leum distillation are frequently combined with those from coal tar to form valuable chemical combinations. They have been placed on the market so rapidly that medical science has been unable to determine their physiological effect upon the health of man. We have known that some of these chemicals are capable of creating changes in the liver, and only recently in a city in Massachusetts one of these newer products caused the death of two employees and a battle to retain life among two others.

Carbon Monoxide

You remember the adage, "Where there is smoke, there is fire." We might add to that, "Where there is fire there is carbon monoxide."

This odorless but poisonous gas may occur in any industry or in any home, but the poorer the ventilation the better the chance of producing physical incapacity.

Since the advent of the motor car, whose exhaust pipe may pour forth as high as 6% of carbon monoxide, we are all exposed to that gas, particularly in crowded cities. The ordinary passenger car liberates about two cubic feet per minute, and one can readily estimate the physical damage that may be done if such a motor is allowed to run within the doors of a poorly ventilated garage or shop. Fortunately, serious cases of such poisoning are not common among those employed in public garages, but many of those employees are likely to complain of headache and faintness at the end of a day's work, especially in colder weather when doors and windows remain closed.

In the steel industry, where gas is used as the heating agency in the blast furnaces, care must be used to provide proper ventilation. Within the mines, workers are warned to allow enough time following blasts for the escape of this gas.

Being a colorless, odorless and tasteless gas, quick of action within the human body, the manifestation of the very first symptom may be too late to save a workman from partial or total incapacity or perhaps death.

Because the exposed person suffers first from motor paralysis, he may be unable to help himself or even to warn others of the danger. Even if removed from the poisonous gas at that period, the damage actually done by the gas may result in permanent physical damage.

Infection

The skin is a protective covering of the body against infection and is extremely efficient as long as it remains intact, but allow it to be broken or punctured, introduce bacteria, and a battle ensues between the offensive agencies of infection and the defensive powers of the body. The winning of such a struggle may determine the presence or absence of incapacity. Infections are common throughout industry, but two types are particularly prominent—infection resulting from anthrax and infection among meat packers and fishermen.

Many of our fur, hair or wool-covered animals may contract anthrax. The germs of that disease defy the ordinary methods of sterilization and may linger on hides, bristles or hairs for long periods of time. Tanners, wool sorters, and hair or bristle workers may introduce the anthrax spore beneath their skin and undergo much physical suffering and sometimes death.

Infections are frequently found among meat and fish packers and those engaged in deep sea fishing. Although death rarely occurs, the loss of fingers, hands and nasty septic wounds are the result.

Punctured wounds, cuts, abrasions, burns and scratches are potential avenues of entrance for bacteria which would seem to be waiting everywhere at all times for such a break in the skin. Early medical treatment might often save later surgical interference, not to mention the accompanying discomfort, incapacity and perhaps the loss of an essential body part.

Summary

I feel that the time has come when an employer must demand of a manufacturer the answers to two questions:

1. How will your product affect my business?
2. How will your product affect the health of my employees?

That employer is entitled to honest answers based upon sufficient chemical and physiological examinations of the questionable product. That manufacturer should be held responsible for the ills produced by the use of his product and unless he can guarantee its safety, it has no place in industry. Too many lives have been lost or jeopardized by too little knowledge of a product's action upon those who handle it.

The incidence of lost time due to illness and injury in industry has been greatly lessened by the many agencies working along lines of safety. When industry has been made fool-proof by the substitution of non-toxic preparations for those now found to be harmful, and when each employee is imbued with the idea that constant thoughtfulness and care are most necessary for the maintenance of health and happiness, then, and not until that idealistic stage has been reached may vigilance and perseverance to maintain and preserve health, limb and life be lessened.

Pre-Employment Examination as an Aid to the Control of Industrial Diseases

By DR. W. C. TEMPLER
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We may well ask whether or not physical examination is of any value to the world at large, rather than limit the discussion to the control of industrial diseases. In the conservation of life and health much progress has been made in the eradication or control of such diseases as occur in epidemic form,[1] as well as that type of disease which is not truly epidemic, but occurs in such frequency that general health programs are necessary. Much has been done to control such disabling illnesses as heart disease, arterio-sclerosis, kidney disease and diabetes; and something has been accomplished in the control of morbidity, which tends to, at least, make people happier through good health, even though an increased span of life is not gained.

Physical examination has played a large role in accomplishing these things, because it was through physical examination and physical observations that investigators were led to exert themselves to find a remedy for the cause of such conditions. Small-pox is no longer prevalent, due to such observations, which led to its control by vaccination. Malaria and yellow fever have been brought largely under control, and knowledge is now available in the control of venereal diseases, if the proper physical examination and laboratory methods are used to arrive at a diagnosis. We are all familiar with the results obtained in decreasing the death rate due to tuberculosis. In fact, in the treatment of all epidemic-type diseases that have so far been eradicated, the examination of patients to determine the severity of symptoms and the improvement has been of foremost value.

Knowing that the average span of life has been increased eight years in the last quarter century and assuming that the above mentioned factors have had some bearing on it, could we decry the value of physical examinations for the general population?

If we know that examinations made by insurance companies and their associating examining institutions, the clinics run by the United States Public Health Service, and the great mass of physicians, who all carefully examine their clientele, have been of value in the control of disease, may we not assume that examinations in industry will help control the incidence and extent of industrial disease, particularly when the life expectancy of "Industrial workers is less than that of the general population?

In fact on April 14, 1936, at the National Conference on Silicosis and Similar Dust Diseases, called by the Secretary of Labor, Dr. R. R. Sayers of the United States Public Health Service said, "Preliminary and periodic physical and roentgenological examination should be made of all employees engaged in industrial processes where there is a potential if