

PUBLIC HEALTH

Smoking Studies Conflict

► A NEW RESEARCH study on smoking and lung cancer shows no gain or loss in the essential make-up of cells lining the breathing tubes of heavy smokers.

The study, supported by the American Cancer Society, conflicts with an earlier research report which concluded that cigarette tars cause the breakdown and disappearance of mucus-producing cells as well as the cilia or sweeper cells.

The current work, reported by Drs. Geoffrey L. Brinkman, Henry Ford Hospital, and John H. L. Watson, the Edsel B. Ford Institute for Medical Research, both in Detroit, was based on use of an electron microscope. This technique enabled the scientists to see structures as small as about 20 billionths of an inch.

In the study, the doctors compared tissues from the lungs of bronchitic smokers and normal, healthy nonsmokers. They found that the cells lining the breathing tubes of the smokers were different, although the differences "were only a matter of degree; smokers' cells had changed but they neither gained nor lost essential cell structures."

The smokers' cells appeared to have the normal number of cilia and the internal

structure of these "brooms" seemed normal. These changes were noted in the goblet or mucous cells:

1. Projections of the cell protoplasm were markedly reduced. This might have an effect on secretion ability.
2. Mitochondria, small granules that are parts of the cells, were altered or underdeveloped.
3. More frequent occurrence of what appeared to be secretion droplets.
4. More space between cells.
5. More mature goblet cells.

In a study reported in April by SCIENCE SERVICE, Drs. Dale L. Tipton and T. Timothy Crocker of the University of California School of Medicine, San Francisco, found that a tar application to the bronchi brought drastic changes in the lining.

In place of cilia and mucous cells there developed abnormal, pathological cells. The researchers regarded these changes as among the first that occur in the development of lung cancer.

In contrast to the Michigan study, which used samples from the bronchial linings of humans, the California work was done by applying cigarette tar to bronchi of animals.

• Science News Letter, 87:388 June 19, 1965

PUBLIC HEALTH

'Meals on Wheels' Grows

► THE "MEALS ON WHEELS" program, which began in this country in 1954 for aging people and others unable to prepare meals at home, has grown slowly, but is due for expansion.

The idea of sending a hot meal to homes of invalids began in 1905 in London, and is now a large operation sponsored by "Invalid Meals for London." A 1960 survey showed that about 21,000 persons were being served in England, Scotland and Wales. In the United States, only about 1,000 were being served according to a 1962 poll.

Two surveys have been reported, one in Public Health Reports 80:432, 1965, the other in a supplement to the American Journal of Public Health, May 1965. With the increasing number of people over 65 years of age, it is expected that home-delivered meals will prevent many from being placed in institutions.

A warning that some who apply for meal service need other solutions to their problems is sounded in the supplement, which was prepared by a committee on guidelines for the health committee of the National Council on the Aging.

One hazard is that meals may enable a person to continue in a situation that is medically unsuitable. It can even be the cause of serious neglect on the part of the community. One program was closed because it catered to those obviously too ill to be left alone.

Another danger is that loneliness may be intensified. A client's pleasure at the daily

contact with the server of meals is no substitute for social relationships.

Persons who receive these meals, prepared at cost, should have refrigeration, as the food is not always eaten at once. Hot meals for noontime may not be eaten then, and cold suppers and milk should be kept in a refrigerator.

The Public Health Reports survey said the type of person most often found to be receiving meals on wheels service is a woman in her 70s who lives alone but is not necessarily homebound. She can move about, feed herself and is of sound mind. Her source of support is Social Security, savings or investments, Old Age Assistance or perhaps a combination of these. Most of the programs now in existence are east of the Mississippi River. It is suggested that special services are needed for rural people and that the meals be under the supervision of a dietitian.

Miss Geraldine M. Piper, a nutrition consultant for the Public Health Service's division of chronic diseases, which fosters the development of meals on wheels services in conjunction with out-of-hospital programs for the chronically ill and aged, assisted in both surveys.

Assisting in the Public Health Reports survey were Bernard Frank and Robert M. Thorner of the division of chronic diseases.

Chairman of the large committee on guidelines was Dr. Ralph E. Dwork, deputy secretary of health, Harrisburg, Pa.

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Questions

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ZOOLOGY—What must be added to tap water to make it similar to ocean water? p. 391.

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