

PUBLIC HEALTH

# Smoking Causes Cancer

The report on smoking and health indicates that the only safe preventive against the risk of acquiring lung cancer is never to start smoking—By Faye Marley

► THE SKULL AND CROSSBONES verdict on cigarette smoking has jarred some 70 million smokers in the United States.

They are reacting all the way from nervous giggles and "It can't happen to me" quips to outright habit changing.

Sales of cigars and pipes are expected to go up in view of the lighter indictment given them by the Advisory Committee to the Surgeon General of the Public Health Service.

The unanimous opinion handed down by the ten scientists who reported on nearly 10,000 studies of smoking and disease was that cigarette smoking not only causes lung cancer, which kills 41,000 persons a year, but that it contributes "substantially" to the number of deaths from other ailments and to the overall death rate.

Cigarette filters and tobacco substitutes require more research to make cigarettes appreciably safer, the committee said.

The only safe preventive is never to start smoking, although smokers who give up the habit can lessen the risk of cigarette-caused diseases.

The public can buy the 387-page report for \$1.25 from the Government Printing Office in Washington.

## Excerpts From Report

### Lung Cancer

Cigarette smoking is causally related to lung cancer in men; the magnitude of the effect of cigarette smoking far outweighs all other factors. The data for women, though less extensive, point in the same direction.

The risk of developing lung cancer increases with duration of smoking and the number of cigarettes smoked per day, and is diminished by discontinuing smoking.

The risk of developing cancer of the lung for the combined group of pipe smokers, cigar smokers, and pipe and cigar smokers, is greater than for non-smokers, but much less than for cigarette smokers. . . .

### Oral Cancer

The causal relationship of the smoking of pipes to the development of cancer of the lip appears to be established.

Although there are suggestions of relationships between cancer of other specific sites of the oral cavity and the several forms of tobacco use, their causal implications cannot at present be stated.

### Cancer of the Larynx

Evaluation of the evidence leads to the judgment that cigarette smoking is a significant factor in the causation of laryngeal cancer in the male.

### Cancer of the Esophagus

The evidence on the tobacco-esophageal cancer relationship supports the belief that an association exists. However, the data are not adequate to decide whether the relationship is causal.

### Urinary Cancer

Available data suggest an association between cigarette smoking and urinary bladder cancer in the male but are not sufficient to support a judgment on the causal significance of this association.

### Stomach Cancer

No relationship has been established between tobacco use and stomach cancer.

### Non-Neoplastic Respiratory Diseases

Cigarette smoking is the most important of the causes of chronic bronchitis in the United States, and increases the risk of dying from chronic bronchitis.

A relationship exists between pulmonary

emphysema and cigarette smoking but it has not been established that the relationship is causal. The smoking of cigarettes is associated with an increased risk of dying from pulmonary emphysema.

For the bulk of the population of the United States, the importance of cigarette smoking as a cause of chronic bronchopulmonary disease is much greater than that of atmospheric pollution or occupational exposures.

Cough, sputum production, or the two combined are consistently more frequent among cigarette smokers than among non-smokers.

Cigarette smoking is associated with a reduction in ventilatory function. Among males, cigarette smokers have a greater prevalence of breathlessness than non-smokers.

Cigarette smoking does not appear to cause asthma.

Although death certification shows that cigarette smokers have a moderately increased risk of death from influenza and pneumonia, an association of cigarette smoking and infectious diseases is not otherwise substantiated.

### Cardiovascular Disease

Smoking and nicotine administration cause acute cardiovascular effects similar to those induced by stimulation of the autonomic nervous system, but these effects do not account well for the observed association between cigarette smoking and coronary disease. It is established that male cigarette smokers have a higher death rate from coronary disease than non-smoking males. The association of smoking with other cardiovascular disorders is less well established. If cigarette smoking actually caused the higher death rate from coronary disease, it would on this account be responsible for many deaths of middle-aged and elderly males in the United States. Other factors such as high blood pressure, high serum cholesterol, and excessive obesity are also known to be associated with an unusually high death rate from coronary disease. The causative role of these factors in coronary disease, though not proven, is suspected strongly enough to be a major reason for taking countermeasures against them. It is also more prudent to assume that the established association between cigarette smoking and coronary disease has causative meaning than to suspend judgment until no uncertainty remains.

Male cigarette smokers have a higher death rate from coronary artery disease than non-smoking males, but it is not clear that the association has causal significance.

### Peptic Ulcer

Epidemiological studies indicate an association between cigarette smoking and peptic ulcer which is greater for gastric than for duodenal ulcer.

### Tobacco Amblyopia

Tobacco amblyopia (dimness of vision unexplained by an organic lesion) has been related to pipe and cigar smoking by clinical impressions. The association has not been

(Continued on p. 52)



Hamilton Standard


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## Smoking Causes Cancer

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substantiated by epidemiological or experimental studies.

### Cirrhosis of the Liver

Increased mortality of smokers from cirrhosis of the liver has been shown in the prospective studies. The data are not sufficient to support a direct or causal association.

### Infant Birth Weight

Women who smoke cigarettes during pregnancy tend to have babies of lower birth weight. Information is lacking on the mechanism by which this decrease in birth weight is produced. It is not known whether this decrease in birth weight has any influence on the biological fitness of the newborn.

### Smoking and Accidents

Smoking is associated with accidental deaths from fires in the home. No conclusive information is available on the effects of smoking on traffic accidents.

### Morphological Constitution

The available evidence suggests the existence of some morphological differences between smokers and non-smokers, but is too meager to permit a conclusion.

### Psycho-Social Aspects

A clear cut smoker's personality has not emerged from the results so far published. While smokers differ from non-smokers in a variety of characteristics, none of the studies has shown a single variable which is found solely in one group and is completely absent in another. Nor has any single variable been verified in a sufficiently large proportion of smokers and in sufficiently few non-smokers to consider it an "essential" aspect of smoking.

The overwhelming evidence points to the conclusion that smoking—its beginning, habituation, and occasional discontinuation—is to a large extent psychologically and socially determined. This does not rule out physiological factors, especially in respect to habituation, nor the existence of predisposing constitutional or hereditary factors.

• Science News Letter, 85:51 Jan. 25, 1964

### GENERAL SCIENCE

## West and South Show Gain in Doctorates

► AN INCREASING PROPORTION of top-level degrees is being awarded by schools in the southern and western sections of the United States, a study by the National Academy of Sciences-National Research Council has found.

Together, the southern and western sections now account for 32% of U.S. doctorates. In 1920 these sections produced only 18% of the doctorates.

There has been a corresponding decline in the relative contribution of the Northeast—from 46% in 1920 to 34% now, the report pointed out.

• Science News Letter, 85:52 Jan. 25, 1964

# Questions

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**ENGINEERING**—What is the heart of the new automated ship? p. 55.

**MEDICINE**—What drug has been found useful against trichinosis? p. 57.

**METEOROLOGY**—Why does the January thaw appear to be more pronounced in the Northeast? p. 62.

**OCEANOGRAPHY**—Which nocturnal marine animal is the noisiest? p. 56.

**PUBLIC HEALTH**—What is the most important cause of chronic bronchitis? p. 51.

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