

MEDICINE

Blast Death Explained

Sudden death during bombings is believed due to jamming shut of the epiglottis, roof of voice box, while the lungs are empty of air.

► A NEW explanation for sudden death from blast appears in the *Lancet*, medical journal published in London (June 26).

In these blast deaths, which occur during bombings, the victim is not hit by the bomb or its fragments and the body usually shows no sign of injury or at least of injury bad enough to have killed the victim.

These deaths may be due to forcible jamming shut of the epiglottis while the lungs are empty, in the opinion of Dr. F. C. Eve, senior consulting physician of the Royal Infirmary at Hull and deviser of a rocking method of giving artificial respiration. No other satisfactory explanation of sudden death from blast has yet been given, he states.

The epiglottis is the lid or roof of

the voice box. The high pressure wave from the bomb, both in air and water, compresses the chest, forcing out some air, Dr. Eve explains. The chest, being elastic, then expands and air is drawn sharply inward. This inrush of air might slam down the epiglottis and its effect would be reinforced by the low pressure wave of the blast which sucks the chest walls outward just as it sucks glass out of windows.

If the lid of the voice box is jammed shut this way when there is only a little air in the lungs, the victim cannot force it open because he has not enough air in his lungs to provide sufficient pressure. With the epiglottis jammed shut, no air can get into the lungs, either, so the victim swiftly dies.

To answer the objection doctors are

sure to make, that in such a case the victim would show signs of suffocation, which blast death victims do not, Dr. Eve cites from the medical literature three cases of sudden death due to food jammed in the upper part of the windpipe. The victims in these cases did not turn blue or show signs of choking.

Cases of death from the epiglottis being jammed shut are probably not so rare as commonly believed, Dr. Eve says. He thinks that both in blast victims and other sudden death victims this cause may often be missed, as it nearly was in a case of electrocution he saw.

His experiences and experiments with fingers cut from rubber gloves and placed over bottles subjected to blast waves lead him to suggest certain methods of treatment and perhaps prevention of blast deaths. For prevention, he advises wearing a broad belly bandage which need not be very tight but must be inelastic.

For treatment, the doctor should try to pull up the jammed epiglottis with his finger or a crochet hook. Or he might plunge a small hollow needle or even a knife into the windpipe, perhaps also blowing into it, so as to get air back into the lungs to force open the epiglottis. After this, but not before, artificial respiration may be used if necessary to restore the victim. The epiglottis-opening procedure, with needle, or finger, must be completed within four minutes, he warns, if the life is to be saved.

Science News Letter, July 31, 1943

PSYCHOLOGY-PHYSIOLOGY

"White Noise" in Planes Studied By Scientists

► METHODS for solving the problem of "white noise" in airplanes, which is apt to get whiter and therefore worse as faster planes are built, are reported by Comdr. Leon D. Carson, U. S. Navy, Dr. Walter R. Miles, Yale School of Medicine, and Dr. S. S. Stevens of Harvard, to the Federation of American Societies for Experimental Biology.

White noise is to sound what white light is to light, the scientists explain. It is heard when all sound frequencies are added together, just as white light is seen when all colors, or light wave frequencies, are added together. The person on the ground listening to a plane high overhead hears only the low frequencies of the propeller. Inside of a really fast-moving plane, all the frequencies are heard together. Usually, the greater the speed, the whiter the noise and the more objectionable it is to the ear. (Please turn page.)



VISUAL AIDS—At the Medical Replacement Training Center, at Camp Pickett, Va., this studio is operated where five enlisted men work constantly at making plastercast models of legs, arms, heads and other parts of the body for the instruction of medical soldiers for the battlefield jobs. Some models show fractures, injuries and wounds of all sorts, and some illustrate the various functions of organs or show pressure points, muscles, veins, and so on.