THE ROLE OF
RED MEAT
IN HEALTHY AUSTRALIAN DIETS

This booklet is a summary of *The Role of Red Meat in Healthy Australian Diets*, published in *Nutrition & Dietetics*, September 2007.

The report's conclusions concur with nutrition statements from the National Heart Foundation of Australia and have the support of the Dietitians Association of Australia as a useful summary of the contribution of red meat to healthy eating.

EDITORIAL
COMMITTEE

The report on *The Role of Red Meat in Healthy Australian Diets*, published in *Nutrition & Dietetics*, September 2007, is a comprehensive review of the evidence supporting red meat's role in a healthy diet. The report was compiled by 16 leading Australian public health and nutrition experts and was peer reviewed by an independent expert editorial committee, convened by Meat & Livestock Australia.

Members of the Editorial Committee were:

Professor Ian Caterson (Chairman)
Boden Professor of Human Nutrition,
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Professor Katrine Baghurst
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University of Adelaide, Adelaide

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Professor Stewart Truswell
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Ms Barbara Eden (observer)
Executive Officer, National Nutrition Program,
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REPORT
CONCLUSIONS

According to the report on *The Role of Red Meat in Healthy Australian Diets,* red meat has an important place in the Australian diet. The reasons for this can be summarised as follows.

RED MEAT. AN ANTHROPOLOGICAL AND SOCIAL PERSPECTIVE.

Red meat helped to shape us into who we are today and continues to be important to our health and wellbeing.

- Meat has long played a central role in the diet of humans. Human evolution is marked by changes to cranio-dental features and the development of a larger brain, balanced by a smaller, simpler digestive sytem. These developments, together with evidence from fossil remains, show a growing reliance on red meat as humans evolved.
- In choosing what to eat today, Australians are currently being driven by a better understanding of diet as a preventative health measure. There has also been an increased preference for obtaining vitamins, minerals and other nutrients from fresh, unprocessed foods.

KEY NUTRIENTS NATURALLY DELIVERED BY RED MEAT IN THE DIET.

Lean red meat (beef, lamb and veal) contains a wide range of essential nutrients and is:

- A major source of high-quality protein in the Australian diet.
- An excellent source of vitamin B12, niacin, vitamin B6, phosphorus and bioavailable iron and zinc.
- An important source of long-chain omega-3s, riboflavin, pantothenic acid, selenium and possibly vitamin D.
- A natural source of antioxidants and other bioactive substances including taurine, carnitine, carnosine, ubiquinone and creatine.
- Relatively low in fat and sodium.

RED MEAT'S CONTRIBUTION TO RECOMMENDED DIETARY INTAKES.

Nutrient	Nutrient content (per 100g)			Adult Australian RDI
	Lean beef	Lean lamb	Lean veal	
Macronutrients				
Energy (kJ)	498	546	477	6.5-15.8MJ
Protein (g)	23.2	21.9	24.8	46-64
Fat (g)	2.8	4.7	1.5	-
Saturated fat (g)	1.1	1.7	0.4	-
Unsaturated fat (g)	1.6	2.7	0.7	-
Long-chain omega-3s (mg)	88	85	64	90-160
Cholesterol (mg)	50	66	51	-
Vitamins				
Riboflavin (mg)	0.18	0.23	0.20	1.1-1.6
Niacin (mg)	5.0	5.2	16.0	14-16
Vitamin B6 (mg)	0.52	0.10	0.8	1.3-1.7
Vitamin B12 (µg)	2.5	0.96	1.6	2.4
Minerals				
Sodium (mg)	51	69	51	460-920
Potassium (mg)	363	344	362	2800-3800
Iron (mg)	1.9	2.0	1.1	8-18
Zinc (mg)	4.6	4.5	4.2	8-14
Selenium (mg)	17	14	<10	60-70

ALTERNATIVES TO RED MEAT AND HOW THEY COMPARE.

Whilst plant-based alternatives such as cereals, legumes, nuts and seeds provide protein, with some exceptions they are generally poorer sources of bioavailable iron and zinc and do not contain vitamin B12 or long-chain omega-3s.

THE ROLE OF RED MEAT IN MEETING NUTRITIONAL CHALLENGES DURING THE LIFE STAGES.

Lean red meat plays an important dietary role throughout the life cycle as it:

- Is a core food in the diet for children and adolescents because it provides significant amounts of well absorbed iron and zinc, essential for brain development.
- Lowers the glycaemic load when it replaces carbohydrate-rich foods and may help with acne.
- Assists the elderly in meeting adequate levels of protein, vitamin B12 and iron at low energy intakes.

THE ROLE OF RED MEAT IN THE PREVENTION AND MANAGEMENT OF CHRONIC DISEASES.

WEIGHT MANAGEMENT

Higher protein diets that include lean red meat are a valid option for weight management:

- Dietary protein is more satiating than carbohydrate and may assist with compliance.
- Serum triglyceride levels are lowered on higher-protein, lower-carbohydrate diets, especially those with high triglyceride levels.
- Higher protein diets help to minimise loss of muscle mass during energy restriction.
- Protein rich foods, like lean red meat, are nutrient-dense which helps to meet the requirements for key nutrients such as iron, zinc and vitamin B12, even in low energy diets.

HEART HEALTH

When considering the prevention and management of coronary heart disease:

- Lean red meat is lower in total and saturated fats than previously thought.
- Moderate amounts of lean red meat may be included in diets designed to lower blood cholesterol.
- Research has shown blood pressure is lowered when lean red meat replaces refined carbohydrates in the diet.
- Red meat is a source of long-chain omega-3 fatty acids which have an important role in supporting heart health.

PREVENTION AND MANAGEMENT OF CANCER

With respect to the prevention and management of cancer:

- Evidence that lean red meat increases the risk for colorectal cancer remains weak and inconsistent however the association is stronger for processed meats.
- To minimise exposure to carcinogens:
  - ➤ The consumption of processed meats like salami and bacon should be reduced.
  - ➤ Use of high temperature cooking methods and charring of meat should be limited.
- People living with cancer should aim to maintain a healthy weight, be physically active, limit alcohol intake and eat more fruits and vegetables. Recommendations for red meat consumption are the same as for the general population.

AN ENVIRONMENTAL PERSPECTIVE.

- The major environmental challenges facing Australia's meat and livestock industry include limiting green house gases, preservation of ecosystems and biodiversity and the efficient use of fresh water. Work is underway to develop strategies to reduce the environmental impact of meat production.

LEAN RED MEAT

NATURALLY NUTRIENT RICH

IRON

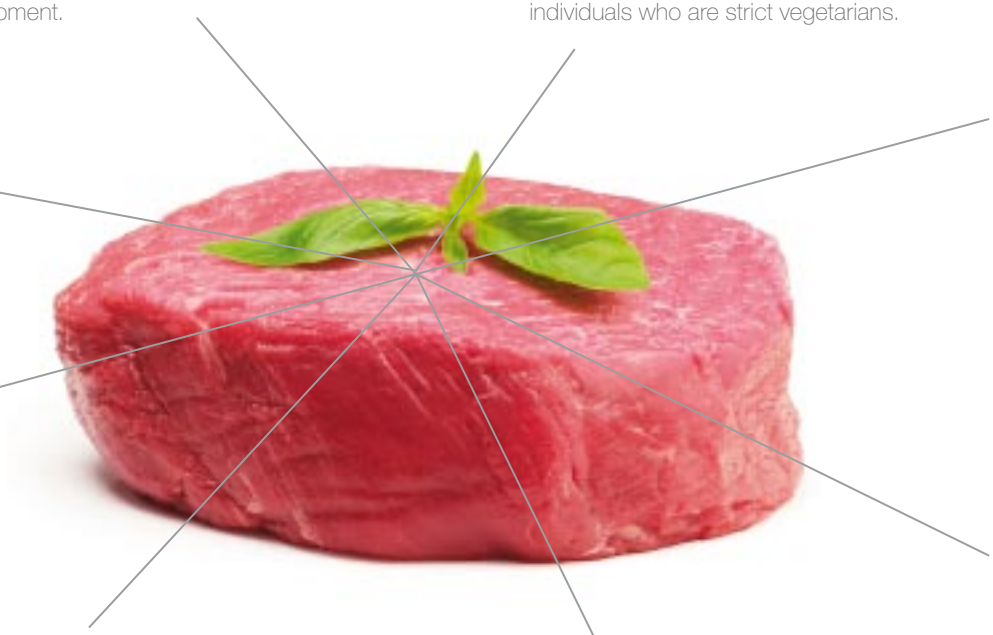
Lean red meat is one of the richest sources of haem-iron in the Australian diet contributing to 52% of our total intake. Iron in red meat is well absorbed compared to non-haem iron in plant foods. Iron is important for the transport of oxygen, production of energy and is essential for brain development.

ZINC

Lean red meat is a good source of zinc, an essential nutrient for the immune system, growth and wound healing. The zinc in red meat and other animal foods is better absorbed than from plant foods. Because of this the requirement for zinc is 50% higher for individuals who are strict vegetarians.

PROTEIN

Red meat is a significant source of high-quality protein, providing all the essential amino acids. Just 100g of raw red meat contains around 20-25g of protein. The protein in beef and lamb is highly digestible - around 94% compared with the digestibility of 78% in beans and 86% in whole wheat.



B-GROUP VITAMINS

Lean red meat is an important source of B-group vitamins including riboflavin, niacin, pantothenic acid, vitamin B6 and in particular vitamin B12. Vitamin B12 cannot be found in plant foods, therefore inadequate intakes of B12 are a problem in strict vegetarians. Lacking vitamin B12 can adversely affect neurological function including memory and concentration.

NOT A MAJOR SOURCE OF FAT

The most recent nutritional analyses show that when trimmed of external fat, lean red meats are relatively low in saturated and trans fats.

SELENIUM

Red meat is an important source of the antioxidant selenium which helps maintain the immune system.

OMEGA -3 FATTY ACIDS

After fish, red meat makes the second highest contribution of omega-3s to the Australian diet. It is an important natural source of long-chain omega-3s having levels greater than 30mg in a 150g serving. Omega-3s are essential to the healthy functioning of the nervous system and important to heart health.

VITAMIN D

Recent UK analysis has indicated that red meat may be a useful source of vitamin D which is essential to bone health.

SUMMARY

- Lean red meat plays an important role in a healthy diet for all Australians, in particular children, adolescents and the elderly.
- Lean red meat is nutrient-dense. It is a valuable source of haem-iron, zinc, vitamin B12, long-chain omega-3s and other essential nutrients and antioxidants.
- Trimmed of fat, red meat is generally lean and contains low levels of saturated fats and cholesterol.
- Lean red meat can be included in the diet of people with or at risk of heart disease. It is low in sodium and high in potassium - assisting in the lowering of blood pressure.
- Strategies for the prevention and treatment of obesity can include lean red meat. Satiety from red meat helps improve compliance and it is an excellent food for maintaining daily requirements of essential nutrients in low energy diets.
- The balance of evidence indicates that lean red meat, cooked without charring or heavy browning is not consistently linked to the development of colorectal cancer.
- Australian Dietary Guidelines recommend lean red meat should be eaten 3-4 times a week.
- Red meat has played a significant role in human evolution and remains a core food in the diet of most Australians today.

For the full report visit www.themainmeal.com.au or for more information call 1800 550 018.

The full report is published in *Nutrition & Dietetics*, Journal of the Dietitians Association of Australia, including the Journal of the New Zealand Dietetic Association, September 2007, Vol. 64 (Suppl. 4), *The Role of Red Meat in Healthy Australian Diets.*

This information has been independently reviewed by the Dietitians Association of Australia (DAA). MLA is a DAA corporate partner.

For expert nutrition and dietary advice contact an Accredited Practising Dietitian (APD) by visiting 'Find an Accredited Practising Dietitian' on the Dietitians Association website: www.daa.asn.au or call 1800 812 942.

Meat & Livestock Australia (MLA) represents the beef, sheepmeat and goatmeat producers of Australia and manages research and development, marketing and promotions on behalf of the industry. MLA has a commitment to providing health professionals and all Australians with accurate nutrition information and promotes the role of red meat as part of a healthy, balanced diet.

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