

PUBLIC HEALTH

AMA Plans No Tar Studies

Smokers may be getting more tar in their smoke than some reports indicate. The best type of filter was another cigarette, the AMA found in earlier research.

► THE AMERICAN Medical Association has no information on the tar in cigarettes sold since 1954. Dr. Walter Wolman, director of the AMA's chemical laboratory, Chicago, has told a House Government Operations subcommittee investigating filtered cigarettes.

Their earlier studies were made during 1952, 1953 and 1954 and were begun because of an Association controversy over carrying cigarette advertising in the official *Journal of the American Medical Association*. As a result of the research, cigarette ads have not appeared in the journal since then.

The AMA plans no further studies of cigarettes at the present time, although they might do more research if asked by the subcommittee, a spokesman for the medical group told SCIENCE SERVICE.

Tobacco actually did appear to be "its own best filter" in the AMA research. A study of cigarette holders that contained filters showed that the best one used an inserted cigarette as a filter. It reduced the nicotine and tar content by about 41%, Dr. Wolman said.

Smokers are actually getting more tar in their smoke than earlier published reports have indicated. Cyril S. Kimball, executive vice president of Foster D. Snell, Inc., New York, consulting chemists, told the subcommittee.

Chloroform is being used to dissolve and extract the so-called tars in the smoke but only about 70% of the total tar content will dissolve in it, he said.

This results in a tar measurement that is significantly lower than it actually is. The main problem now is that there is no standardized definition of cigarette tar that is accepted by all researchers, he added.

CO May Cause Cancer

► THE DEADLY GAS, carbon monoxide, should be studied as a possible cause of lung cancer in cigarette smokers, Dr. E. Cuyler Hammond, American Cancer Society, told the House subcommittee.

So far, only the so-called neutral fractions of tobacco smoke have been studied as possible carcinogens. Two of the most potent elements of smoke, nicotine and carbon monoxide, have not received the same attention, Dr. Hammond said.

The main reason they have not is their highly poisonous nature. Even tiny quantities of nicotine and carbon monoxide can quickly overcome the research animals used to study the other substances found in tobacco smoke.

Carbon monoxide is believed by some researchers to be carcinogenic because it restricts complete oxidation in body tissue.

Airborne carbon monoxide comes from automobile exhausts, factory chimneys, and other sources of exhaust gases.

The gas is formed during the burning process and is the result of incomplete combustion such as that found in a smoldering cigarette. Although the actual amount in the smoke of any one cigarette may be extremely small, it may have an additive effect with other amounts found in the air, Dr. Hammond said.

But carbon monoxide can certainly not be considered the cause of cancer at this time, he emphasized.

"I am merely suggesting that its effects should be more fully studied," he said.

Asked whether the American Cancer Society's recent study of smokers and lung cancer showed that any one brand of filters was safer than others, Dr. Hammond replied it was impossible to tell.

When the questionnaire study was started in 1951, few filter cigarettes were on the market, so a question about filters was not included. By the end of the study in 1955, filters were quite popular and a question about them was included in the survey. Results showed that 28% of regular smokers were using them then, Dr. Hammond said.

People are now switching back and forth between various filters too often to get any reliable information about which one might be better, he added.

Science News Letter, August 3, 1957

METEOROLOGY

Weather Bureau Predicts Hurricane Tides

► A TEAM of Weather Bureau meteorologists has worked out an experimental method for forecasting the maximum storm tide due to hurricanes and other tropical storms.

The method was tried on Hurricane Audrey and was accurate to within two feet of the actual tidal surge that inundated Lake Charles, La. Using the method, Bureau forecasters put the tidal surge to occur at nine feet. Actually, the tide measured approximately ten and one-half feet in height. (See SNL, July 27, p. 63.)

Making a cautious evaluation of the method and the results from Hurricane Audrey, D. Lee Harris, one of the method's developers, told SCIENCE SERVICE that it is only a "first step" in evolving a more accurate means for predicting the heights of tide surges following a storm. He cautioned that the results of predicting the Audrey surge were "exceptionally good" but could not be expected to be duplicated for every future hurricane.

The method forecasts only the expected

height of the still water level, or storm surge. It does not account for the smaller waves that ride the crest of the tide and are responsible for wide destruction of property and erosion.

To evolve the method, the researchers had to set up a simple storm situation, from which they could derive a basic equation. This included data collected from previous hurricanes. In the equation for the Gulf of Mexico, they used 30 hurricanes that occurred from October, 1893, through September, 1950.

Mr. Harris pointed out that it is impossible for local forecast centers to have all the facts needed to predict a tidal surge following on the heels of a hurricane, but that the equation can account for 50% of the needed information.

The method is reported in the Weather Bureau's *Monthly Weather Review* by Mr. Harris of the U. S. Weather Bureau, Washington, and W. C. Conner and R. H. Kraft of the Weather Bureau Office, New Orleans, La.

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MEDICINE

Brain Injection Helps Cerebral Palsy Victims

► CEREBRAL PALSY victims may be helped by a new brain operation that relieves their involuntary muscular movements. The surgical technique, called chemopallidectomy, involves an injection of chemicals deep into the brain and has been used in the past to help adult victims of Parkinson's disease.

Out of 30 children who have had the surgery, 20 of them were either cured of their involuntary movements or were noticeably helped, Dr. Irving S. Cooper, New York University-Bellevue Medical Center, New York, reports in the *Journal of the American Medical Association* (July 20).

The chemicals are injected into the region of the globus pallidus, in the lower middle part of the brain. They destroy tissue which is believed to cause the abnormal stimulation of the muscles.

But the value of the treatment lies in the fact that both sensation and the ability to move are not lost along with the involuntary movements.

Why the operation helps to relieve the tremor, rigidity and involuntary motion is not known and requires much more study, Dr. Cooper reports.

He emphasizes that the treatment was only helpful in eliminating the involuntary movements of cerebral palsy. Other abnormalities frequently found with them, such as paralysis, are not helped by the surgery.

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● RADIO

Saturday, August 10, 1957, 1:45-2:00 p.m., EDT. "Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Dr. Robert H. Felix, director, National Institute of Mental Health, will discuss "Mental Health."