

Contribution of red meat to very long chain omega-3 fatty acid (VLC ω 3) intake

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Background & Aim - Fish is regarded as the primary dietary source of health-giving VLC ω 3. However, we recently estimated that 20% of VLC ω 3 consumed by adult Australians in the 1995 National Nutrition Survey came from meat sources¹. We now report on further analysis of the contribution of meat to ω 3 intake using new compositional data for red meat².

Average adult intake (mg/day)	Eicosapentaenoic acid (EPA)	Docosapentaenoic acid (DPA)	Docosahexaenoic acid (DHA)	Total VLC ω 3
Previous estimate	56	26	106	189
Current estimate	75	71	100	246

Outcomes - Fatty acid intakes based on 24-hr diet recalls were comparable to earlier estimates except for VLC ω 3, which were proportionately higher. This is due to previous underestimation of VLC ω 3 levels in certain foods, particularly DPA in meat. We now find that 42.7% of adult VLC ω 3 intake originated from *meat, poultry and game*, compared with 48.0% from *fish and seafood*. Moreover, the meat content of pies and other *cereal-based products* accounted for an extra 5.7%. Beef and lamb contributed 28.2% of the total VLC ω 3 intake, while pork and poultry contribute 3.9% and 10% respectively. Food frequency questionnaires gave similar results.

Conclusion - Red meat is a major source of VLC ω 3, particularly DPA, for most Australians. However, the health potential of DPA is yet to be elucidated.

1. Meyer BJ, Mann NJ, Lewis JL, Milligan GC, Sinclair AJ, Howe PRC: Dietary intakes and food sources of omega-6 and omega-3 polyunsaturated fatty acids. *Lipids* 2003;38:391-398.
2. Sinclair AJ: unpublished data provided by Meat & Livestock Australia.