Red Meat

and the seven ages of man

Improving diet quality from weaning to old age

meat advisory panel

The crucial role of red meat in plugging the nutrition gap

This Body Map information pack has been developed by the Meat Advisory Panel to illustrate how lean red meat can help overcome nutrition gaps in the diet at particular stages in life.

It highlights the specific demands for healthy growth, development and general well-being at different life stages. Many people in the UK have inadequate intakes of essential vitamins and minerals from their diet and this has potential health consequences.

Meat has been an important part of the diet since the dawn of mankind but, in recent years, there has been some debate about whether too much red meat can raise the risk of health problems.

However, studies would seem to indicate that a balanced approach rather than avoidance is the best option. Globally, it is now well recognised that lean red meat can provide a wide variety of key nutrients in a form that is readily absorbed by the body.

When eaten as part of a healthy balanced diet, lean red meat is an important source of protein and a number of key essential nutrients. Lean red meat can, therefore, help improve the nutritional quality of the diet from weaning through to old age.

* The Body Maps included in this information pack focus on the results of studies showing tendencies that:

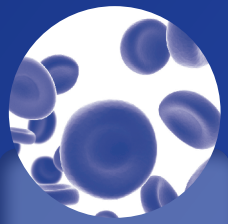
• **Infants and pre-school children**	Diets in this age group are low in vitamin A, vitamin D, iron, zinc
• **Pre-pubescent children**	Diets were found to be low in vitamin A, magnesium, iron and zinc. Boys tended to have higher intakes of iron and thiamin than girls
• **Teenagers** (13 to 18 years)	Diets are low in many key nutrients - including vitamin A, vitamin D, iron, magnesium, zinc, selenium and potassium
• **Adults of reproductive age** (19-50 years)	Diets, particularly for females, fall short in magnesium and iron, as well as zinc, selenium and potassium
• **Pregnancy and lactation**	Women on average fail to get enough calcium, magnesium, iron, iodine, selenium and potassium and vitamin D
• **Middle-age and older age** (50 years and above)	While this group has better quality diets, there are still shortfalls in intakes of magnesium, zinc and potassium
• **Older age** (75 years and beyond)	Data shows that in adults aged over 85, intakes of magnesium, zinc and potassium are below the recommended nutrient intake

Nutrient	Beef	Veal	Pork	Lamb	Calf Liver
Vitamin A	-	-	-	-	Rich Source
Vitamin B1	-	-	Rich source	-	Rich Source
Vitamin B3	Rich source	Rich source	Rich source	Rich source	Rich source
Vitamin B6	Rich source	Rich source	Rich source		Rich source
Vitamin B12	Rich source	Rich source	Rich source	Rich source	Rich source
Vitamin D	Source	Source	-	-	-
Iron	Source	-	-	-	Rich source
Zinc	Rich source	Source	Source	Source	Rich source
Selenium	Rich source	-	-	Source	-
Potassium	Source	Source	Source	Source	Source

Nutrients found in lean red meat classified as a 'source' or 'rich source' according to EU nutrition and health claims regulations

*For more information, please visit **www.meatmatters.com**, or contact the Meat Advisory Panel via the website at **www.meatandhealth.com**

Infants and pre-school children (6 months to 4 years)

Body area	Brain	Eyes	Blood cells	Height	Bones
					
Nutrient	**Iodine**	**Vitamin A**	**Iron**	**Zinc**	**Vitamin D**
What it does	Iodine contributes to the functioning of the nervous system and aids the development of normal cognitive (mental) function	Vitamin A contributes to the maintenance of normal vision	Iron contributes to normal formation of red blood cells and haemoglobin, important for energy in a growing body	Zinc contributes to normal protein synthesis and DNA synthesis so is helpful for growth and development	Vitamin D contributes to the maintenance of normal bones and teeth. At this age, young children are learning to walk, talk and eat so normal bones and teeth are important for development

Infants and pre-school children (6 months to 4 years)

Lamb and Vegetable Crumble

Cottage Jackets

Finger Foods

Visit **www.meatandhealth.com** to find recipes appropriate for the Seven Ages of Man.
Each recipe is supplied with nutritional analysis.

Pre-pubescent children (5 to 12 years)

Body area	Brain	Nose	Heart	Muscles	Energy
					
Nutrient	**Vitamin B6**	**Vitamin A**	**Vitamin B12**	**Protein**	**Niacin**
What it does	Vitamin B6 contributes to normal psychological function	Vitamin A contributes to the normal function of the immune system, important for keeping colds at bay when children go to school	Vitamin B12 contributes to normal red blood cell formation which is important for normal delivery of oxygen around a growing, active body	Meat protein has a high biological value and is easily assimilated by the body into tissues such as muscles	Niacin contributes to normal energy-yielding metabolism so helps energy to be extracted from foods

Pre-pubescent children (5 to 12 years)

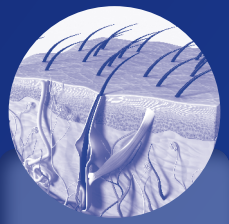
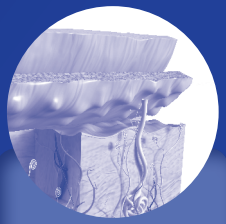
Giant's Beef Bread

One Pan Sausage Pasta

Shepherd's Pie with Bubble and Squeak Topping

Visit **www.meatandhealth.com** to find recipes appropriate for the Seven Ages of Man.
Each recipe is supplied with nutritional analysis.

Teenagers (13 to 18 years)

Body area	Hair	Brain	Teeth	Skin	Fatigue
					
Nutrient	**Zinc**	**Pantothenic acid**	**Phosphorus**	**Riboflavin (vitamin B2)**	**Iron**
What it does	Zinc contributes to the maintenance of healthy hair and is important for teens concerned about their appearance	Pantothenic acid contributes to normal mental performance, important when exams loom	Phosphorus contributes to the maintenance of normal teeth	Riboflavin contributes to the maintenance of healthy skin	Iron contributes to normal cognitive function and reduces fatigue. Significant numbers of teenagers, particularly girls, have inadequate iron intakes

Teenagers (13 to 18 years)

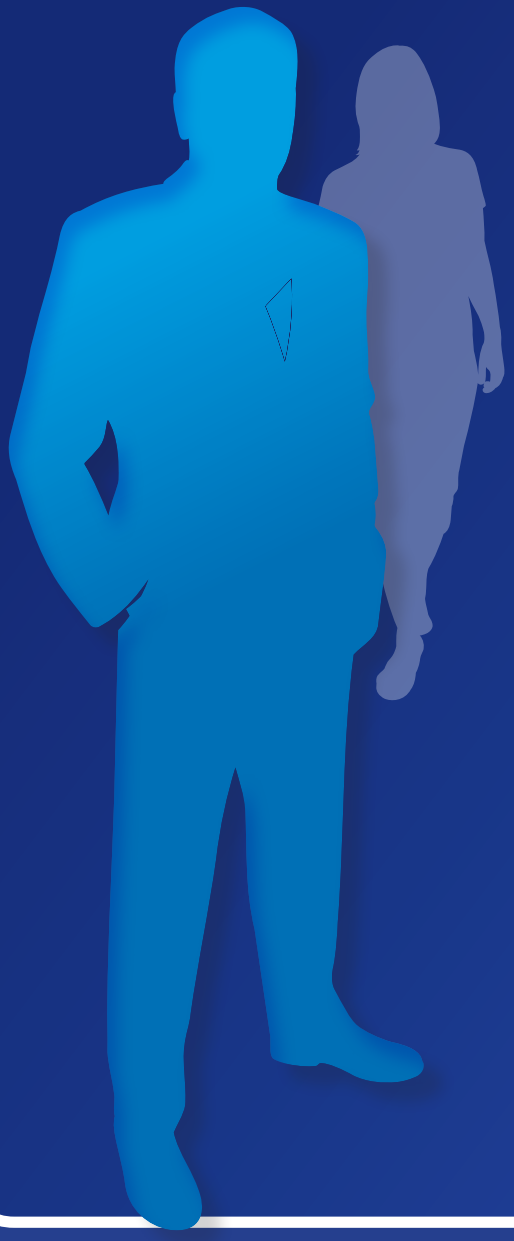
Bacon, Tomato, Spinach & Ricotta Linguine

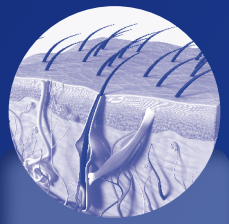
Lamb Rogan Josh

Piri Piri Burgers with Mediterranean Vegetables

Visit **www.meatandhealth.com** to find recipes appropriate for the Seven Ages of Man.
Each recipe is supplied with nutritional analysis.

Adults of reproductive age (19-50 years)



Body area	Hair	Brain	Hormonal activity	Reproductive health	Physical activity
					
Nutrient	Zinc	Niacin	Vitamin B6	Selenium	Creatine
What it does	Zinc contributes to the maintenance of healthy hair and is involved in many different biological processes	Niacin contributes to normal psychological function and has a positive influence on mood and mental performance	Vitamin B6 contributes to the regulation of hormonal activity	Selenium contributes to normal reproductive health. Most adults have low intakes of selenium	Creatine increases physical performance in successive bursts of short-term, high intensity exercise, so is a natural support for physical activity

Adults of reproductive age (19-50 years)

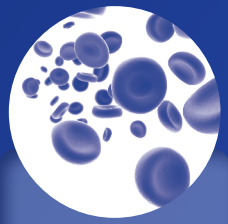
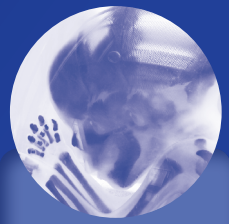
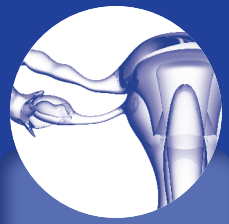
Bacon and Squeak

Lamb Moussaka

Latino Beef

Visit **www.meatandhealth.com** to find recipes appropriate for the Seven Ages of Man.
Each recipe is supplied with nutritional analysis.

Pregnancy and lactation

Body area	Brain	Teeth	Blood cells	Foetal brain	Fertility
					
Nutrient	**Long-chain omega-3s**	**Phosphorus**	**Iron**	**Iodine**	**Zinc**
What it does	Red meat contributes some omega-3s and is useful when oily fish (the best source) isn't an option	Phosphorus contributes to the maintenance of normal teeth. This is helpful as teeth are weaker during pregnancy	Iron has a role in the process of cell division and contributes to normal formation of red blood cells and haemoglobin	Iodine is important during pregnancy for normal mental development in the foetus	Zinc contributes to normal fertility and reproduction

Pregnancy and lactation

Bacon Beet Salad

Lamb Quesadilla

Spring Beef Stir-Fry

Visit **www.meatandhealth.com** to find recipes appropriate for the Seven Ages of Man.
Each recipe is supplied with nutritional analysis.

Middle-age (51 -74 years)

Body area	Tiredness	Heart	Weight control	Bones	Body cells
Nutrient	Iron	Vitamin B12	Protein	Vitamin D	Selenium
What it does	Iron contributes to the reduction of tiredness and fatigue	Vitamin B12 contributes to normal homocysteine metabolism which may be important in helping to reduce the risk of heart disease	Red meat is high in protein yet relatively low in calories and saturated fat. Research shows that high protein diets help support weight control	Vitamin D contributes to the maintenance of normal bones, particularly when combined with a good calcium intake	Selenium contributes to the protection of cells from oxidative stress, i.e. it is a powerful antioxidant

Middle-age (51 -74 years)

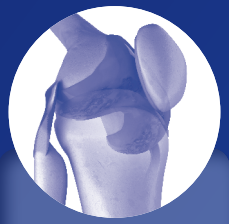
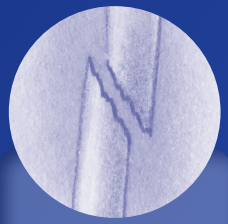
Lamb Fajitas

Pork, Lime and Mint Stuffed Peppers

Steak Salad

Visit **www.meatandhealth.com** to find recipes appropriate for the Seven Ages of Man.
Each recipe is supplied with nutritional analysis.

Older age (75 years and beyond)

Body area	Joints	Fatigue	Bones	Muscle strength	Cells
					
Nutrient	Omega-3s	Vitamin B12	Vitamin D	Protein	Riboflavin (vitamin B2)
What it does	Red meat contributes some omega-3s which can help alleviate pain and symptoms of inflammatory disorders such as rheumatoid arthritis	Vitamin B12 contributes to the reduction of tiredness and fatigue	Vitamin D contributes to the maintenance of normal muscle function. Research shows that low vitamin D levels are associated with a higher risk of falls	As muscles decline in old age (often called sarcopenia), a good quality source of protein can help to maintain muscle strength	Riboflavin contributes to the protection of cells from oxidative stress and so helps slow the effects of ageing

Older age (75 years and beyond)

Pan cooked Liver with Onions and Rosemary

Quick Beef Fix

Speedy Roast Pork

Visit **www.meatandhealth.com** to find recipes appropriate for the Seven Ages of Man.
Each recipe is supplied with nutritional analysis.