

MEDICINE

Guarding Army Health

Minds and bodies of soldiers rebuilt at Army Medical Center. New plastic surgery techniques aid wounded men. Army's mobile X-ray units are best in world.

By JANE STAFFORD

► TESTING canned ham-and-eggs and other foods for soldiers overseas; making vaccines to protect men and animals against disease and death; teaching Army doctors to recognize and treat unfamiliar ailments that menace life and health in the tropics; making false teeth and artificial limbs; rebuilding and retraining war-shattered minds and bodies; constantly searching for newer, better ways to protect the health of the American soldier—these are among the many activities of the great body of experts which even includes a make-up artist from Hollywood, who are assembled at the Army Medical Center in Washington, D. C.

Most spectacular, perhaps, of the many phases of the work is the transformation wrought by skilled surgeons on hideously deforming burn injuries and bullet-shattered jaws and faces. As a result of a new method of skin grafting developed since the last war, general improvements in technic and the continuous wire loop with elastic traction for pulling blasted jaws back into normal position, far fewer veterans of this war will carry the disfiguring scars and crippling deformities that horrified civilians after the last war.

One of the patients I saw at a press conference at Walter Reed General Hospital, which is part of the Army Medical Center for treatment, research and training, was an officer in the Air Forces. He had been badly burned in a crash.

New Nose

Using the new technics, the Army surgeons had built up a new nose for him, grafted new skin onto his eyelids, cut away a three-inch wide, tightly drawn scar that ran along his neck and the side of his face and replaced it with smooth skin from his abdomen.

New skin had also been grafted to replace the scarred skin on his hands. In a few months, when the redness has disappeared, he will have little to show that he had ever been badly burned and scarred.

Another patient about to have the

same sort of treatment has an ugly scar that draws his chin right down into his neck. That will be cut out and replaced with normal, healthy skin molded into a new chin.

With the new method of grafting, the grafts take and the place from which the skin is removed also heals within about 14 days. With the pedicle graft method formerly used, the process required three or four months.

Skin Cut Thin

The new method was developed by Dr. Earl Padgett, of Kansas City, who invented an instrument called the Padgett dermatone for cutting three-fourths thickness skin for grafts. With this thickness, the grafts take much better and, with the dermatone, they can be cut any desired size and of the same thickness throughout, a feat practically impossible to do with a razor on the heaving abdomen of an anesthetized patient.

Plastic surgery is not just a matter of cosmetics, and Army surgeons prefer to call it reconstructive surgery. They point out that its field may extend from head to foot. It is not always possible to erase all marks of battle wounds nor to give a movie hero's appearance to a badly wounded soldier who was no Apollo before his injury. Much can be accomplished, however, although in some cases several operations and many months may be required before the job is finished.

Plastic surgery of the face almost always involves surgery on the jaws, since in a serious wound of the face the jaws are also usually shattered or partly blown off.

For reconstruction of the jaws, the important thing is to bring them back into what dentists call occlusion, meaning that they are in good position for biting and chewing. To do this, the first step is application of continuous wire loops with elastic traction.

The wire is run around all the remaining teeth, looped between each two teeth at the gum edge. Then elastic is drawn through the loops to pull the jaws into position. The advantage of the

elastic over wire traction is that the patient can pull his mouth open if necessary.

Formerly he was supplied with scissors to cut the wire in emergencies, but the scissors often got lost and the patient was in danger of becoming seriously ill, perhaps of choking to death.

Latest thing in casts which Army maxillofacial surgeons are using for jaw injuries is an acrylic bandage. The first was supplied by the manufacturer in material about one inch wide which looked like three lengths of thin metal coil springs stuck side by side.

After being shaped to fit the patient's head, a liquid was poured over it which flattened and hardened it. The elastic bands for traction were then attached to this light plastic semi-cast.

Col. Roy F. Stout, chief of the dental service at Walter Reed, asked to have this acrylic material supplied in a woven mesh instead of the coils. The result is material that looks and feels exactly like strong, fine quality white silk. Actually it is the same acrylic material and hardens in place to form a strong, stiff bandage when the liquid is poured over it.

Much more plastic surgery will be done in this war than in the last, the surgeons at Walter Reed think. This is partly because of the improvements in



WOUNDED—This soldier is recovering full use of his arm and will soon be able to turn the big wheel completely around as a result of physical therapy at Walter Reed Hospital, part of the Army Medical Center.



FACES REMODELED—At the Army Medical Center, Capt. D. H. Cash uses his skill to prepare an artificial eye and half-nose for a soldier blinded by a "booby-trap."

methods and partly because burns, which are a potent cause of disfigurement and deformity, are much more frequent.

Infection, such as lockjaw and gas gangrene, are hardly a problem, thanks to the sulfa drugs and blood plasma. Men wounded in battle today have a better chance of escaping infection than victims of street accidents at home, it was stated.

All the officers at Army hospitals in the United States are constantly impressed with the excellent condition of the wounded when they arrive here.

Plasma and sulfa drugs are not the only modern medical weapons used in first treatment of the wounded at or near the front. Plastic surgery actually starts in the field and a dental maxillo facial kit, for face wounds involving skin, bones and teeth, is part of the equipment of dental and surgical officers serving with the troops.

The mobile X-ray unit, which packs into two trunks that can be carried by four men and set up ready for use anywhere within 30 minutes, is the best of its kind that any army has or has ever had. It has a fluoroscopic screen to enable the doctor to see within the patient's body immediately as well as equipment for taking X-ray pictures that

can be swiftly developed in the same black tent.

This unit is used chiefly for diagnosis and location of bullets or shell fragments. It can also be used to treat skin diseases and calluses of the feet, a common affliction of soldiers. For treating conditions deeper within the body, such as cancer, a more powerful machine is needed.

Patients needing such care are brought back to the States, sometimes being flown home from as far as India or the Southwest Pacific in Army transports or bombers to get treatment started as fast as possible. One such patient is a lieutenant colonel who had a large cancer of the kidney that had spread to the neck. His case was considered hopeless, but he was treated and now is back on duty, as active and vigorous as ever.

Radium as well as X-rays are among the weapons with which Army medical officers protect the health of the nations' fighting forces. Newest military medical use of this weapon is to protect the Army airmen from deafness and impairment of their sense of equilibrium.

In some people, Major Milton Friedman, chief of the irradiation therapy section at Walter Reed explained, bits of adenoid tissue persist even when the

main bulk of it has been removed with the tonsils in childhood. These persisting and often enlarging bits may press on the Eustachian tube between the ear and the back of the nose and throat. This condition may cause deafness and is apt to be particularly troublesome to flyers during the rapid descent from high altitudes in dive bombing.

To prevent the condition, a radium pack is put up the nose for two or three hours so that its rays may destroy the persistent adenoid tissue.

Vaccine Made

This bird's eye view of the Army Medical Center would not be complete without mention of the Army Veterinary Corps and its two missions. Looking after the Army's animals, and even this largely mechanized and motorized Army has quite a few, is one of its missions. This also affects human health since animals are often a reservoir of diseases that spread to humans.

Equine encephalomyelitis, one of the strange virus-caused maladies popularly called sleeping sickness, is an example. The disease affects both horses and man and it was an Army Veterinary Corps officer who discovered that it was spread by mosquitoes. A vaccine which protects horses from the plague is made by the Veterinary Corps at the Army Medical Center.

Second important mission of this little-understood branch of the Army Medical Department is to test all Army food of animal origin, from slaughterhouse through processing and storing to the time it is to be served to the soldiers.

The foods include fresh and all kinds of canned milk, sausages, bouillon cubes, pemmican for aviators' emergency rations—chili con carne—and canned ham and eggs.

This is the latest ready-to-heat-and-eat food product to pass both taste and other tests of the Veterinary Corps, which sampled some of the 800,000 dozen orders making up the first consignment. The tests on all foods are both for sanitary quality and for Army specifications for protein, fat and water content.

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● RADIO

Saturday, May 15, 1:30 p.m., EWT

"Adventures in Science" with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. G. R. Wendt, of Wesleyan University, Middletown, Conn., and member of the Committee on Selection and Training of Aircraft Pilots of the National Research Council, will discuss "Airsickness."