

# Cancer and Obesity

NAASO, The Obesity Society

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## **Evidence for a link between cancer and obesity and overweight:**

Considerable evidence suggests that obesity and overweight play an important role in cancer. Obesity and overweight have been clearly associated with increased risks for kidney cancer in both men and women (two-fold increased relative risk), and in women, endometrial cancer (one and a half-fold relative risk) and postmenopausal breast cancer (two-fold relative risk). Building evidence suggests that obesity and overweight also are associated with an increase risk of colorectal cancer, gall bladder cancer, and perhaps more modestly, the risk of thyroid cancer in women. For colorectal cancer, the effect of obesity and overweight on risk may be due in part to low physical activity, as consistent evidence exists for a strong protective effect of physical activity against developing colorectal cancer. Recent studies suggest that obesity and overweight may also play a role in the increasing incidence of some types of esophageal cancer, possibly through obesity's association with gastric reflux. For prostate cancer risk, inconsistent findings from studies evaluating obesity may result from limitations in the measurement of obesity, as more consistent results have come from recent studies of biological factors that are more directly associated with specific aspects of body composition (e.g., total fat).

For other types of cancer, in general, too few studies have been conducted to draw conclusions about the relationship between obesity and risk of disease development. However, strong experimental research in animal models of cancer development and disease progression have shown that maintenance of adequate and not overweight body size can delay development of cancer. Whether this can be achieved in humans has not been evaluated in prospective randomized trials.

## **Cancers with lower rates among obese:**

Obesity may also be somewhat protective against other forms of cancer. Among premenopausal women, heavier women appear to experience modest protection from breast cancer compared to leaner women (0.7-fold relative risk). Lung cancer is also less prevalent among the obese relative to leaner individuals (relative risk 0.7), possibly because of smoking-related effects on metabolism, although some investigators have argued that smoking or weight loss due to undetected disease may bias reported findings.

## **Cancer Death Rates and Obesity:**

Evaluating the influence of obesity on survival from cancer is complicated by a number of factors including variation in treatment regimens and completeness of vital status follow-up. For most types of cancer, little data exists on this topic, except for breast cancer. Most studies of obesity and breast cancer survival, but not all, suggest that obese women have poorer survival than leaner women. To date, little is known about the mechanisms that might contribute to this effect and no prospective randomized trials have been conducted.

## **Trends in cancer related to obesity:**

Like obesity, cancer is a major health problem in the United States and in other countries as well. Based on the American Cancer Society's 2002 estimates for cancer incidence, cancers linked to obesity among women comprise approximately 51% of all new cancers diagnosed among women in 2002: 2% thyroid cancers (15,800 new cases), 6% uterine cancers (39,300 new cases), 12% colorectal cancers (75,700 new cases), and 31% breast cancers (203,500 new cases). Among men, cancers linked to obesity comprise approximately 14% of new cancers: 3% kidney cancers (19,100 new cases) and 11% colorectal cancers (72,600 new cases). In terms of mortality, for women, obesity-related cancers are estimated to comprise 28% of cancer-related deaths in 2002: 15% breast cancers (39,600 deaths), 2% uterine cancers (6,600 deaths), and 11% colorectal cancers (28,800 deaths). Among men, obesity-related cancers are estimated to comprise 13% of cancer-related deaths in 2002: 10% colorectal cancers (27,800 deaths) and 3% kidney cancers (7,200 deaths).

Overall, while the mechanisms underlying the obesity-carcinogenesis relationship are not fully understood, sufficient evidence exists to support recommendations that adults and children maintain reasonable weight for their height and ages for multiple health benefits, including decreasing their risk of cancer.