

patient becomes torpid, his muscles relax, and his face assumes a leaden grey colour; the respirations are so shallow that breathing may appear to have ceased, and the pulse tension is very low. As a rule, the pulse rate is much quickened, but it may be abnormally slow, this condition being generally due to such an extreme weakness of the heart that not all its beats are able to reach the artery in the wrist.

Among the causes of shock are fright, previous exposure to cold and wet, extensive injury to the skin, such as may follow a shell wound, injury to a large nerve trunk (as from a bullet wound), hæmorrhage, injury to the peritoneum, as when the intestine is severed, or injury to the spinal cord. On the battlefield many of these conditions may obviously be combined.

Shock may prove fatal in a few moments from cutting off of the blood supply to the higher centres, such as those controlling respiration and circulation, but under favourable circumstances it may pass off as rapidly as it came. Unfortunately the essentials for the treatment of shock are often absent in emergency, and there can be no doubt that many of the wounded will die rather from shock than from the severity of their injuries.

The first factor in the treatment of shock is inversion of the patient, so that the blood may run towards the nerve centres in the head, and in emergency this is not only the most important measure, but also the easiest to carry out; the head should be lowered and the legs raised, and the patient should be supported in this position by packing any available substances under him.

Next comes warmth. In hospital a warm drink (unless this should be contraindicated by the presence of internal hæmorrhage) should be given. I do not know what facilities for this will be possible on the field, but a draught of hot milk or coffee is about the best thing that can be given to the average wounded man. Incidentally, thirst is almost always present with any wound, and it may be so extreme as to be agonising.

Then we have narcotics, such as morphia, of which a hypodermic injection—usually half a grain to a robust man—may be given. This has the advantage of combating pain as well as shock. Instructions on this point as to the routine to be observed will doubtless be given to nurses on active service at the appropriate time and place.

Another most valuable remedy is the injection of normal saline solution, but this is not usually available in emergency. When the wounded have been brought into the temporary

or permanent hospital, saline injections will be available, and will probably be freely used.

Two things should not be given—strychnine and alcohol. Both of these aggravate shock by acting on centres which are already exhausted from over-stimulation. Before this point was understood, many lives were lost from the routine administration of strychnine, especially to all and sundry patients who were standing operations or anæsthetics badly.

Latterly the hypodermic administration of pituitary extract has proved to be a most valuable remedy for shock, but in emergency this might not always be available.

In war we must not forget that we may have to deal with medical as well as surgical catastrophes. Many of these come from insanitary conditions which attend troops in the field, such as drinking polluted water, and from infections, such as enteric fever and cholera, both of which are apt to spread with amazing rapidity once they have obtained a foothold, and certainly every nurse who is going on active service should read up these two diseases. Diarrhœa from bad food or water, tetanus from wound infection, and perhaps outbreaks of infectious diseases, such as diphtheria, or even scarlet fever and measles, may also occur.

Speaking generally, the greatest enemy will probably be sepsis in one form or another; we dealt with this in the last article, but I would emphasise again the point that, after all, the most important factor in the war against infection is the state of the patient's own leucocytes. Measures of disinfection, whether of wounds that have become contaminated or of surroundings, clothing, &c., in order to prevent the spread of zymotic disease, are of little use in comparison with the maintaining of the resistance of the person. In this the nurse bears a most important part: her triumph comes in getting food into a prostrate or fastidious patient, in husbanding his strength by the numerous niceties of her art, and thus helping his leucocytes to produce the antitoxins with which, after all, no germicide can hope to compete in efficacy.

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Dr. Delorme, the Medical Inspector-General of the French Army, holds that surgery in war time should be essentially conservative, and that the surgeon should only have recourse to operations in very exceptional cases. Simple methods must be the chief characteristics of the field hospitals. Even in wounds of the abdomen, which are always serious, laparotomy is not advised immediately in time of war.

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