

MEDICINE

Cancer From Quid?

► ON TOP of reports blaming cigarette smoking as a cause of lung cancer comes an announcement that chewing tobacco and snuff have been found by one group of scientists to be associated with cancers of the mouth.

The announcement is made by the American Cancer Society. The finding is by Dr. George E. Moore, director of Roswell Park Memorial Institute here and Drs. Lester L. Bissinger and Elsa C. Proehl of the University of Minnesota Medical School, Minneapolis.

All men over 50 who registered at the University of Minnesota Hospital Tumor Clinic since 1951 and who had chewed tobacco 20 or more years were interviewed about their tobacco habits. The area served by the hospital has a large population of snuff and tobacco chewers.

The studies showed that mouth cancers usually developed only after 15 years or more of continuous exposure of the mouth lining. Many who had chewed tobacco less than this time had developed mouth sores and tissue changes (thickening and leukoplakia) which the scientists felt might become cancerous unless the tobacco users discontinued their habit.

A high percentage of those with mouth cancer reported that they had developed sores early in their habituation at the site where they held their quid.

This observation has been interpreted by the doctors as suggesting that perhaps these patients were unusually sensitive or allergic to tobacco.

Twenty-six of 40 men with mouth cancers were long-term tobacco or snuff chewers. Similarly, 18 of 23 patients with mouth leukoplakia, a condition which some clinicians consider pre-cancerous, were tobacco chewers.

Fewer patients in the same age group who had various benign diseases or cancers not associated with the mouth used chewing tobacco.

Cigarette, cigar and pipe smoking were not significantly associated with the development of mouth cancer. This study did not include lip cancer or cancer of the lung.

The scientists are now testing the ability of tobacco quids to produce cancers in the pouch of hamsters. The food pouches of these animals are lined with tissue similar to that of the mouth and are readily used to hold experimental quids.

Science News Letter, February 6, 1954

METEOROLOGY

Rain Making Questioned

► THROWING SILVER iodide at clouds from ground generators does not cause a single raindrop to fall, it appears from recent Australian experiments during which the number of rain-forming particles in the air were counted under various weather and wind conditions.

These experiments have added to the controversy over whether rain can be caused artificially by seeding clouds with silver iodide particles, now a multi-million dollar a year industry.

Silver iodide particles, the studies have shown, cannot be detected higher than 2,000 feet nor farther downwind than 10 or 12 miles from the generator. They also lose their activity at "an extremely rapid rate" in free air.

Weathermen attending the American Meteorological Society meeting in New York learned of the Australian experiments from Dr. E. G. Bowen, director of the Commonwealth's Radiophysics Laboratory in Sydney. The number of rain-forming nuclei, either silver iodide or other particles, found downwind from a silver iodide generator were measured by taking air samples at various heights and distances from the generator, then putting the samples in a super-cooled "cloud" in the laboratory and counting the number of drops formed.

The number of rain-forming nuclei dropped to the number normally found in

air, which is about one per quart, 10 to 12 miles downwind and 2,000 feet up from the generator.

The loss of activity, or decay rate, of the silver iodide was measured by throwing out a mixture of zinc sulfide, which does not decay with time, and silver iodide, then catching samples of air as before. Silver iodide, these studies showed, loses its activity by a factor of 10,000 times within 30 minutes.

Dr. Ben K. Seely of the New Mexico Institute of Mining and Technology helped to direct and perform the decay rate studies. Drs. F. J. Smith and A. J. Heffernon of the Radiophysics Laboratory in Sydney, Australia, conducted the experiments on the diffusion of silver iodide particles.

Science News Letter, February 6, 1954

GENERAL SCIENCE

Honorable Mentions In Science Talent Search

► HONORABLE MENTIONS in the Thirteenth Annual Science Talent Search were announced on Feb. 4. Girls number 52 of the 260 outstanding seniors in the list, and 208 are boys. This division was determined by the ratio of girls to boys who participated in the competition.

The 260 young people to whom Honorable Mention listing was given go to school in 149 communities, located in 38 states and the District of Columbia. They were chosen from among 16,344 entrants, 2,409 of whom completed the science aptitude examination, submitted recommendations and scholarship records and wrote reports on "My Scientific Project."

The 40 highest ranking boys and girls, winners of all-expense trips to Washington, were listed in last week's SCIENCE NEWS LETTER. (See p. 70.)

In the 12 preceding Science Talent Searches, most of the students named in the Honorable Mentions list have been offered scholarships, and many of those named this year will qualify for valuable scholarships and other financial aid in the colleges, universities and technical schools of their choice.

Students in the Honorable Mentions list invariably rank high in their high school graduating classes: 28% of the boys and 48% of the girls stood first, second or third in their high school classes.

The Honorable Mentions did not win their places merely by keeping their noses in books; without exception they show records of participation in extracurricular activities. Science clubs have attracted 199 of these students. Most of these clubs are affiliated with Science Clubs of America.

For a booklet containing the names and addresses of the Winners and Honorable Mentions, and details of the Thirteenth Annual Science Talent Search, send a three-cent stamp with a self-addressed envelope to Science Clubs of America, 1719 N St., N.W., Washington 6, D. C.

Science News Letter, February 6, 1954

GERONTOLOGY

Clues Point to Work Decline of Older Workers

► CLUES THAT point to slowing of productivity among our older workers are given editorially in the *Journal of the American Medical Association* (Jan. 16).

A fixed retirement age, it is pointed out, is "unprofitable for the employer, frustrating for the employed and eventually disastrous to the national economy."

Calling on firms to take as much pains over the problem of whom they will retire as they do in choosing whom to hire, the editorial gives the following ways to recognize when productivity of older workers starts to decline:

"Day-to-day observation by the employee's immediate supervisor is the commonest. Other clues are increasing absenteeism, a worker himself admitting that he is unable to keep up and requesting a modification of his work schedule, individual output records, reports from other employees, reports from the nurse that an employee has become a frequent visitor to the dispensary, and the finding of warning signs on a periodic physical examination."

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