

PUBLIC HEALTH

Safer Cigarette Described

► THE BLUEPRINT for a "safer cigarette" was reported by Dr. Ernest L. Wynder, Sloan-Kettering Institute, New York, to the American Association for Cancer Research meeting in Chicago.

The safer cigarette would use a filter that removed 40% of the tar, would be made from tobacco leaves that have had their waxy coatings removed, and would burn at a lower temperature than the 880 degrees Fahrenheit of today's cigarettes.

Studies of cancer-causing tobacco tar emphasize the importance of developing an effective way to reduce tar exposure, Dr. Wynder reported.

Research done two years ago showed filtered cigarettes removed between 10% to 30% of the tar, but the current trend in making filtered cigarettes has been to increase rather than decrease the tar content in the smoke.

It should be feasible, he said, to make a filtered cigarette that would expose smokers to 40% less tar and still have a "satisfactory pressure drop and flavor."

A major source of the cancer-causing agents is the waxy coating that is found

on the tobacco leaf and stem. This can be separated easily from the tobacco leaf by washing the tobacco in a variety of solvents, Dr. Wynder reported.

Another important factor is the temperature at which the tobacco is burned. Tar taken from the waxy coating showed a marked reduction in its cancer-producing ability when it was burned at the 720-degree Fahrenheit temperature found in pipes, rather than the 880-degree burning temperature of cigarettes. He reported the cancer-causing activity disappeared completely when the tar was burned at 650 degrees Fahrenheit or lower.

Of four different tobacco types, Burley, Virginia, Maryland and Turkish, all showed about the same cancer-producing activity, although the nicotine content varied from 9.8% for Burley to 4.5% for Turkish.

Human and animal studies suggest that 10-year smokers are not likely to show any more cancers than non-smokers, and 20-year smokers very few more. But at the 40-year level, the risk increases sharply, Dr. Wynder said.

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Fluoride Salt Cuts Decay

► A NEW FLUORIDE COMPOUND that can be added to table salt and is as effective in reducing tooth decay, but less toxic in large quantities, as the presently used sodium fluoride compound was reported by Dr. Gunnar Santesson, Stockholm, to the European Organization for Research on Fluorine and Dental Caries Prevention meeting in Malmo, Sweden.

The compound, sodium monofluorophosphate, was used to fluoridate table salt rather than drinking water, and animal tests showed it to be as readily absorbed as sodium fluoride.

One of its important advantages is that in solution it does not quickly break down into free fluoride ions, but rather into a complex ion which is highly stable. This property makes the new compound one-third as toxic as sodium fluoride.

Salt fluoridation to control dental decay is more practical in some areas than water fluoridation, Dr. Santesson reported.

Fluoridated salt can reach rural areas as well as those communities where local governments have passed laws against its widespread use in drinking water.

With the treated salt, fluoride intake then becomes a matter of choice by the individual. Elderly and diseased persons not wanting added fluorine in their diets can continue using the non-fluoridated table or household salt.

Production of a well-balanced fluoridated salt is fairly simple, Dr. Santesson said, and its use would be a safer guarantee against overdosing than fluoridating water.

Also the cost of adding fluoride to salt is negligible compared to that of fluoridating water supplies, he added.

A fluoridated salt containing sodium fluoride is already in use in some areas of Switzerland. A parallel trial of salt containing the sodium monofluorophosphate in some other area should be carried out under controlled conditions, Dr. Santesson concluded.

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EDUCATION

Learning Machine Tests Future Doctors

► A "LEARNING" machine that allows today's medical student to test his knowledge in private, without any penalty for a poor showing, before a major exam has been developed by Dr. J. C. Scott and N. B. Burke, Hanemann Medical College, Philadelphia.

The machine uses a revolving drum on which are printed 50 questions along with multiple choice type answers. The student reads the question and then pushes one of the five answer buttons. If he hits the right one, a green light goes on, an automatic counter adds one count to his score. He then pushes a button to advance the drum toward the next question.

If the wrong answer button is pushed, a red light goes on and no score is added.

Rather than having the machine give the right answer, the red light reaction points up what areas of learning are weak and

encourages the student to spend some time boning up on them.

Another advantage of the mechanical tester is the registration box which can be kept in another room to record the total number of correct, incorrect or omitted answers. This gives the professors a good indication of how effective their instruction has been.

The students appear to benefit from the machine and enjoy taking an exam which "doesn't count" and yet gives them a good idea of what they know.

A description of the apparatus and how it works appears in the *Journal of Medical Education* (June).

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PHYSIOLOGY

Continuous Light Causes Bigger Eyeballs in Chicks

► BIGGER and heavier eyeballs result when baby chicks are subjected to continuous artificial light, report Leo S. Jensen and Walter E. Matson, State College of Washington, Pullman, Wash.

This was shown in two groups of baby chicks subjected to 24-hour and 12-hour periods of artificial light for six weeks. The average weight of the eyeballs removed from the chicks receiving continuous light was about 38% greater than the weight of eyeballs from chicks receiving only 12 hours of artificial light each day.

It was also found the average diameter of the eyeballs of chicks subjected to continuous light was one-hundredth of an inch larger than those on half-day light.

The study was triggered when it was noted that the eyes of chicks subjected to continuous light appeared to be flattened. The researchers conclude from their study, reported in *Science* (April 19) that "a study of the relationship of this light-induced abnormality to that of eye abnormalities in other species, including man, would be of interest."

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PUBLIC HEALTH

"Bottle Gang" and Skid Row Alcoholics Compared

► THE ALCOHOLIC in the "Bottle Gang," a sort of little brother of Skid Row, was described for the meeting of the National Council on Alcoholism in Chicago by Dr. Thomas Downs, assistant medical director of the alcoholism unit of Philadelphia General Hospital.

There are several hundred bottle gangs in Philadelphia and at least one has been in continuous existence for 50 years. The age of this one is definitely established because one man, now 70 years old, has been an active member since the age of about 20.

The alcoholic of Skid Row and the Bottle Gang member are practically indistinguishable although the bottle ganger usually has some small funds from Government pension checks and the like. He will first find himself food and shelter and then get a drink.

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