

SAFETY

Check Bleeding First

Apply pressure immediately to stop bleeding from wounds, for loss of more than two pints of blood at one time is often fatal.

Second in a series on first aid for atom bomb casualties.

By JANE STAFFORD

► LOOK for 1) serious bleeding, 2) difficult breathing or stoppage of breathing, and 3) poisoning. Treat immediately, in that order, before you do anything else.

This is the Number One rule which will be taught 20,000,000 persons throughout this nation who will be needed to give first aid in event of an atomic attack.

It is the prime rule to remember at any time you are giving first aid, whether to victims of a highway accident or to someone who is accidentally injured at home or at your place of work.

Victims of an atomic attack will suffer many kinds of injuries. There will be all the kinds that would come in an ordinary bombing attack, plus a few peculiar to the atom bomb itself. Flash burns, burns from fire and injuries from blast, from flying debris and from collapsing buildings can be expected in varying degrees, both as to number and severity.

From the bomb itself, of course, will come ionizing radiations, the alpha, beta, gamma, and neutron rays which are so mysterious and frightening to most people. The damage these do depends on the dose of them that gets inside the body.

As a first aider, you should not worry about radiation injuries. But if, two or three days after the bomb burst, one of your friends or neighbors complains of feeling sick, and perhaps has been nauseated and had diarrhea, you should suspect radiation injury and advise him to see a doctor promptly. Many borderline cases might be saved by transfusions of whole blood. And perhaps by the time an atom bomb drops on your town, medical scientists may have found other good treatments for the radiation injury from it.

Temporary Blindness

Some of the victims may complain that they cannot see. Unless the eyes are protected, the flash of the bomb could produce temporary blindness. Normal eyesight will return in about five minutes on the average, though this temporary blindness may last several hours.

You help these victims to a safe place, reassuring them, and of course treating any serious injuries they may have. But leave the eyes alone. You do not want to put anything in or on the eyes that might cause infection.

Radiation from the bomb can cause serious damage to the eyes. The number of these radiation cataracts so far reported among Japanese victims, however, has been small. They do not develop immediately and, like any other cataract, require treatment by an eye specialist when they do develop.

Immediately after the bomb goes off, you are going to be busy helping people with bad burns, torn and mangled limbs, gaping belly wounds with intestines and other internal organs showing, and people choking and gasping for breath because of pressure on chest and belly or a wound that has pierced the chest. And there will be others with mouth and nose so covered by sand, gravel and other rubble that they cannot breathe.

Remember that you must look first for serious bleeding and stop it. Loss of more than two pints of blood at one time can be serious and may be fatal. If a large artery or vein is cut, blood will pour out fast and in large quantities. Bleeding is serious if bright red blood spurts from a wound or if the blood is flowing freely, whether bright or dark. Blood from arteries is brighter than blood from veins and usually comes in spurts corresponding to the beating, or pumping action, of the heart.

Action at Once

You do not need to decide, however, whether the blood is coming from an artery or vein. If it is coming fast and does not stop by itself within four or five minutes it is serious and you must try to stop it. Remember, the victim may have been bleeding four or five minutes by the time you reach him. So if you see a lot of blood on his clothes or see the blood pouring from a wound, go into action at once.

Direct pressure is the most commonly used way to stop bleeding. You may have to put your hand right on the wound.

Sometimes pressing your fingers on the edge of the wound will stop the bleeding. If you have a sterile gauze compress, use it, but do not wait to get one. A clean handkerchief or cloth is better than your hand or fingers, but again, do not wait to find one. Depending on circumstances, you can send someone for a handkerchief or bandage, or the victim may be able to apply pressure while you get one. As soon as you can, substitute a cloth or dressing for your hands and fingers and press firmly on that. If this stops the bleeding, bandage the cloth or dressing tightly.

Look at the bandage frequently to see

whether bleeding has started again. If it has, you must apply more pressure. Do not take the bandage and dressing off, however. This might disturb or break the clot that is forming. The clot is nature's way of stopping bleeding.

Movement Risky

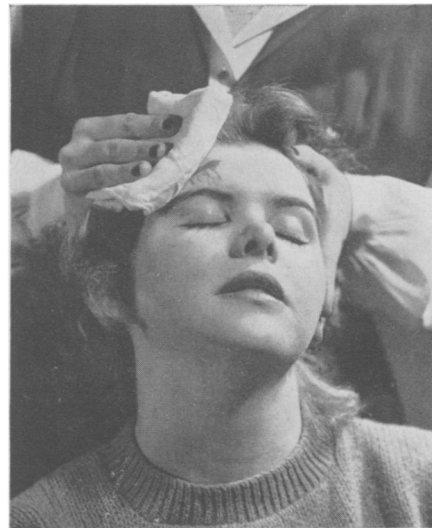
If the bleeding is from a wound in the neck, you cannot very well bandage a dressing in place. Put your hands above and below the cut and press firmly enough to stop the bleeding and keep up the pressure until a doctor tells you to stop. Because the blood will make the neck very slippery to hold, a compress of the cleanest material immediately available will be a great help in keeping the pressure on.

When bleeding is from the hands, feet, arms or legs, it may help to raise the injured part. If there is a broken bone, however, do not do this. Keep the injured part quiet, aside from the necessary manipulation to apply pressure and bandage and to raise it. Movement may loosen the clot and cause bleeding to start again.

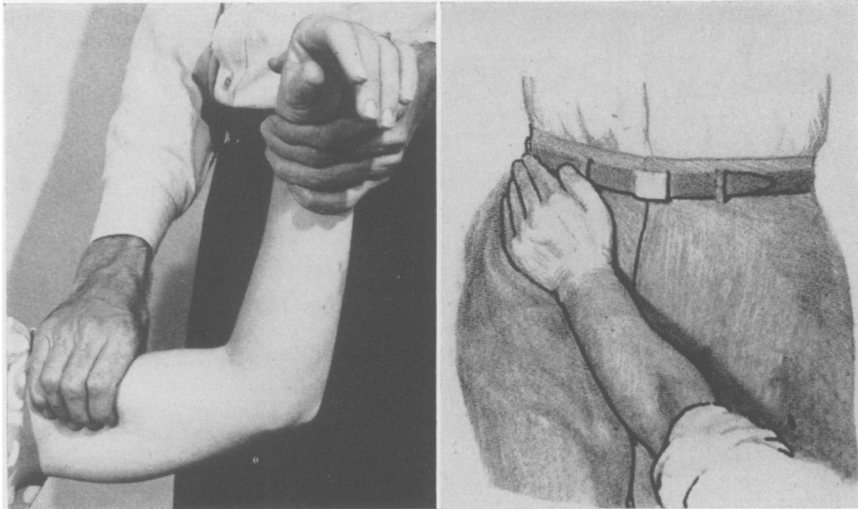
A good way to stop serious bleeding in many cases is to press your hands or fingers on certain "pressure points." These points are where the main artery to the injured part lies close to a bone. The bone gives a firm object against which pressure can be applied.

There are a number of these pressure points, but the two most practical for the first aider to learn and use are:

1. On the inner, or body, side of the arm, below the armpit and about halfway between shoulder and elbow.
2. In the mid-groin as the artery passes over the pelvic bone. Press downward, with



STOP THAT BLOOD—*Serious bleeding may be stopped by pressing on the wound with a sterile compress. If a compress or clean cloth is not available, use your fingers.*



PRESSURE POINTS—When blood flows freely from a wound, it may mean an artery or a vein has been severed. To stop such bleeding, first aid trainees are taught two main pressure points: For an arm wound, just below the arm pit; for a leg wound, where the leg joins the body.

your arm straight, pressing the heel of your hand into the middle of the groin.

You undoubtedly have heard about tourniquets used to stop bleeding. Remember

that they are always dangerous. Applied by someone who knows how, they are useful, but they should not be used if bleeding can be checked by other means.

Science News Letter, October 7, 1950

ECONOMICS

Economics Affects Vote

► **POLLSTERS** may be much more exact in their future election predictions because the United States Census Bureau has divided the nation into 443 "economic areas." A young population expert of the Bureau, working on his own time, has discovered a remarkable correlation between these economic areas and voting habits.

The expert, Calvin Beale, of the Bureau's Population Division, has found in preliminary studies that people in one economic area are likely to have a consistently different voting pattern than people in the neighboring economic area. This does not mean that all people in one economic area vote either Republican or Democratic—only the pattern is different.

The areas—150 metropolitan and 293 non-metropolitan areas—were devised as a new tool in the study of many of the nation's problems. Already they are being used in planning of road systems, studies of migration and fertility.

Each of the economic areas consists of a county or group of counties within a state with agricultural, industrial and social characteristics that differentiate it from other areas. For purposes of study and research, this kind of area makes much more sense than the artificial, political boundaries of counties and states.

However, the new areas are a compromise in one respect. Since our vital statis-

tics are set up along county and state lines, the economic areas all consist of whole counties or groups of counties within states.

Dr. Donald J. Bogue, of the Scripps Foundation for Research in Population Problems, cooperated with the Census Bureau in setting up the new areas. It is his



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opinion that public opinion predictors will have to take cognizance of the new areas, making sure that their samples fairly represent all the different ones.

For pollsters, economists, sociologists and others who want to study problems on a national level, many of these economic areas may be combined across state boundaries. These combinations will probably be called economic sub-regions and economic regions. A sub-region will contain two or more similar economic areas without regard to state boundaries. A region is a grouping of several sub-regions which have the same fundamental characteristics. The nation can be divided into about 20 economic regions.

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On This Week's Cover

► **THE** first turbo-prop powered tactical attack bomber, the Douglas A2D Skyshark, combines a short take-off, a high operating altitude, and a speed approaching that of a jet fighter with a high load carrying ability. The bomber's predecessor, the Douglas AD Skyraider, has been used in the fighting on Korea. Skyraiders struck from the carrier Valley Forge on July 3 after receiving authority to bomb North Korea and have been hitting installations steadily ever since with 6000-pound bombloads.

The bombload per mile per hour of the A2D is almost 50% greater than that of the AD while fuel consumption per pound of bomb per mile is substantially the same as that of the AD piston engine airplane. This comparison indicates a great improvement in performance efficiency.

Science News Letter, October 7, 1950



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