

# Risk Factors for Cancer

The use of tobacco and tobacco products is by far the most important risk factor for cancer in the world today, accounting for 30 to 40 percent of all cancer deaths. Indeed, if one adds to that total the tobacco-related deaths from cardiovascular disease and pulmonary disease, tobacco use must be considered the world's most serious (and preventable) health problem. One of the difficulties with tobacco use is the long "incubation period" for the development of cancer. Trying to convince a 20-year-old of the danger of smoking is difficult when the effects may not be apparent for decades. If death followed within a few months of use, it would not be hard to perceive the real danger of tobacco use.

Excessive consumption of alcohol has been shown to be related to cancer of the mouth, larynx, and esophagus, especially if coupled with tobacco use. The effect of these two factors on the cancer death rate has been demonstrated by statistical studies of Mormons and Seventh Day Adventists, who have significantly lower cancer death rates than the general U.S. population. Members of both these groups abstain from alcohol and tobacco use. There is no doubt that altering one's life-style to avoid the use of these products would drastically lower the death rate from cancer. Approximately 4 percent of cancer deaths are thought to be related to occupational hazards, such as exposure to carcinogenic chemicals or radiation. Unfortunately, it may be many years before the first cancers arise to awaken one to the danger, and then it is too late. Often the cancer may not appear until years after the person has retired or changed occupations. Identifying carcinogens in the workplace and minimizing exposure offer the best hope of lowering occupational cancer deaths.

The ultraviolet rays in sunlight are known to cause many skin cancers, and thus exposure to sunlight should be minimized. A comparatively thin layer of atmospheric ozone shields living organisms from most of the sun's high-energy ultraviolet radiation, but, in 1974, scientists noted that the ozone layer has been diminished, particularly over Antarctica. The United Nations Environmental Program estimates that if the ozone layer decreases by 10

percent, there will be a 26 percent increase in the incidence of skin cancers. Over-the-counter sunscreens, which help reduce the levels of damaging radiation reaching the skin, are useful in preventing skin cancers. Although skin cancer is highly curable, many people die of it every year.

Recently there has been a great deal of interest in the effect of diet and obesity on the cancer rate. Those individuals who are overweight, especially more than 40 percent overweight, show higher rates of cancer than those individuals whose weight is within the normal range. Recent nutritional research suggests that 35 percent of all cancer is related to the way we eat. Although hard data are still lacking on the precise effects of diet on cancer, the American Cancer Society has issued a set of nutritional guidelines that may help reduce the chances of getting cancer. Some of these guidelines are summarized below.

- **Reduce total fat intake.** High fat intake appears to be related to cancer of the breast, colon, and prostate; hence, lowering dietary fat reduces the chances of getting these cancers.
- **Eat more high-fiber foods.** Vegetables, fruits, and whole-grain cereals provide high fiber in the diet that may protect against certain types of intestinal cancer. Such foods also provide vitamins A and C, which may also have a protective function.
- **Eat more cruciferous vegetables.** Members of the mustard family—cabbage, brussel sprouts, broccoli, cauliflower, turnips, kale, and kohlrabi—appear to be effective in preventing certain cancers, and inclusion of such foods in the diet is advised.
- **Eat more green and yellow fruits and vegetables.** Such foods are rich in vitamin A and beta-carotene—chemicals that function as antioxidants and may inhibit the formation of cancer-causing chemicals in the body. Vitamin A and beta-carotene may help protect against cancers of the larynx, lung, and esophagus.
- **Decrease consumption of salt-cured, smoked, and nitrite-cured meat.** Nitrite has been shown to be carcinogenic and thus it is wise to limit its consumption. Accordingly, the American meat industry has substantially decreased the amount of nitrite in prepared meats. Smoked meats provide a different threat, however, since these

meats absorb cancer-causing tars similar to those in tobacco smoke.

Obviously it is not possible to prevent exposure to all factors known to cause cancer in humans (for example, sunlight), but establishing a life-style that avoids or minimizes exposure to environmental carcinogens can go a long way toward lowering the chances of one's dying from cancer.

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