



Intelligent  
Fitness™

# Essential Nutrition

## S u p e r i o r

L a c t a t e t h r e s h o l d

C a l i s t h e n i c

L o n g s l o w d i s t a n c e

B a l a n c e o f g o o d h e a l t h

O v e r t r a i n i n g s y n d r o m e

S y n e r g i s t i c D o m i n a n c e

K a r y o n e n m e t h o d

S u b m a x i m a l c o m p e t e n t

R i g o r o u s l y r e s e a r c h e d

S u b m a x i m a l i n s p i r a t o r y m u s c l e t r a i n i n g

a n e w b r e e d o f e x e r c i s e p r o f e s s i o n a l

R a t e c o d i n g

P e r c e i v e d e x e r t i o n

E x t r i n s i c r i s k f a c t o r s

t h e s a f e l y f u l f i l y o u r r o l e

v O<sub>2</sub>max

H R max = 208 - (0.7 x age)

VO<sub>2</sub>max = 65.81 - (0.1847 x HR)

B O R G s c a l e

S y n e r g i s t i c c o n s e n s u s

S u b m a x i m a l c o m p e t e n t

R i g o r o u s l y r e s e a r c h e d

E P O C

a n e w b r e e d o f e x e r c i s e p r o f e s s i o n a l

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## Dear Student

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Welcome to Essential Nutrition.

A recent report from Mintel revealed that nearly 70% of people find it difficult to decide what foods are healthy and that “a large number of adults are experiencing information overload when it comes to healthy eating.”

This is understandable, as the public are exposed to a barrage of dietary advice on a daily basis. The message from the media and the £billion diet industry is often one of extremism and unachievable targets, while advice from more well meaning sources is frequently conflicting, serving to compound the situation.

It is therefore essential that professional communicators of the healthy eating message have the necessary skills and information to address this situation.

Thus, the objective of this course is to train professionals to be able to convey an accurate, reliable, and consistent evidence based healthy eating message.

Completion of this module will provide you with the underpinning knowledge and tools to successfully convey to members of the public an evidence based healthy eating message.

Your message will be consistent with that of the reputable bodies concerned with the public’s nutrition and health, including The British Heart Foundation, The British Nutrition Foundation, Diabetes UK and The British Dietetics Association.

I trust you will find this module worthwhile.



David Wells

Principal Intelligent Fitness Trainer

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## Saturated Fats

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Fats that contain a high proportion of saturated fatty acids are solid at room temperature and are usually of animal origin.

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### Sources

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Examples include:

- Butter
- Lard
- Fat on meat
- Coconut and palm fat are unusual plant fats in that they contain a relatively high proportion of saturated fat

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### Effects on cholesterol levels

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Saturated fats are linked with an increased risk of heart disease due to their effect on cholesterol levels. High intakes are associated with an increased overall cholesterol level and in particular the less desirable LDL (low density lipoprotein) cholesterol and as such

A reduction in serum LDL cholesterol levels in the general population could most effectively be achieved by a reduction of saturated fatty acid consumption.

The Department of Health (1991)

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### Current UK intake

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The current UK average daily intake of saturated fatty acids is 13.2% of food energy for women and 13.4% for men.

National Diet and Nutrition Survey (2003)

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### Recommendations

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The Department of Health recommend that saturated fatty acids should contribute no more than 11% of food energy.

The Department of Health (1991)



**The recommended maximum for saturated fat set by the Department of Health (11% FE) could be viewed as simply a target.**

**The WHO sets the individual lower limit at 0% i.e. we can satisfy our fat requirements with other healthier fats.**

## Balance of Omega-6 and Omega-3

The ratio of omega-6 to omega-3 fatty acids varies greatly across different cultures:

- 1:2½ Inuit diets
- 6:1 other traditional diets

In North America since the 1850s the average intake of omega-6 fatty acids has increased by 100%, while the intake of omega-3 fatty acids has decreased by 83%.

Erasmus (1993)



**Many studies have reported that a high ratio of omega-6 to omega-3 fatty acids can be responsible (at least in part) for an increased incidence of a number of diseases, such as cardiovascular disease, cancer, and diabetes.**

Omega-3 fatty acids can help to protect against heart disease.

British Heart Foundation (2007)

### Recommendations

The Department of Health recommends at least 1% dietary energy as LA and at least 0.2% of dietary energy as ALA. A ratio of 5:1.

The Department of Health (1991)

### Current UK intake and balance

The National Diet and Nutrition Survey did not collect information on individual fatty acids, but for Omega-3 and 6 fatty acids as a whole.

**Current UK average daily intake of Omega-6 and Omega-3 fatty acids, expressed as percentage food energy and as grammes**

	Omega-6		Omega-3		Ratio
Women	5.3%	9.4g	1%	1.71g	5.5:1
Men	5.4%	12.9g	1%	2.27g	5.7:1

National Diet and Nutrition Survey (2003)



**The richest sources of the omega-3 essential fatty acid ALA (linseed and hemp) are only consumed by a minority of the UK public.**

**Oily fish supply preformed EPA and DHA but once again few people regularly consume these types of fish.**

**Even nuts, a more familiar food stuff, are only regularly eaten by a small percentage of the population.**

### Other considerations

Omega-3 fatty acids are essential for brain development and function. A recent study at the University of Oxford found that the performance of children with behavioural and learning problems improved dramatically during 3 months dietary supplementation with EPA and DHA.

Richardson and Montgomery (2005)

Traffic Light Classification for Food (per 100g)				
Rating	Sugar	Fat	Saturates	Salt
Red (high)	over 12.5g	over 20g	over 5g	over 1.5g
Amber (medium)	over 5g and up to 12.5g	over 3g and up to 20g	over 1.5g and up to 5g	over 0.3g and up to 1.5g
Green (low)	5g and below	3g and below	1.5g and below	0.3g and below

The colour code for sugars is determined in terms of both the total, natural and added sugar components as follows:

- Green if total sugars are less than or equal to 5g/100g
- Amber if total sugars exceed 5g/100g and added sugars are less than 12.5g/100g. Natural sugars are not limited
- Red if added sugars are more than 12.5g/100g. Natural sugars are not limited

Food Standards Agency (2007)<sup>6</sup>

In addition to the per 100g criteria, there are 'per portion' criteria for food.

Traffic Light Classification for Food (per portion)				
Rating	Sugar	Fat	Saturates	Salt
Red (high)	over 15.0g*	over 21g	over 6.0g	over 2.4g

\*added sugars

Food Standards Agency (2007)<sup>6</sup>

The colour code should be based on nutritional information for foods 'as sold' with the following exceptions:

- Dried foods, which should be assessed 'as reconstituted', for example dried noodle meals
- Where all the nutritional labelling on the pack is provided as consumed, then the colour code for front of pack labelling can also be assessed on an 'as consumed' basis provided this is clearly stated

Traffic Light Classification for Drinks (per 100ml)				
Rating	Sugar	Fat	Saturates	Salt
Red (high)	over 6.3g	over 10.0g	over 2.5g	over 1.5g
Amber (medium)	over 2.5g and up to 6.3g	over 1.5g and up to 10.0g	over 0.75g and up to 2.5g	over 0.3g and up to 1.5g
Green (low)	2.5g and below	1.5g and below	0.75g and below	0.3g and below

The colour code for sugars is determined in terms of both the total and added sugar components as follows:

- Green if total sugars are less than or equal to 2.5g/100ml.
- Amber if total sugars exceed 2.5g/100ml and added sugars are less than 6.3g/100ml. Natural sugars are not limited
- Red if added sugars are more than 6.3g/100ml. Natural sugars are not limited

Food Standards Agency (2007)<sup>6</sup>

## Guidelines for a Healthy Diet

To support the Eatwell plate the FSA offer eight tips for eating well:

- Base your meals on starchy foods
- Eat lots of fruit and vegetables
- Eat more fish – including a portion of oily fish each week
- Cut down on saturated fat and sugar
- Try to eat less salt – no more than 6g a day for adults
- Get active and try to be a healthy weight
- Drink plenty of water
- Don't skip breakfast

Throughout the Eatwell guide there is another tip:

“Remember to enjoy your food”

Food Standards Agency (2008)<sup>4</sup>

Further information regarding these 8 tips is provided for the public within the following FSA leaflet.



Food Standards Agency (2008)<sup>4</sup>  
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These tips are echoed in the guidelines that many other reputable organisations provide for healthy eating.

Diabetes UK provide 10 steps for eating well, understandably these are tailored for individuals with diabetes.

- Eat three regular meals a day
- At each meal include starchy foods
- Cut down on fat (particularly saturated)
- Eat more fruit and vegetables
- Include more beans and lentils
- Aim for at least two portions of oily fish a week
- Limit sugary drinks and sugary foods
- Reduce salt in your diet to 6g or less a day
- For those who drink alcohol, do so in moderation
- Don't be tempted by diabetic foods or drinks

Diabetes UK (2008)<sup>3</sup>

The British Heart Foundation lists the following healthy eating principles:

- Eat plenty of fruit and vegetables
- Eat plenty of starchy foods
- Cut down on the total amount of fat you eat, (particularly saturated) and focus on 'good fats'
- Aim to eat at least two portions of fish a week, of which one should be oily
- Reduce the amount of salt you eat
- Do not drink too much alcohol

British Heart Foundation (2008)<sup>2</sup>

The advice and guidelines these organisations provide for the public all serve to reinforce the simple message of the Eatwell Plate.

For professionals who undertake the role of communicating the healthy eating message, there are some additional key principles that should be both embraced and communicated:

- Enjoy your food

A healthy way of eating, for long term health, needs to be a lifestyle choice and not just something sporadically adhered to.

The best way to incorporate healthy eating into one's lifestyle is to ensure it is enjoyable. The Eatwell Plate is not limiting, on the contrary it recommends a wide variety of foods – something to suit everybody's tastes.

- Eat a variety of different foods

Foods differ from one another with regard to their nutritional composition, not only between the food groups but also within the food groups. It is important therefore that a variety of different foods from within each of the first four groups is eaten to ensure a wide range of nutrients is obtained. Foods from the fifth group, food and drinks high in fats and/or sugar, are not essential and should be eaten sparingly.

- Eat the right amount to be a healthy weight

Individuals' calorie requirements vary for weight maintenance, loss or gain. Regardless of total calories and subsequent energy balance, or net gain/loss, the balance between the five groups should remain as shown in the Eatwell Plate.

In addition to these tips, communicators of the healthy eating message require an excellent working knowledge of the 5 food groups.

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