PHARMACOLOGY

Drug Outclasses Morphine

A new pain-killing drug that appears to be more powerful, less addicting and safer than morphine has been developed by two scientists. They labeled it NIH 7519.

➤ A NEW PAIN-KILLING drug that appears to be ten times more powerful, less addicting and safer than morphine has been developed by scientists at the U. S. Public Health Service's National Institutes of Health.

The drug, labeled NIH 7519, is made from coal tar derivatives. It belongs to a new series of chemical compounds called benzomorphans.

NIH 7519 is reported to have pain-killing power at least ten times that of morphine and 50 times greater than codeine. The drug has been used on more than 200 human patients suffering severe pain. Delivery room and post-operative pain are the specific targets that the scientists said the new drug affected.

Dr. Everette L. May, laboratory of chemistry, National Institute of Arthritis and Metabolic Diseases, developed the drug in collaboration with Dr. Nathan B. Eddy, chief of the Institute's section on analgesics.

Scientists have been working for years to separate the pain-relieving and addicting characteristics in substances having potency as great as or greater than morphine. Numerous drugs have been produced, but none proved useful. The newer drugs showed greater pain-killing results, but these were always coupled with greater addiction or other harmful effects.

Findings to date indicate that NIH 7519 is addicting too. But the exact degree is still to be determined, Dr. May pointed out.

The final cost of the new drug to the patient has not been determined. Dr. May estimated that it will range between intermediate and high-cost drugs. It will be available by prescription only, he emphasized.

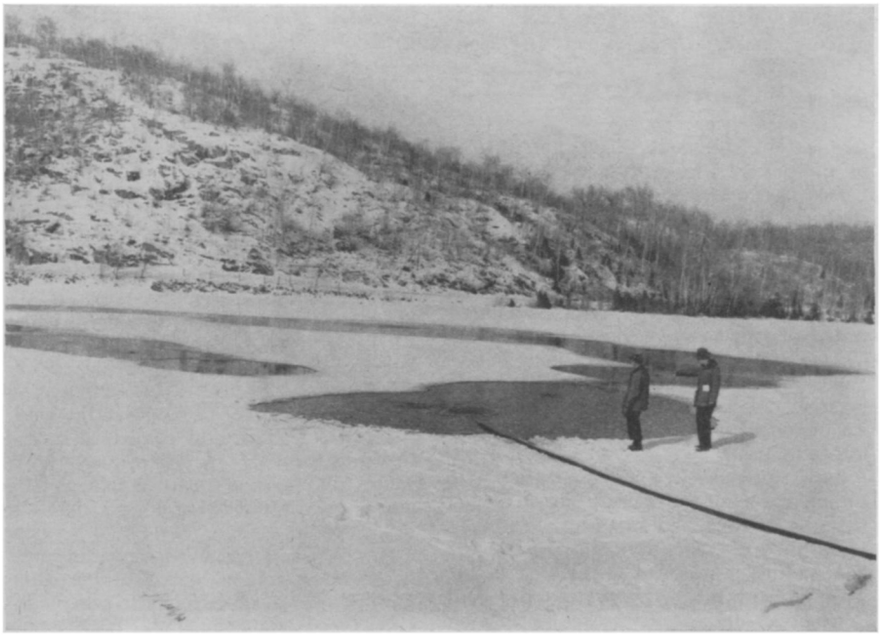
This synthetic drug may prove to be extremely important because there is an acute world-wide shortage of opium for medicinal use, Dr. Eddy said. Opium is the source of morphine and other powerful pain-relieving drugs used in medical practice.

Iran and Afghanistan, big suppliers of opium, are trying to wipe out addiction. Hence, they have curtailed opium production. Turkey and India are now the only two legitimate producers of opium for medicinal needs.

Currently the drug is on clinical trial. Patients in Philadelphia, New York and Los Angeles are receiving it under careful observation.

The drug was supplied to NIH by Smith, Kline and French Laboratories of Philadelphia. New York Quinine, Abbott Laboratories of North Chicago, Mallinckrodt Chemical Works, St. Louis, and Merck and Company of Rahway, N. J., are investigating the possibilities of producing the pain-killer.

Science News Letter, January 24, 1959



FISH RECEIVE MORE AIR—The widening stretch of open water increases the oxygen content of the lake. Air forced through a perforated polyethylene pipe by a Gardner-Denver compressor brings the relatively warm water up from the bottom of the lake to melt the ice. Oxygen content is increased by wind action on the open water and by the air bubbles themselves, resulting in more oxygen for the fish. The aerating system was created by Charlie Brown and Jack Scott of the White Rock Fish Club, Kilmar, Quebec.

ENGINEERING

Atomic Reactor Structure Gets First Steel Layer

See Front Cover

➤ THE GIANT reinforced concrete structure that will house the nuclear reactor of the Yankee Atomic Electric Company power plant at Rowe, Mass., is beginning to take shape.

The photograph on the cover of this week's SCIENCE NEWS LETTER shows construction forces of Stone and Webster Engineering Corporation placing 100 tons of reinforcing steel around the base of the concrete structure that will be enclosed in a steel sphere having a diameter of 125 feet. The reinforced concrete reactor structure, when completed, will have required 600 tons of steel and 12,000 tons of concrete.

The atomic power project, sponsored by ten New England utility companies is scheduled for completion in 1960.

Science News Letter, January 24, 1959

MEDICINE

Fluoroscopic Examination Of Heart Is Hazardous

➤ THE USE of fluoroscopic examination to diagnose heart disease is an unnecessary hazard, a cardiologist reports.

This diagnostic procedure exposes patients to as much as 1,000 times the radiation as standard X-ray methods, Dr. Eliot Corday, cardiologist at the University of California Los Angeles Medical School, says. Dr. Corday has written an editorial in the *American Journal of Cardiology* pointing out that, in addition, X-rays provide as much information as fluoroscopic examination, as well as a permanent record.

An average fluoroscopic examination may expose the patient to from 10 to 37 roentgens (radiation units) as compared to 0.002 roentgens for film procedures. The National Bureau of Standards has set maximum permissible doses for patients under 18 at 1.5 roentgens per year and for those over 18 at five roentgens annually.

The solution to the entire problem may be very near, Dr. Corday observes. The technique of X-ray movies, technically known as image cineroentgenography, is now nearly perfected. This technique offers a minimum of radiation exposure, and the heart specialist can review the movies over and over without any exposure.

For the present time, to limit radiation exposure, he advises that the use of fluoroscope be reserved for those patients revealing an abnormality on chest X-ray film.

Science News Letter, January 24, 1959