

**Table G3.A15. Effects of Exercise on Preventing Gestational Diabetes**

<b>Citation</b>	<b>Population/Design</b>	<b>Outcomes Assessed</b>	<b>Dose of Exercise</b>	<b>Results</b>
Dye et al, Am. J. Epidemiol, 1997 (1) Observational Epidemiological Studies	Population-based birth registry in central New York State. All records assessed between Oct 1995-July 1996	Risk of development of GDM.	Women interviewed about exercise. Exercise divided into times per week. Analyzed as present/absent	Only exercising women with BMI over 33 had lower rates of GDM than non-exercising counterparts. Lower socioeconomic studies benefited more.
Dempsey et al. Am. J. Epidemiol, 2004 (2) Observational Epidemiological Studies	Interview of women attending prenatal care clinics in Washington state. Interview included socioeconomic studies, lifestyle. 1996-2000	Risk of development of GDM.	Recreational physical activity was characterized as active vs. inactive (recreational physical activity) and divided in terms of time spent active (metabolic equivalent task hours). Women who spent >4.2 hours in recreational physical activity per week had 76% decrease in GDM risk.	Recreational physical activity in year before pregnancy associated with 56% reduction in risk for GDM. During pregnancy, activity also associated with decreased risk.
Dempsey et al. Diabetes Res. and Clin. Pract., 2004 (3) Observational Epidemiological Studies	Case-control study of women recruited in Washington state clinics. Cases had GDM and hypertension. Controls were pregnant without GDM.	Decrease of risk of GDM	Recreational physical activity in metabolic equivalent task/hours. No dose-response observed.	Any recreational physical activity in the year before pregnancy or in the first 20 weeks of pregnancy was associated with 51% reduction in risk of GDM.
Oken et al. Obstet. Gynecol, 2006 (4) Observational Epidemiological Studies	Recruited women attending initial prenatal visit from 1999-2002	Risk of GDM and glucose intolerance	Some dose-response observed, but main message is that any activity is beneficial.	Any vigorous physical activity in year prior to pregnancy associated with reduced risk of GDM and GI. Light to moderate activity during pregnancy also beneficial. Particular benefit to women of less than 25 BMI.
Zhang C, et al. Arch. Intern. Med., 2006 (5) Observational Epidemiological Studies	Data obtained from 1,428 women from nurses Health Study between 1990-1998 using validated questionnaires over 10 years	Risk of GDM	Vigorous physical activity particularly important in preventing GDM, but even brisk walking was effective. TV watching (sedentary behavior) was associated with greater risk of GDM.	Regular physical activity before pregnancy prevents GDM. TV watching increased GDM risk.

**Table G3.A15. Effects of Exercise on Preventing Gestational Diabetes (continued)**

Citation	Population/Design	Outcomes Assessed	Dose of Exercise	Results
Ceysens et al. Cochrane Database Syst. Rev. 2007 (6) Prospective RCT of Exercise in Pregnant GDM Women	4 small trials of 6 weeks of high level exercise vs. no exercise in 114 (total) nondiabetic pregnant women in third trimester	Primary outcomes included cesarean section, perinatal death and LOS in NICU. Also perinatal outcomes and maternal morbidity	All included exercise 3- 4 times weekly.	No difference found in terms of outcomes measured. Insufficient evidence to recommend or advise against enrolling pregnant women in exercise programs.

BMI, body mass index; GDM, gestational diabetes mellitus; LOS, length of stay; NICU, neonatal intensive care unit; TV, television

## Reference List

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