breakfast cereals are the biggest contributor of Whole Grains in the New Zealand diet, however not all breakfast cereals are created equal. The current range of cereals from Nestle's UNCLE TOBYS brand offers oats and cereals with 31-83% of the GLNC Whole Grain Daily Target of 48g, as seen in the table right.



UNCLE TOBYS Cereal (serving size)	Whole Grains g/serve	Whole Grains % Daily Target/serve
Oats <i>Traditional</i> (40g)	40	83
Oats Quick Sachets <i>Original</i> (35g)	35	73
Oat Crisp <i>Almond</i> (40g)	30	62
Cheerios 4 Wholegrains (30g)	20	42
Gourmet Temptations (35g)	23	48
Fruity Bites <i>Wildberry</i> (30g)	15	31
Plus Antioxidant (40g)	15	31

The Weight Management website -

<http://weightmanagement.hiirc.org.nz/>

The Weight Management website has been live since 2008 and is funded by the Ministry of Health. The focus of the website is to provide information on New Zealand nutrition, physical activity and obesity/weight management research, including unpublished and published reports and articles, and in-progress research.

Information is also available on New Zealand researchers, news and upcoming conferences, health promotion resources, links to useful tools and relevant international research.

The purpose of the website is to encourage the sharing of local knowledge, research, experience, and resources; and enables New Zealand researchers, evaluators, policy makers and providers of services to interact and collaborate. Providers with programme evaluations and reports and new resources can share these with others, and highlight relevant articles and papers for other users.

From 1 July this year, the Weight Management site has become a login-only site and anyone is welcome to sign up for free by visiting - <http://weightmanagement.hiirc.org.nz/user/register>

Members can subscribe to updates that are emailed out when new material is posted. You can decide what information you might like to subscribe to, based on your areas of work and interest. As a member you can post your own research, reports, updates, and links as well as posting comments and starting discussions.



Clarification

In our article on fats and oils in the June edition of *Nutrition News*, the following figures were quoted as 'recommended for your blood lipid levels':

Total cholesterol less than 5.1 mmol/L

HDL cholesterol more than 1.76 mmol/L

LDL Cholesterol less than 3.0 mmol/L

Triglycerides less than 0.7mmol/L

We have had a message from a reader challenging this, as it does not correspond with the Heart Foundation recommendations. This is true, but the recommendations they quote are for those with at risk of a heart attack.

As the Heart Foundation's website says:

"NZ Primary care guidelines say, for people with known cardiovascular disease or with diabetes, optimal cholesterol levels are:

Total cholesterol: less than 4.00 mmol/L

LDL cholesterol: less than 2.0 mmol/L

HDL cholesterol: more than 1.0 mmol/L

Total cholesterol: HDL cholesterol ratio: less than 4

Triglycerides: less than 1.7 mmol/L"

Our advice to people is to consult their doctor about cholesterol levels that are appropriate for them. This depends on their risk profile which also takes into account factors including weight, smoking habits, exercise, family history and blood pressure. Our apologies for not making that clear in the article.

Reference: www.heartfoundation.org.nz/know-the-facts/conditions/high-cholesterol

WHAT'S ON



2015 Food & Nutrition Conference & Expo (FNCE) - Academy Of Nutrition And Dietetics

Date: October 3 – 6, 2015

Venue: Nashville, Tennessee, USA

For information: www.eatright.org/FNCE/

2015 ANZOS Annual Scientific Meeting

Date: October 14 – 17, 2015

Venue: Melbourne Convention and Exhibition Centre, Australia

For information: www.anzos2015.org/

3rd Riddet International Conference on Food Structures, Digestion and Health

Date: October 28 - 30, 2015

Venue: Wellington, New Zealand

For information: www.fsdh2015.org

Hot topic conference 2015: Obesity & pregnancy

Date: October 29 – 30, 2015

Venue: London, UK

For information: www.worldobesity.org/what-we-do/events/hot-topics/2015-obesity-pregnancy/

Diabetes New Zealand Annual Conference:

Date: October 30 – November 1, 2015

Venue: James Cook Hotel Grand Chancellor, Wellington

For information: www.diabetes.org.nz or email: l.russ.finnerty@xtra.co.nz

Nutrition Society of New Zealand/ Nutrition Society of Australia Conference 2015: Past, Present & Future: 100 years of Nutrition

Date: December 1 – 4, 2015

For information: www.events4you.co.nz/nutr2015.html

4th International Conference and Exhibition on Obesity and Weight Management

Date: December 8 – 10, 2015

Venue: Atlanta Georgia, USA

For information: <http://obesity2014.conferenceseries.net/index.php>

If you attend any of these and would like to write a review for one of our 2015 newsletters please contact us at info@nutritionfoundation.org.nz



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1. Clear acknowledgement is made to the author, if named, and the source of the material (i.e. the NZ Nutrition Foundation Newsletter).

2. Quotations are verbatim and not presented out of context to support a contrary argument.

It would be appreciated if a copy of such reprinted material could be sent to the Foundation when published.

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