

MEDICINE

Smoking Affects Breathing

► **WHETHER OR NOT** smoking cuts your wind, as generally alleged, it does not interfere with the mechanics of your breathing if you are a healthy person.

If you have heart or lung disease, however, the reverse is true. Smoking may even damage the breathing process.

Studies showing this were reported by Drs. Ernst O. Attinger and Maurice S. Segal of Tufts University School of Medicine, Boston, and Boston City Hospital at the meeting of the National Tuberculosis Association in New York.

The scientists used special electrical devices to measure airflow rates and pressures in normal persons and patients with heart or lung diseases both before and after smoking one or two cigarettes.

Involved in the mechanics of breathing

are compliance, which is the inverse of elastance or the degree of stiffness of the lung, and mechanical resistance, or resistance to tissue change and movement of air as the volume of air changes with inhalation and expiration.

The amount of work necessary for the breathing process is determined by the mechanics of breathing. The greater the work of breathing, the smaller is the amount of work available for nonrespiratory work, such as physical activities.

No significant change in compliance or in mechanical resistance was found in most of the normal subjects after smoking. In most of the patients, however, there was a "significant increase in both inspiratory and expiratory resistance after smoking and expiratory resistance was strikingly higher

than inspiratory resistance in this group in contrast to the normal group," Dr. Attinger said.

"These preliminary results appear to indicate that smoking does not interfere with the mechanics of breathing in normal subjects. In fact, there appeared to be some improvement in certain aspects of pulmonary ventilation.

"However, in the patients with cardiopulmonary disease, there was usually an impairment of the mechanics of breathing. This effect appeared only transitory as shown by the results in one patient where the values returned to the control level within five minutes," Dr. Attinger said.

Science News Letter, June 2, 1956

Weather is known to have a marked effect on insects and is now being used by scientists in forecasting possible outbreaks of at least two major insect pests of sweet corn, the corn flea beetle and the corn earworm.

MEDICINE

Enzyme Shots Help Asthma Patients

► **SHOTS** of an enzyme chemical, trypsin, have helped a small group of chronic asthma patients, Dr. N. E. Silbert, Lynn, Mass., chief of the department of allergy at the Laurence Quigley Memorial Hospital and Soldiers' Home, Chelsea, Mass., reported to the American College of Chest Physicians.

The chemical helps by making it easier for asthmatics to raise the sticky, thick mucous "gunk" that causes breathing trouble and "social embarrassment."

Changes in the X-ray pictures of the patients' chests suggest that, in addition, some of the signs of lung damage hitherto considered irreversible may actually be reversed by the trypsin treatment.

Trypsin is a digestive enzyme from the pancreas that breaks down protein. It has recently come into use in treatment of various inflammatory conditions such as the bruises developing from injuries. It has also been used as an aerosol that asthma patients inhaled to clear the upper part of their breathing tract.

The trypsin aerosol helped in acute cases, but not in chronic asthma and emphysema.

Dr. Silbert got the idea of giving trypsin to asthmatics by hypodermic injection from the fact that, given this way, the enzyme thinned the heavy secretions in varicose ulcers even though the trypsin did not get into direct contact with the secretions.

The 25 patients given the treatment showed "definite improvement," Dr. Silbert said.

Patients got their shots daily every day for five days to a week, then every second or third day for two weeks and a final shot one week later. A few needed second and third courses of treatment.

Most of the patients had had asthma for seven years or longer.

Science News Letter, June 2, 1956

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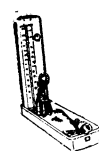
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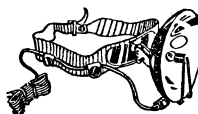
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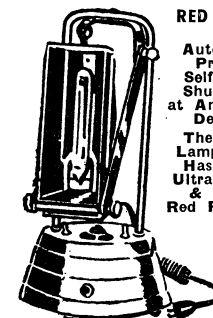
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