

## Research results related to the drawbacks with sedentary behaviour

- Risk to die (from any reason)

### **Carlsson et al (2006) Scand J Public Health 34, 480–487**

Low physical activity and mortality in women: baseline lifestyle and health as alternative explanations  
Sweden. 27 734 women (51–83 ar). Swedish Mammography Cohort.

#### *Result:*

*Women who were mostly sedentary at work, had a relative risk to die that was **1,81**, compared with women with physically demanding jobs (after adjustment for other influencing factors such as age, BMI, smoking etc)*

#### *Abstract*

<http://sjp.sagepub.com/content/34/5/480.abstract>

The indication above is based on 1232 deaths (during the follow up 1999–2004 (4,4%))

### **Graff-Iversen et al (2007) RQES 78(3): 151–161**

Occupational physical activity, Overweight, and mortality: a follow-up  
study of 47,405 Norwegian women and men.

#### *Result:*

*Persons with a physically active job had **0,67 lower odds** to die, compared with persons with a sedentary job and no physically active sparetime. Persons with both a physically active job and a physically active sparetime, had **0,50 lower odds** to die,*

#### *Abstract*

<http://www.ncbi.nlm.nih.gov/pubmed/17679488?dopt=Abstract>

### **Katmarzyk et al (2008) MSSE 41(5): 998–1005,**

Sitting Time and Mortality from All Causes, Cardiovascular Disease, and Cancer. Canada. 17 013 persons (18–90 year, 7 278 men, 42 y) from Canada Fitness Study.

#### *Result:*

*Persons who sat big parts of the day, or almost all of the day, had **1,36 and 1,54 higher risk** to die from any cause, compared with persons who almost never sat down. Persons who sat big parts of the day, or almost all day, had **1,47 and 1,54 higher risk** to die in cardiovascular disease, compared with persons who almost never sat.*

#### *Abstract*

<http://www.ncbi.nlm.nih.gov/pubmed/19346988>

Representative sample of 17,013 Canadians 18–90 yr of age.

1832 deaths (759 of cardiovascular disease (CVD) and 547 of cancer) during the time of the study (11%).

- **Deadliness in Cardiovascular diseases**

**Manson et al (2002) New Engl J Med 347 (10): 716–725**

Walking compared with vigorous exercise for the prevention of cardiovascular events in women. USA. 73 743 women, 50–79 ar. Women's Health Initiative Observational Study.

*Result:*

*A high proportion of sitting per day, had a significant relationship with sickness and death in cardiovascular diseases, independent from other risk and background factors, for example age and physical activity.*

*Women who were sitting 12–15 and more than 16h/day, had a strongly increased risk of cardiovascular disease: **1,38 and 1,68** compared with women who were sitting less than 4 hours/day.*

*Abstract:*

<http://www.nejm.org/doi/full/10.1056/NEJMoa021067>

345 newly diagnosed cases of coronary heart disease and 1551 total cardiovascular events documented during the study (3%)

**Warren et al (2010) MSSE 42(5): 879–885**

Sedentary behaviors increase risk of cardiovascular disease mortality in men. USA. 7 744 men (20–89 ar). Aerobics Center Longitudinal Study.

*Result:*

*Men who had > 23 h/week of sedentary behaviour, had 37% higher risk to die in cardiovascular disease, compared with those who had less than 11h/week, independent of other risk- and background factors.*

*Abstract*

[http://www.ncbi.nlm.nih.gov/pubmed/?term=Warren+et+al+\(2010\)+MSSE+42\(5\)%3A+879%E2%80%93885](http://www.ncbi.nlm.nih.gov/pubmed/?term=Warren+et+al+(2010)+MSSE+42(5)%3A+879%E2%80%93885)

377 CVD deaths (5%)

- **Deadliness in cancer**

**Orsini et al (2009) Br J Cancer 101: 1932–1938**

A prospective study of lifetime physical activity and prostate cancer incidence and mortality. Sweden. 45 887 men 45–79 years.

*Result:*

*Men who were sitting half of their worktime or less, had a 20% lower risk to develop prostate cancer, than men who sat down the majority of the working day. Men with physically demanding jobs had 28% lower risk to get prostate cancer, compared with men with mostly sedentary tasks.*

*Abstract*

[http://www.ncbi.nlm.nih.gov/pubmed/?term=Orsini+et+al+\(2009\)+Br+J+Cancer+101%3A+1932%E2%80%931938](http://www.ncbi.nlm.nih.gov/pubmed/?term=Orsini+et+al+(2009)+Br+J+Cancer+101%3A+1932%E2%80%931938)

Follow up from January 1998 to December 2007 for prostate cancer incidence (n=2735) and to December 2006 for its subtypes and for fatal (n=190) prostate cancer (6,3%).

- **Risk to get cancer**

**Arem et al (2011) Cancer Causes Control 22:219–226**

Physical activity and endometrial cancer in a population-based case-control study USA. 667 women with endometrial cancer, 662 women in control group (64,5 %).

*Result:*

*Women who reported that they were sitting more than 8h/day had 52% higher risk for endometrial cancer, compared with women who were sedentary less than 4h/day.*

*Abstract*

[http://www.ncbi.nlm.nih.gov/pubmed/?term=Arem+et+al+\(2011\)+Cancer+Causes+Control22%3A219%E2%80%93226](http://www.ncbi.nlm.nih.gov/pubmed/?term=Arem+et+al+(2011)+Cancer+Causes+Control22%3A219%E2%80%93226)

**Friedenreich et al (2010) Cancer Causes Control 21:1105–1116**

Case-control study of lifetime total physical activity and endometrial cancer risk. Kanada. 542 persons. Control group: 1 032 persons.

*Result:*

Women who sat more than 11,3h/week/year at their workplace, had 42% higher risk to get endometrial cancer, compared to women who sat less than 2,4hours/week/year (age adjusted). After full adjustment for background and risk factors (e.g. BMI), the odds lowered to 1,28. Each increase of sitting still at the workplace with 5 hours/weeek/year, increased the risk for endometrial cancer with 11%.

*Abstract:*

[http://www.ncbi.nlm.nih.gov/pubmed/?term=Friedenreich+et+al+\(2010\)+Cancer+Causes+Control+21%3A1105%E2%80%931116](http://www.ncbi.nlm.nih.gov/pubmed/?term=Friedenreich+et+al+(2010)+Cancer+Causes+Control+21%3A1105%E2%80%931116)

**Zhang et al (2004) Cancer Gaus Contr 15(1): 83–89**

Sedentary behaviours and epithelial ovarian cancer risk. Kina.

*Result:*

Time spend sitting still had a significant correlation with cancer in the uterus. High share (> 6h/day) compared with low share (<2h/day) sitting at work; 1,96 relative risk. This correlation was independant of e.g. BMI, physical activity, and energy intake.

*Abstract:*

[http://www.ncbi.nlm.nih.gov/pubmed/?term=Zhang+et+al+\(2004\)+Cancer+Caus+Contr+15\(1\)%3A83%E2%80%9389](http://www.ncbi.nlm.nih.gov/pubmed/?term=Zhang+et+al+(2004)+Cancer+Caus+Contr+15(1)%3A83%E2%80%9389)

Cases were 254 patients with histologically confirmed epithelial ovary cancer. 652 controls.

- **Risk for fracture**

**Gregg et al (1998) Ann Intern Med 129: 81–88**

Physical activity and osteoporotic fracture risk in older women. USA. 9 704 kvinner (≥ 65 ar, ej kvinner av afrikanskt ursprung).

*Result:*

More sitting still/day had a significant correlation with increased risk for osteoporotic fracture related to the hip. Women who sat more than 9h/day had 37–43% increased risk for hip fracture, compared with those who sat down <6h/day.

*Abstract*

[http://www.ncbi.nlm.nih.gov/pubmed/?term=Gregg+et+al+\(1998\)+Ann+Intern+Med+129%3A81%E2%80%9388](http://www.ncbi.nlm.nih.gov/pubmed/?term=Gregg+et+al+(1998)+Ann+Intern+Med+129%3A81%E2%80%9388)

- **Risk for cholecystectomy**

**Leitzmann et al (1999) New England J Med 341(11): 777–784**

Recreational Physical Activity and the risk of cholecystectomy in women. USA. 60 290 women (40–65 age in 1986) in The Nurses' Health Study.

*Result:*

Women who sat 41–60 hours and > 60h/week in work and transport had 1,42 and 2,32 higher risk to get cholecystectomy, compared with women who sat <6h/week.

*Abstract*

[http://www.ncbi.nlm.nih.gov/pubmed/?term=Leitzmann+et+al+\(1999\)+New+England+J+Med+341\(11\)%3A777%E2%80%93784](http://www.ncbi.nlm.nih.gov/pubmed/?term=Leitzmann+et+al+(1999)+New+England+J+Med+341(11)%3A777%E2%80%93784)

3257 cases (5,4%)