

# HEALTH BITES

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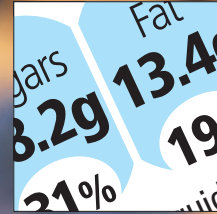
YOUR HANDY HEALTH GUIDE



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Exploring  
wholegrains



Healthy snack  
guide - Top 5  
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Labelling for  
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Cut out and keep  
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Health & Wellbeing

# Editor's welcome



Welcome to the first issue of HealthBites, a magazine developed for healthcare professionals providing topical information on the latest in nutrition research,

plus diet, weight maintenance and lifestyle tips. Whether you are a dietitian, nurse or a GP you will always want to ensure that you are offering your patients the best advice on their health and wellbeing.

Packed with useful insights, and a guide to GDAs, this issue also features a review of evidence surrounding a potential correlation between snacking and health. This is complemented by a handy smart snacking guide to use in consultations with your patients. Last, but not least, the issue concludes with a cut out and keep guide to fibre.

To ensure HealthBites continues to provide you with practical, relevant and interesting information, please email me at [Editor.Healthbites@munroforster.com](mailto:Editor.Healthbites@munroforster.com) with any suggestions or feedback you have.

**About the Editor:** Angie Jefferson is a Registered Dietitian who over the past 20 years has researched, written and discussed with consumers and health professionals almost every aspect of diet and health. Her overriding aim is to deliver simple positive and practical messages for optimal nutrition within a healthy lifestyle.

## Learning zone

### Data roundup – 'Breakfast, the most important meal of the day!' - Not just an old wives tale...

#### Breakfast cereals promote satiety and weight management

A recent systematic review of evidence<sup>1</sup> has concluded that children and adults who eat breakfast cereals regularly tend to have a lower body mass index (BMI) and are less likely to be overweight. Those eating breakfast cereals everyday also tended to put on less weight over time than those who rarely ate cereals. These findings are important as recent data shows that over a third of UK adults (23.5 million) and almost 4 million UK children miss breakfast regularly.

#### Breakfast cereals: a significant contribution to the nutritional needs of Irish children

Breakfast cereals make a significant contribution to micronutrient and fibre intakes, contributing positively to achieving a desirable macronutrient balance.

A recent study carried out at University College Cork, found that fortified breakfast cereals contribute a lower percentage of fat and saturated fat, a higher percentage of carbohydrate, fibre and starch and

a similar percentage of sugars and salt compared with baseline levels. It also found breakfast cereals to contribute between 17-30% of the daily requirements of iron, folate, vitamins B1, B2, niacin and B6. These findings follow a review of the Irish National Children's Food Survey (NCFS) to establish a database of habitual food and drink consumption in a sample of Irish children aged 5-12 years. A 7-day weighed food record was used to collect food intake data (including supplements) from 594 children.<sup>2</sup>

#### The effect of breakfast on the cognitive performance of children and adolescents

A systematic review of 41 breakfast studies in children between 1950 and 2007 has been undertaken by the University of Leeds, which reviewed the acute effects of breakfast in both well-nourished children and children of differing nutritional status. The study concluded that breakfast confers cognitive benefits in children in terms of verbal and spatial memory and attention.<sup>3</sup>

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## Exploring high fibre & wholegrain foods

Angie Jefferson, Consultant Dietitian

Foods which are a source of fibre, high in fibre and also some wholegrain varieties can provide insoluble and soluble fibre in the diet. Fibre has many varied health benefits. Insoluble fibre is the type you find in high bran cereals and breads and plays an important role in helping to keep our digestive systems healthy and preventing constipation - a common but largely hidden problem for many people. Soluble fibre is the type found in some fruits and in

grains like oats. Soluble fibre can help to lower total and LDL cholesterol. High fibre and some wholegrain foods are also good for overall heart health and tend to be more filling than many other varieties which is great if you are watching your weight! Research shows that there is evidence that the risk of Type 2 Diabetes may be up to 30% lower in people who eat high fibre and some wholegrain foods regularly as part of a balanced diet.

When choosing foods it is important to check the ingredients and nutrition label to check the fibre content. If a food contains 3% fibre it is a good source and if 6% or more it is high in fibre. With 4 in 5 people in the UK having inadequate intakes of fibre, healthcare professionals should aim to encourage the intake of high fibre foods such as breakfast cereals (especially those high in bran), wholemeal bread, fruits and vegetables.

# Nutrinews column

## A roundup of the latest health and wellbeing news:

- The majority of kids decide at least sometimes what they eat at mealtimes according to new research issued by *The Future Foundation*.<sup>1</sup> The research found that 55% of children decide for themselves what to eat for breakfast, or whether to eat it at all, and that children have the sole decision on what they eat when they are out of sight of parents and teachers. Concerning news when a recent survey showed that UK kids spend £413 million during the school year on sweets, crisps and fizzy drinks eaten on the way to school.<sup>2</sup>
- Children with healthy diets perform better in school according to latest research in the area.<sup>3</sup> The study published in the *Journal of School Health* reveals that students with an increased fruit and vegetable intake and lower fat intakes were significantly less likely to perform poorly on a province wide standardised literacy assessment. In fact, students in the group with the best diet quality scores were 41% less likely to fail the literacy assessment compared to those with lower diet quality.
- People who eat breakfast cereals seven or more times a week have a 37% lower risk of developing Type 2 diabetes, and those eating wholegrain cereals a 28% lower risk of developing heart failure compared to those eating no cereals according to recent studies.<sup>4,5</sup> The risk of Type 2 diabetes falls 24% in those eating breakfast cereals 2-6 times each week and 11% in those eating them once each week. The risk of heart failure falls 21% in those who eat wholegrain cereals 2-6 times a week and by 8% in those who eat them up to once week.
- A further review of evidence considering whether people who regularly eat breakfast cereals are slimmer than those who don't, revealed that adults and children who regularly eat breakfast cereals do tend to have a lower BMI.<sup>6</sup>



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- 2 Expenditure on Confectionary: Raisingkids.co.uk Survey, August 2007
- 3 Diet Quality and Academic Performance, April 2008. *Journal of School Health* 78, 239-241
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- 5 Djousse L & Gaziano J (2007) Breakfast cereals and risk of heart failure in the Physicians Health Study 1 *Arch Intern Med* 167: 2080-2085
- 6 De la Hunty A & Ashwell M (2007) Are people who regularly eat breakfast cereals slimmer than those who don't? A systematic review of the evidence. *Nutrition Bulletin* 32: 118-128

## What's going on Health & wellbeing events notice board

### Primary Care Live – 30th September and 1st October 2008

<http://www.primarycarelive.com/index.htm>

Primary Care Live is always a lively and interesting event to attend – and the sessions are free of charge to healthcare professionals too!

It's a dynamic two-day event packed with varied programmes for all primary care health providers, providing you with a unique opportunity to expand your knowledge, develop skills and meet your important personal continuous professional development goals. Primary Care Live is also a great opportunity to network with colleagues from across the country, receive the latest guidance on a wide range of issues, challenges and ways of working and will provide real life role enhancing information that you can take back to your own organisation.

### NOF Conference - 6th and 7th October 2008, Obesity: The Scourge of Modern Civilisation!

<http://nationalobesityforum.org.uk/>

A key conference for anyone interested in, or working in the field of obesity.

Taking place in Central London – it will attract top speakers from the worlds of medicine, politics and TV – echoing the fact that obesity is of utmost importance in the health agenda.

Sessions include an update on the biology of obesity as well as a review of the current issues by Anne Diamond – the new Patron of the National Obesity Forum. Events will be rounded off with an engaging debate between Dr Hilary Jones and Tam Fry of the Child Growth Foundation: 'This house believes that childhood obesity should be considered as a child protection issue'. Not one to be missed!

# Eating frequency (snacking) and health – A Review of Evidence

By Angie Jefferson, Consultant Dietitian

The traditional viewpoint of 'three meals a day' as the best approach to achieving optimum nutrition and body weight control is being challenged by emerging evidence that eating more frequently may be beneficial to health, helping rather than hindering body weight control, and in addition helping to reduce cholesterol levels and improve glucose tolerance. Frequent eating may be a traditional pattern of three meals per day plus between meal snacks or may be a pattern of grazing on small meals throughout the day.

Few studies record eating frequency or snacking habits. However, what we do know is that in the UK 88% of adults report regular snacking<sup>7</sup> and 89% of adolescents snack at least once a day or more.<sup>8</sup> While the common assumption is that eating frequency is increasing, evidence from the USA does not support large increases in eating frequency, snacking or evening eating by the American population between 1971 and 2002.<sup>9</sup>

Snacking is often viewed negatively as 'empty calories' providing little nutritional contribution to the overall diet, however research generally shows the opposite to be true with snacks contributing between

15-30% of energy, macronutrients and a variety of vitamins and minerals. Studies demonstrate that those eating most frequently are not simply choosing the same snack repeatedly but are selecting a wider range of foods.<sup>10</sup>

## Eating frequently is associated with lower body weight

The first work demonstrating that those who ate more frequently tended to have lower body weight was carried out by Fabry and co-workers in the 1960's.<sup>11</sup> Numerous studies have since been conducted exploring this phenomenon.

In 2000, Kirk reviewed twelve studies examining the relationship between eating frequency and body weight.<sup>12</sup> Six studies found an inverse relationship between eating frequency and body weight, and six papers found no relationship. Kirk concluded that snacking for most individuals appears not to adversely affect body-weight control, and for some it may improve control. This may be due to frequent eating assisting with appetite control, thus preventing overeating at meals. In addition, as snacks overall tend to be higher in carbohydrate and lower in fat than meals, frequent eating may be a strategy for increasing the carbohydrate: fat ratio of the diet.





Research carried out since the Kirk review has mainly reinforced the finding that eating more frequently is not generally associated with higher body weight, however, a few studies have found a link between eating frequency and overweight and obesity. Examples of recent research include:

- Farshchi et al (2004) who found that among lean adults those eating more frequently had higher total energy expenditure due to the rise in metabolic rate after eating, concluding that the reduced thermic effect of food arising from irregular eating may lead to weight gain in the long-term.<sup>13</sup>
- Among German schoolchildren the odds of obesity were found to significantly reduce with increasing eating frequency. Those eating 4 times a day were 27% less likely to be overweight or obese, and those eating 5 or more times per day were 44% less likely to be overweight and 49% less likely to be obese, compared to the children eating 3 times each day or less.<sup>14</sup>
- Thompson et al (2006) found that among American school girls aged 8-12 years eating between 4-6 times each day, and

no more than twice during the evening/night was negatively associated with change in BMI.<sup>15</sup> Eating 6 or more times each day and more than 3 times in the evening/night was positively associated with an increase in BMI.

- American adults eating 4 or more times a day were found to have a 45% lower risk of obesity and 33% lower risk of overweight compared to those eating 3 or less times each day.<sup>16</sup>
- However, Howarth et al (2007) found eating more than 3 times a day to be positively associated with overweight and obesity among adults.<sup>17</sup>
- And Bergeus Forslund et al (2005) found increased snacking frequency to be associated with increasing energy intake among obese but not normal weight subjects.<sup>18</sup>

Overall the evidence seems to generally support the statement that frequent eaters tend to have lower body weights than irregular eaters. This may be due to increased energy expenditure caused by the digestion and processing of food, or may be due to the simple fact that eating frequently may help to split energy

intake over the day and help to avoid the intake of large volumes of food during the evening after a day's starvation.

### **Breakfast eaters tend to be slimmer than breakfast skippers!**

Habitual breakfast eating has been demonstrated by numerous studies to result in a tendency towards lower body weight compared to breakfast skipping. This relationship holds true for children, adolescents<sup>19</sup> and adults.<sup>20</sup> In fact one study has found breakfast skippers to be 4.5 times more likely to be obese compared to regular breakfast eaters, and energy intakes were higher on days when breakfast was skipped.<sup>21</sup> New research is highlighted elsewhere in this newsletter reinforcing the fact that breakfast really is the most important meal of the day for those wishing to avoid weight gain, or wanting to lose weight.

### **Will eating more frequently make you fatter?**

One key consideration when suggesting that eating more frequently is associated with lower BMIs is that although people who eat more frequently tend to be slimmer, what happens if you add extra snacks into a diet to increase eating frequency. Is this likely to cause weight gain?

Fortunately research has been carried out to explore the impact of compulsory snack consumption on energy intake and body weight. Lawton and colleagues found that the addition of high or low fat, sweet or non-sweet snacks representing 25% of daily energy intake was largely compensated for by the energy consumed from the rest of the eating pattern.<sup>22</sup> Compensation from the high fat snacks was slightly less efficient than from the low fat snacks resulting in an intake of an additional 87kcal/day. This difference could result in a body weight difference of between 3.6-4.1kg over a year. Choosing low-fat snacks that are lower in calories could therefore help with body weight control.

Compensation for the extra energy from snacks has also been found in studies carried out by Whybrow and colleagues. When either low energy or high energy snacks were added into the diet the increase in total energy intake was less than that of the snacks introduced suggesting that individuals are able to partially compensate for the increase in energy intake.<sup>23</sup> Compensation amounted to 54% of the low energy snack and 64% of the high energy snack. Further exploration showed that regular consumers of snack products compensated more completely for the increased energy intake than those who did not usually snack.<sup>24</sup>

From the research published in the literature it can be concluded that adding snacks into the diet may help individuals with weight loss. However choosing snacks that are lower in fat and therefore less energy dense, and making these a habitual part of a healthy balanced diet appear to be important factors in enabling compensatory adjustment in energy intake over the remainder of the day.

### Can eating frequently help with weight loss?

Intervention studies have also demonstrated that increasing consumption of low fat snacks i.e. increasing eating frequency can help with weight control. Crombie & Kirk advised overweight middle-aged men to increase their daily intake of breakfast cereals by 90g per day, which resulted in a reduction in energy intake from fat and no significant weight gain over a 20 week period.<sup>25</sup> In contrast the second intervention group who increased consumption of semi skimmed milk by 300mls per day and the control group both experienced significant weight gain over the 20 week study period.

For those tending to snack during the evenings, planning in snacks in order to avoid impulsive snacking on higher calorie foods may have a useful role. Waller et

al introduced a snack of ready-to-eat breakfast cereal after the evening meal and found this enabled significantly more weight loss among compliant individuals compared to a control group.<sup>26</sup> Vander Wal and colleagues also added a structured post-dinner snack of breakfast cereal and milk in combination with a partial meal replacement programme for night snacking obese individuals.<sup>27</sup> In this case the partial meal replacement programme subjects (breakfast cereal, bar and shake plus one normal meal) experienced significant amounts of weight loss and this was not enhanced by the addition of a post-dinner snack.

Contrary to the popular myth that snacking is a bad habit, snacks do in fact make a significant contribution to dietary intakes, will not necessarily make you fat and may indeed assist with efforts to lose weight. However this should not be interpreted as a green light to consume large amounts of high-fat, energy dense snacks as the body may be unable to compensate for higher energy intakes from these. Building in planned snacks that are low in fat and high in carbohydrate may help to boost metabolic rate and decrease impulse snacking, leading not only to a shift in the carbohydrate to fat ratio in many people's diets, but also towards better weight control.

### CUT OUT AND KEEP

## Healthy snack guide

Snacking can mean different things to different people, from a piece of fruit to a cereal bar or to a sandwich.

Although often overlooked it's important not to forget the important contribution that snacks can make to dietary intakes of micronutrients, particularly for young children or the elderly with small appetites. Snacking can also assist in weight control as a preventative tool, reducing hunger and consequently overeating at mealtimes. But most importantly, snacking can provide a great opportunity to meet the recommended 5-a-DAY portions of fruit and vegetables.

### Top 5 snacking tips for your patients

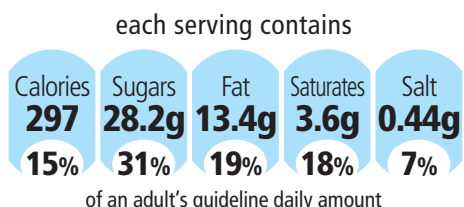
- 1) Set up a snacking plan – plan in snacks that help contribute important nutrients to help avoid impulsive snacking on whatever is to hand
- 2) Note portion sizes – devise a plan with your patient to ensure they check their portion size and take note of nutritional contribution using the Guideline Daily Amount (GDA) labelling on the front of the package
- 3) Adapt the Eatwell Plate to guide your patient on the snacks they can eat from each of the food groups
- 4) Care about diet – suggest packing snacks in advance before leaving the house to avoid temptation
- 5) Kill the lazy habits – encourage getting active for at least 30 minutes a day five times a week (or for kids 1 hour a day).

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# What are GDAs?

GDAs are based on scientific guidelines and provide a guide to the diet for the majority of the population. They are appropriate for most adults who are of a healthy weight and enjoy an average level of activity. However, some people wishing to lose weight or who are particularly active



may need to adjust these accordingly. The GDAs used on food packaging are based on a 2000kcal diet – the level considered appropriate for a moderately active female, and cover a range of nutrients, including calories, fat, saturated fat, sugars and salt. This information may be found in the nutrition panel, but increasingly symbols are placed on front of packaging to show at a glance the amount of a nutrient in a portion of that food, and the percentage contribution that food makes to the GDA

for that nutrient. GDA labeling is now used by 64 food companies and retailers and appears on over 20,000 products.

## Conveying GDAs to your patients?

The GDA label highlights both the percentage contribution and actual grams for each nutrient, making it more convenient for your patient to see at a glance how much of their GDAs are in a portion of food or drink. These figures can be used as an easy guide to compare different foods and construct a healthy balanced diet.

Patients can be advised to use GDAs in two ways: the first is for them to tot up the amount or percentage of a nutrient they are consuming – e.g. calories, fat or salt and compare this to the GDA, not forgetting any snacks or drinks they consume. The second approach is to use the GDA figures to compare two or more foods to select the one that has the lowest content of a given nutrient e.g. saturated fat or salt in each serving.

For more information on a guide to GDAs, please visit [www.whatsinsideguide.com](http://www.whatsinsideguide.com)

# Feel-good food for active lives

Kellogg's has been working with a charity called ContinYou in a ten-year partnership to promote the educational, nutritional and social benefits of breakfast clubs, with over 1 million breakfasts now being served to kids in every school year. During 2006 and 2007 Kellogg's and ContinYou ran 8 breakfast club master classes, and offered start up grants of £350 to new clubs. This resulted in 100 breakfast clubs developing new services in the UK. Furthermore, an on-line breakfast club resource [www.breakfastclubplus.org.uk](http://www.breakfastclubplus.org.uk), a telephone support line, and a virtual breakfast club steering group consisting of breakfast club practitioners have also been developed.

Kellogg's Swim Active is a three-year UK wide partnership project that is designed to remove the barriers which prevent people from swimming. Delivered in conjunction with the Amateur Swimming Association, the Swim Active programme provides special sessions for parents and young children.

# Kellogg's Health & Wellbeing resources provide a wide range of information to help you and your patients. These are provided free of charge.

Kellogg's Healthzone highlights useful key nutritional references of clinical papers and downloadable information relevant for use with patients in clinical practice. Visit the site and sign up to the quarterly healthcare professional information service – the e-bulletin, providing you with up to date news and data to supplement your practice: [www.kelloggshhealthzone.co.uk](http://www.kelloggshhealthzone.co.uk) or call the Careline on 0800 626066 or ROI 1800 626 066.

The Family Health Study toolkit, developed by an independent expert panel, is composed of a desktop presenter and tear off patient game to communicate healthy eating and active living messages to children in a fun, interactive and sustainable way.

Written with assistance from Diabetes UK, Taking Care of Your Diabetes booklet, in association with All-Bran, provides information and practical tips on eating a balanced diet.



# Cut out and keep guide to dietary fibre more than just roughage

By Angie Jefferson, Consultant Dietitian

Dietary fibre is a frequently neglected nutrient with eight out of ten adults in the UK eating less than is needed for good health. Most people think of fibre simply as roughage or bran, and may be aware of its role in prevention of constipation and bowel disorders, but fibre is far more than this with a wide range of health benefits.

Eating a fibre rich diet will not only improve digestive health, but also aids weight loss, helps to reduce cholesterol levels, reduces the risk of cancers (including bowel and breast cancer) and Type 2 diabetes, and will boost intake of vitamins, minerals and antioxidants.

## Getting back to basics - what is dietary fibre?

There is no legal definition for dietary fibre, however one commonly accepted description is 'plant materials that are resistant to digestion by the enzymes secreted in the human gut, but which may be fermented by microflora in the colon'. Fibre is found in the tough fibrous parts of fruit and vegetables, particularly in the stalks and skins of fruits, vegetables, grains and seeds, and in wholegrains (bran is the outer covering of grains), but is also found in soft parts of fruits and vegetables. Fibre consists of numerous components, such as cellulose,  $\beta$ -glucan and pectins and these have traditionally been grouped into soluble and insoluble types. A simple explanation of each component, how they function and their impact on health is provided in Table 1. Fibre is essentially calorie free, providing texture and bulk to the diet with no additional energy intake.

## Simple steps to boost fibre intake

The Guideline Daily Amount for fibre is 25g per day, which is double the current average intake in the UK. The whole population therefore needs to take heed of the 'choose foods rich in fibre' message. A wide range of foods can contribute to fibre intakes and a guide to the fibre content per average portion of common foods in the UK is provided in Table 2.

People tend to be creatures of habit and so changing a food already eaten may

be easier than trying to introduce completely new foods. This said, an important chance to boost fibre intake is breakfast, where a wide choice of high fibre breakfast cereals or wholegrain bread can form the basis of this important meal. Regularly eating breakfast holds a myriad of health benefits in itself, but a combination of cereal or toast with fresh or dried fruit can provide up to half of the 25g fibre goal in a single meal.

While some will worry about side effects from fibre, such as wind and bloating, these are usually transient and can be avoided by a gradual increase in high fibre foods, accompanied by plenty of water and fluids. As fibre is a complex entity with different types found in different foods, efforts to increase intakes should include a range of different foods in order to fully appreciate maximum health benefits.

Table 1: Components of Dietary fibre, function and effects

Type	Fibre Component	Function	Effect
Insoluble	Roughage/bran - Cellulose, Hemicellulose	Water holding capacity	Increase satiety Increased stool bulk Shorter gut transit times
Soluble	Resistant starches, $\beta$ -Glucans, Pectin, Guar gum, Oligosaccharides e.g. inulin	Fermentation in lower bowel	Increase in bacterial mass in colon Production of short chain fatty acids such as butyrate Reduction in pH of colon Inhibition of cancerous cells
Soluble	Pectin, Psyllium, Guar gum	Formation of viscous gum	Increased satiety Delayed gastric emptying and slower transit time through small bowel
Soluble	Guar gum, Locust bean gum, Pectin	Gel Formation	Reduced rate of nutrient absorption (for example, glucose, bile acids)
Soluble	$\beta$ -Glucans, Psyllium, Guar gum, Methyl cellulose	Binding of organic molecules	Binding of bile acids, carcinogens and mutagens

Table 2: Dietary fibre content of foods per average serving

Food Group	<1g	1-1.9g	2-2.9g	3-3.9g	4-5.9g	>6g
Breakfast cereals per average bowl	Cornflakes, Rice Krispies	Porridge with milk	Fruit 'n Fibre	Wheat cereals, Oatflakes, muesli	Bran flakes, Sultana Bran, Shredded Wheat	All Bran
Breads, cakes, biscuits (2 medium slices, 1 piece cake or 2 biscuits)	Crackers, wholemeal crackers, digestive biscuits	White bread, apple pie, fruit scone	Granary bread, high fibre white, wholemeal scone	Wholemeal bread, wholemeal apple pie		
Potatoes, pasta & rice	White rice	Brown rice, new potatoes, sweet potato	New potatoes in skins, boiled spaghetti		Baked potato in skin	Boiled wholemeal spaghetti
Vegetables	1 tomato, lettuce	Canned sweetcorn, cabbage, carrots, broccoli	Sweetcorn on cob, plantain	Peas, parsnip, green beans, okra, vegetable soup	Butter beans, kidney beans	Baked beans
Fruit (1 average)	Grapes	Banana, apple, 1 slice pineapple, raspberries, strawberries	½ mango, orange	½ guava, pear		
Dried fruit & nuts (1 tbsp)	Raisins	Sunflower seeds, walnuts, peanuts & raisins	Almonds, 50g dates, prunes, dried apricots	1 dried fig		
Misc	1 tbsp wheatgerm		1 tbsp wheat bran	100g white flour		Bran muffin, 100g wholemeal flour

## Contributors

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Reminder: log on to [www.kelloggshhealthzone.co.uk](http://www.kelloggshhealthzone.co.uk) to receive your quarterly e-bulletin featuring the latest health and nutrition news.