

## **Fatty acid composition of habitual diet**

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**Background** – Most foods containing long chain PUFA have only trace levels present. When reported in databases to one decimal place in grams/100 grams food, these amounts are rounded down to zero. In the context of the total diet, the intake levels of many PUFA are significantly under reported. The fatty acid data base developed by the Food Science Department at RMIT University allows PUFA in foods to be detected and reported to two decimal places, allowing PUFA totals to accumulate and levels to be determined in individual diets.

**Objective** - To investigate the fatty acid intake levels of habitual diets of healthy male subjects.

**Design** – Healthy male subjects were recruited from four habitual dietary groups: High meat eaters (<280g meat/day, n=12), Moderate meat eaters (>260g meat/day, n=29), Ovolacto vegetarians (n=32) and Vegans (n=17). Habitual dietary intake was determined using validated food frequency questionnaire administered by a dietitian and fatty acid intake levels determined by applying the fatty acid database incorporated in Food Works (Xyris software, Brisbane).

**Outcomes** - Vegans consumed no long chain PUFA whereas the ovolacto vegetarians consumed approximately 30mg/day of arachidonic acid (20:4n-6) and 20mg/day of docosahexaenoic acid (22:6n-3). Moderate meat eaters were consuming approximately 330mg of long chain PUFA per day including 90mg/day of 20:4n-6 and 50mg/day of 20:5n-3 and 90mg/day of DHA. The high meat eaters were consuming approximately 600mg/day of long chain PUFA of which 20:4n-6 made up approximately 220mg.day and DHA approximately 120mg/day.

**Conclusion** – The more animal products consumed in the diet the greater the intake of long chain PUFA. Vegans consumed no long chain PUFA while subjects consuming meat and fish within normal dietary levels recorded long chain n-3 PUFA intakes of approximately 170mg/day.