

Table G3.A6. Systematic Reviews on the Role of Physical Activity and Exercise in Preventing Type 2 Diabetes

Author, Year, Type of Review	Population/Design	Intervention	Results
Thomas et al., 2006 (1) Cochrane Review	In persons with T2D 14 studies included (377 persons) All randomized controlled trials comparing any type of well-documented aerobic, fitness or progressive resistance training exercise with no exercise in people with T2D.	Various short-term aerobic, fitness, or progressive resistance exercise training programs	The meta-analysis shows that exercise significantly improves glycemic control and reduces visceral adipose tissue and plasma triglycerides, but not plasma cholesterol, in people with T2D, even without weight loss. Exercise decreased HbA1C by 0.6% (0.6% AbA1Cm 95% CI, -0.9 -0.3; $P < 0.05$)
Jeon et al., 2007 (2) Systematic Review	In persons with T2D 10 cohort studies (301,221 participants, 9,367 incident cases of T2D) 6 cross-sectional studies	Physical activity including separate examination of role of moderate physical activity — defined as 3-6 METs (with walking included)	Moderate activity, and specifically walking, prevent T2D. Summary RR of T2D is 0.69 for regular moderate intensity exercise compared to sedentary behavior. (95% CI, 0.58-0.83) RR of T2D is 0.70 (95% CI, 0.58-.084) for regular walking (typically brisk walking > hours per week brisk walking compared to no walking)
Brown et al., 2007 (3) Systematic Review	In women with several diseases including T2D 8 prospective cohort studies, from Jan 1997-Feb 2006, about T2D were identified	Physical activity assessed by questionnaire — any level of physical activity included.	Seven of 8 prospective cohort studies show significant risk reductions for incident diabetes (14-46%)

CI, confidence interval; RR, relative risk; T2D, type 2 diabetes

Reference List

1. Thomas DE, Elliott EJ, Naughton GA. Exercise for type 2 diabetes mellitus. *Cochrane.Database.Syst.Rev.* 2006;3:CD002968.
2. Jeon CY, Lokken RP, Hu FB, van Dam RM. Physical activity of moderate intensity and risk of type 2 diabetes: a systematic review. *Diabetes Care* 2007 Mar;30(3):744-52.
3. Brown WJ, Burton NW, Rowan PJ. Updating the evidence on physical activity and health in women. *Am.J.Prev.Med.* 2007 Nov;33(5):404-11.