

MEDICINE

X-Rays at the Front

By new process, X-rays can be developed within one minute and developed in daylight, without any fluids or solutions. Picture appears on paper.

➤ X-RAYS will soon be moving up to battalion aid stations right behind the front lines to help speed our wounded men back to health.

Army and Navy surgeons will be able to locate broken bones and shell fragments and operate to repair the injuries almost on the battlefield, instead of having to evacuate the wounded to hospitals in the rear equipped with dark rooms, developing fluids and special technicians.

This change, along with equal benefits to civilian accident victims and patients undergoing operations, comes from a new X-ray process demonstrated to Rear Admiral Lamont Pugh, Surgeon General of the Navy, and other Naval medical officers at the Naval Medical Center, Bethesda, Md.

With the new process, X-ray pictures can be developed within one minute, instead of the half hour or more now required. They can be developed in daylight, without any fluids or solutions. And because the picture appears on paper, instead of transparent film, no special illumination is needed to examine it. The film holders are designed so they can be used with any conventional X-ray machine in any hospital.

The new process, expected to "revolutionize care of the wounded," is based on an invention by Edwin H. Land, scientist-president of the Polaroid Corporation, Cambridge, Mass. Development of it for practical X-ray purposes was done by the Picker X-ray Corporation of Cleveland. It was tested by the Naval Medical Field Research Laboratory at Camp Lejeune, N. C., for X-ray use by the armed forces.

The X-ray pictures are taken on polaroid film sheets about 10 by 11 inches. The exposed film sheets can then be run through ringers in a small portable box and within one minute are ready for the doctor's examination. Initial production will be made available to the armed forces.

Use of X-ray machines on shipboard will be greatly facilitated, Naval medical authorities pointed out. This is because the new process eliminates the tanks of developing fluid which often spills when ships pitch and roll on rough seas.

The dry process will eliminate the danger, present in civilian hospitals also, of spilling the highly inflammable developing fluids which often happens when films are removed wet for quick examination.

In the emergency wards of civilian hospitals, X-rays of accident victims can be made available immediately with the new process, regardless of the time of day or

night. At present, patients and doctors often have to wait overnight before the dark room technician arrives to develop the film.

The new process also will greatly speed operations requiring X-rays during the course of the operation. With conventional X-ray methods, patients sometimes must wait on the table under anesthetic for 45 minutes while the X-ray picture is being developed. Risk to the patient as well as time will be reduced with the new, one-minute developing.

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MEDICINE

Viruses Can Help Man As Well as Harm

➤ VIRUSES are generally looked on as enemies of man because they cause some of our worst infectious diseases. Poliomyelitis, influenza, mumps, measles, smallpox, sleeping sickness, one kind of pneumonia and the common cold are examples. But not all viruses are hostile to man and some may become powerful allies in the war against disease, Prof. Max A. Lauffer of

the University of Pittsburgh pointed out in a report to the American Chemical Society.

Some of man's greatest enemies, including insects and bacteria, also suffer from virus diseases. This, Prof. Lauffer explained, is the basis for hope that some viruses may aid in protecting human health.

Viruses which afflict bacteria have a special name, bacteriophage.

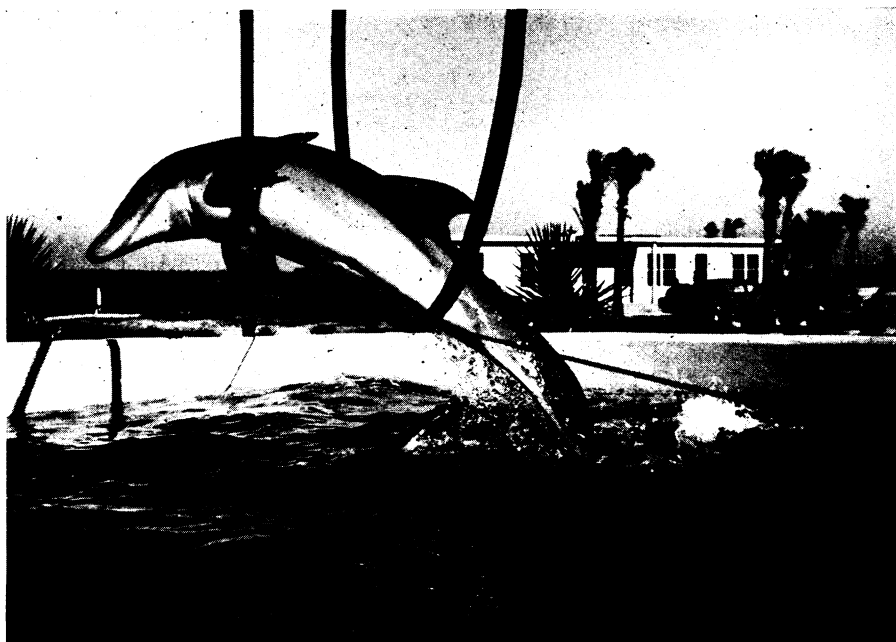
"There is a very real possibility that, when the mechanism of infection of bacteria by viruses is adequately understood, bacteriophages may prove to be powerful antibiotic agents," Prof. Lauffer said.

"Bacteriophages represent natural enemies of bacteria. Why haven't they been used successfully as antibiotics? I believe the answer is that we do not know enough about the fundamentals of the interaction between bacterial viruses and bacterial cells."

Despite all the talk about "virus X," the "cold virus," and the "poliomyelitis virus," Prof. Lauffer said, many people do not know how viruses differ from other disease-producing agents such as bacteria. In many respects viruses resemble bacteria, he conceded, but they differ in at least two important respects.

First, viruses are smaller than most bacteria—so small that they cannot be seen with an ordinary microscope, and will go right through a filter which will stop bacteria. Second, viruses differ from most bacteria in being absolutely dependent upon the living tissue of hosts for their reproduction and growth.

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TRAINED PORPOISE—Flippy jumps through a hoop to demonstrate to his trainer, Adolph Frohn of Marine Studios, Marineland, Florida, that he is not too dumb to learn a few tricks.