

Exercise and diet are effective in preventing type 2 diabetes

Clinical question	How effective are exercise and diet for preventing type 2 diabetes?
Bottom line	Interventions aimed at increasing exercise, combined with diet, are able to decrease the incidence of type 2 diabetes in high risk groups (people with impaired glucose tolerance or the metabolic syndrome). The relative risk reduction was 37%. The interventions had favourable effects on body weight, waist circumference and blood pressure. The duration of the interventions ranged from one to six years. Interventions varied between studies but mainly consisted of caloric restriction if the person was overweight, low fat content (especially saturated fat), high carbohydrate content and an increase in fibre intake in the diet. Physical activity varied but on average at least 150 minutes each week of brisk walking or other activities, such as cycling or jogging, were recommended. Interventions were mainly delivered by frequent individual counselling from a physiotherapist, an exercise physiologist and a dietitian.
Caveat	There was insufficient data on the effectiveness of exercise alone for preventing diabetes. No study reported relevant data on diabetes and cardiovascular related morbidity, all-cause mortality and quality of life.
Context	Type 2 diabetes is the most common type of diabetes, affecting up to 7% of Western populations. ¹ The incidence of type 2 diabetes is increasing in newly industrialised and developing countries. It has been shown that weight reduction and an increase in daily energy expenditure decrease insulin resistance and increase glucose tolerance. ²
Cochrane Systematic Review	Orozco LJ et al. Exercise or exercise and diet for preventing type 2 diabetes mellitus. <i>Cochrane Reviews</i> 2008, Issue 3. Article No. CD003054. DOI:10.1002/14651858.CD003054.pub3. This review contains 8 trials involving 4750 participants.
PEARLS 112, September 2008, written by Brian R McAvoy	

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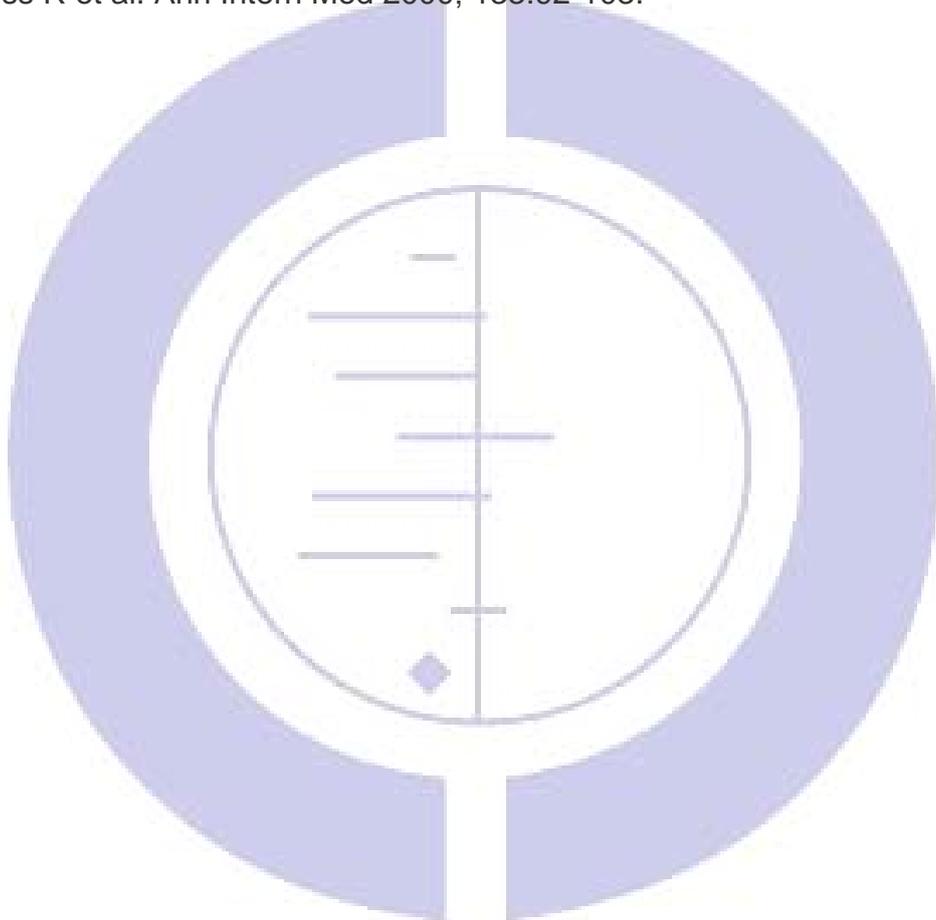


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[References]

1. WHO. WHO Tech Rep Ser 1994; 844:1-100.
2. Ross R et al. Ann Intern Med 2000; 133:92-103.



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