



Established and supported under the Australian Government's Cooperative Research Centres Program



Pork CRC Research Summary

Project Number & Title:

3A-104 Fresh pork and cardiometabolic health.

Principal Investigator:

Karen Murphy, Rebecca Thomson, Alison Coates, Jon Buckley, Peter Howe.

Background:

High protein meat-based diets are commonly promoted for weight loss, supposedly by increasing both satiety and energy expenditure. Pork is the most widely eaten meat in the world and is a substantial source of dietary protein but, despite its frequency of consumption, there is little evidence of weight loss or other potential cardiometabolic health benefits associated with eating pork. This study investigated the effect of regular consumption of lean fresh pork on cardiometabolic health including body composition and risk factors for diabetes and cardiovascular disease.

Methodology:

We conducted a dietary intervention trial with 144 overweight/obese men and women who were low pork consumers (ate less than one pork meal per week) and were randomised to increase their consumption of lean pork or, alternatively, remain on their customary diet for 6 months. Men and women on the pork diet were provided with 1050g/wk and 750g/wk, respectively, of lean fresh cuts of steak, sausages, diced, mince and stir fry to incorporate into their diet. Cardiometabolic outcomes were measured at baseline and then at 3 and 6 months. They included weight, body mass index, waist/hip circumference and body composition (% body fat, abdominal fat, lean mass), risk factors for diabetes (blood glucose and insulin) and cardiovascular disease (blood lipids, blood pressure, heart rate, large/small artery elasticity index).

Key Findings/Conclusions:

Volunteers assigned to the pork diet increased their pork intake 10 fold by substituting pork for other meats in their diets, mainly beef and chicken. On average male volunteers in the pork group consumed 946g per week (135g/d) while female volunteers in the pork group consumed 682g (97g/d) per week. This was done without significant change in intakes of total meat, total energy or macronutrients (fat, protein, carbohydrate). There was no significant effect on any of the abovementioned risk factors for diabetes or cardiovascular disease. More importantly, compared with those who remained on their customary diet, there were improvements in weight ($P \leq 0.01$), body mass index ($P < 0.02$) and waist circumference ($P \leq 0.03$), body composition, including reductions in % body fat ($P \leq 0.04$), fat mass ($P \leq 0.04$) and abdominal fat ($P \leq 0.01$) after only 3 months. There was no change in lean mass indicating that the reduction in weight was due to loss of fat mass. Lean fresh Australian pork included in the diet may improve body composition without adversely affecting risk factors for diabetes and cardiovascular disease.

Potential Users of Information (including value assessment):

The pork industry (provides new local and export marketing opportunities), regulatory authorities (provides information to show benefits to metabolic health and counter the adverse effects of obesity) and meat eating Australians (provides new understanding that pork is a healthy meat choice).

