

MEDICINE

Lungs Dusted with Aluminum Treatment for Dread Silicosis

First Clinical Trials Are Hopeful But At Least A Year Will Be Required for Conclusive Results

HOPEFUL news of the first clinical trials of a new treatment for silicosis, widespread health hazard to miners and workers in certain dusty trades, was brought by Dr. D. Irwin, of the University of Toronto, to the American Public Health Association meeting in Detroit.

For the past six weeks some seven or eight men, maybe more by now, have been having their lungs dusted daily with aluminum powder in the hope of checking further ravages of their lungs by the silica dust they have been breathing while at work. The treatment is being given by Dr. D. Crombie, superintendent of the Queen Alexandria Sanitarium in London, and Dr. J. Blaisdell.

At least a year will be required before the results of the treatment can be determined, but the signs so far are "far from discouraging," Dr. Irwin said.

The men inhale the aluminum dust through a tube held in the mouth, exhaling through the nose. The treatments

start with a two-minute daily inhalation and work up to a thirty-minute inhalation every day. The men are continuing with their work while under treatment.

Tests of lung function, developed by Prof. W. S. McCann of the University of Rochester, were made before the start of treatment and will be made at intervals during the trial year of the treatment. It is hoped that these, as well as the way the men feel, will show any beneficial effects of the treatment.

The aluminum acts to check silicosis by coating the silica particles that are doing the damage in the lungs. This keeps the silica from dissolving and acting chemically to damage the lung. Studies by a number of scientists previously showed that it was not the sharp dust particles that damaged lungs but some chemical reaction between free silica and the lung tissue.

Following this lead, Dr. Irwin and associates first tried the effect of aluminum in reducing the solubility and chemical reactivity of silica. Finding that

aluminum could check both these actions, they tried aluminum dusting the lungs of laboratory animals with silicosis. The results showed that while lung damage was not changed, the potentially dangerous quartz in dust cells can be inactivated to a form in which the lungs can get rid of it. Success with treating the animals led to the trials now going on in the aluminum treatment of human silicosis sufferers.

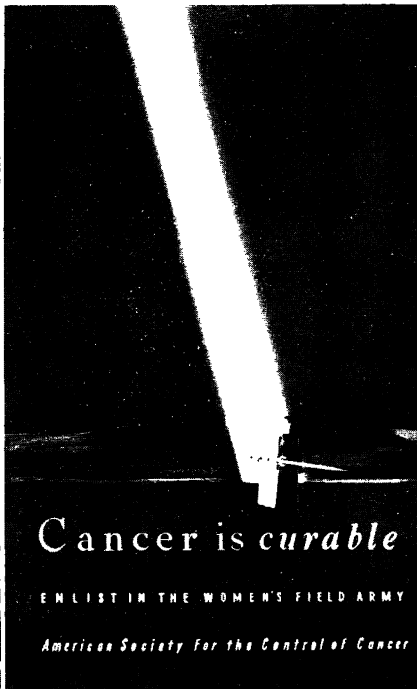
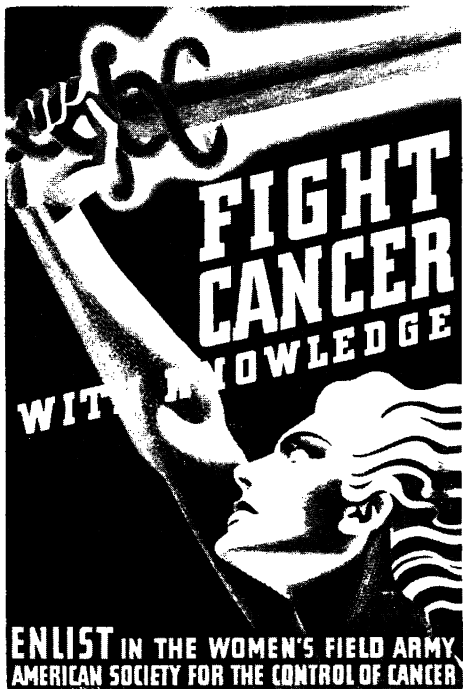
"If our prognostication is correct, the usual inexorable progress of the disease will be arrested and functional impairment diminished," Dr. Irwin said.

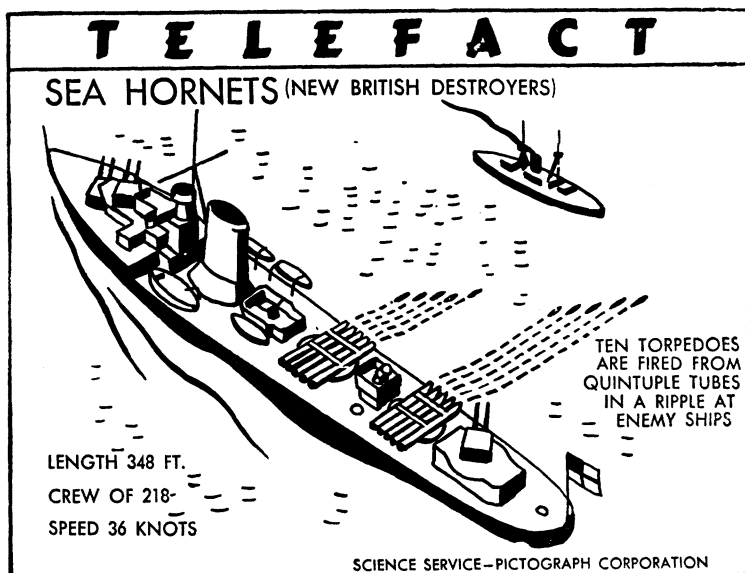
Before treating human patients, one hundred men who had been exposed to aluminum dust in the course of their work for at least twenty-five years were carefully studied. These showed no sign of damage from the aluminum dust.

Preventing silicosis by aluminum dusting the lungs of men working in mines and other dusty trades has not yet been tried. The ideal way to prevent silicosis is to prevent the inhalation of silica dust by proper ventilation and other measures

WINNERS

These posters won the first three prizes in a nation-wide contest conducted by the National Alliance of Art and Industry for the American Society for the Control of Cancer. The \$1,000 first prize for the poster on the left was won by Henry Koerner, 24-year-old Viennese refugee artist now in Brooklyn. Second prize (center) was won by J. T. Ross, Pittsburgh. Herbert R. Loges, New York, won third prize.





in the work places. The aluminum dusting method has been patented, and if it proves practical for both treatment and prevention, Dr. Irwin said, license to use

it will be given only to plants that are up to standard on ventilation and other dust control measures.

Science News Letter, October 26, 1940

MEDICINE

Hope To Discover Treatment For Chronic Sleeping Sickness

HOPE that a specific treatment for chronic sleeping sickness (encephalitis) will eventually be discovered appears in a report to the American Medical Association of studies of the brain of a modern sleeping beauty, Patricia Maguire, of Oak Park, Ill.

The girl, who fought a five-year losing fight against this ailment, attracting nation-wide attention before her death three

years ago, may thus some day be included in the group of medical martyrs whose sufferings contributed to better methods of disease-fighting.

The origin of pathologic, as opposed to normal, sleep seems also to be clarified by studies of the brain of this victim of such a sleep disorder.

Post-mortem study of her brain, Dr. Richard B. Richter and Dr. Eugene F. Traut, of Chicago, report, revealed conditions which the doctors believe could only be caused by a chronic infection, and not as the result of a progressive process of brain tissue change set off by an original acute infection.

The latter view of chronic encephalitis as a progressive process following acute infection has gained increasing support in recent years. The Chicago doctors' findings showing that it is more likely an inflammatory process suggest that a means of treating chronic encephalitis or sleeping sickness may eventually be found because inflammatory conditions may lend themselves to treatment. Present method of treating the condition is to treat each symptom as it arises.

The injury responsible for production of abnormal sleep in humans as well as

in animals is, the Chicago doctors report from their findings on Miss Maguire's brain, damage to the rear part of the hypothalamus region of the brain. Details of their studies appear in the October issue of the *Archives of Neurology and Psychiatry*, an A. M. A. publication.

Science News Letter, October 26, 1940

PHYSICS

New Instrument Measures Glow of Luminous Dials

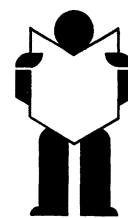
LUMINOUS dials on clocks, watches, dashboard instruments, etc., can now have the brightness of their glow measured by a new instrument developed at the National Bureau of Standards by Dr. L. F. Curtiss, chief of the radioactivity section.

Stainless steel mirrors bring the light from the luminous paint into view adjacent to a luminous pattern from a reference lamp, the brightness of which can be controlled and calibrated. The instrument is very compact and rigid, and is not easily put out of adjustment by rough handling.

Science News Letter, October 26, 1940

A new extra-bright portable *battery light* for emergency fire and police department use and for emergency airplane landings, is described as powerful enough to permit reading a newspaper by its light from half a mile away.

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