

and your magnetic personality kept us all together in one fold, sinking all our differences of opinion. You are a humanitarian for whom national boundaries and communal prejudices have ceased to exist. You are so associated with the School, that even in your absence, your sweet voice will echo in the Lady Reading Health School, and reverberate into our hearts. Your interest in your students never vanished with the end of each course of training. You kept them all united under the one banner of the "Old Students' Association." The Old Students' Association was the connecting link between yourself and your old students working throughout India. Recently the Old Students' Association was discontinued in favour of the Health Visitors' League. It is only a step in the right direction for the welfare of your students in particular, and Health Visitors as a whole. We are grateful to you in having consented to continue the secretaryship of the Health Visitors' League. We can rest assured that you will speed up the Health Visitors' League in its forward march.

In social as well as in private life you are held in great esteem by one and all. You are noted for your excellent and exemplary character, and sterling qualities of head and heart. In you is accomplished a synthesis of the material and the spiritual of the old and new of the East and the West.

You are retiring from the school but not from our hearts. It is a matter of great consolation to us that we will have opportunities of your "Darshan". Your untiring energy and thirst for humanitarian work must surely have prompted you to take up another post in continuation of the present one. We can quite easily and correctly forecast the result of your new undertaking based on your past glorious record in the School.

Though you will be away we are confident that your patronage, your blessings and your moral support will be with us all. We wish you Godspeed, we honour you by keeping alight the torch you have kindled.

DELHI
19-2-42.

"With pranams"
WE ARE, DEAR MISS RAWSON,
YOUR BELOVED STUDENTS.

Treatment of Bullet Wounds

K. W. C. SINCLAIR-LOUIT, M.B.E., M.A., M.R.C.S., L.R.C.P., MEDICAL OFFICER
FOR CIVIL DEFENCE, FINSBURY, DESCRIBES THE CHARACTERISTIC APPEARANCE
AND TREATMENT OF BULLET WOUNDS.

The Casualty.—Sergeant R. is walking down a certain lane near the front. A bend of the lane is under observation from an enemy position, and as he turns it a sniper's bullet shatters his arm. He falls at once and in so doing escapes the further shots, which pass over his head. After a few minutes he crawls on to a covered position, and tucking the injured arm into his jacket makes his way to your Casualty Concentration Post, the location of which he knows, arriving some half-hour later.

Condition on Admission.—Sergeant R. has been in pain for the last quarter-hour only and is getting worse. In the beginning he says that he felt a blow just as though someone had struck him very hard with a hammer. After that his left arm was numb and useless. It bled a lot in the beginning, but seems to have stopped dripping. He is pale, resists any attempt to move the injured limb, but otherwise is fairly cheerful.

Immediate Treatment.—The first thing to do is to minimise shock by stopping his pain. A quarter of a grain of morphia will see to this, though if the skill and material are to hand, local anæsthesia, which will be discussed below, offers many advantages. Only when pain has subsided (5 or 6 minutes) should an attempt be made to get at the injury.

As always, examination must precede treatment, so the man must be carefully relieved of his tunic. The only way to do this is to rip it up the seams. Textile shortage can defeat an army just as much as starvation, so only in grave extremities should uniforms be sheared off with no eye to repair and re-issue later. There is also a nursing advantage in that a tunic or pair of trousers ripped up by the seams may be washed and used by the patient later, being held together by safety pins over dressing or plaster. When the tunic is off, the blood-soaked shirt and vest must be similarly removed. Throughout the whole of this process gentle traction must be applied by an assistant so as to maintain the limb in its natural alignment.

It can now be seen that the bullet came obliquely towards the man, penetrated the upper arm, breaking it, and on exit scored the chest wall, where there is a somewhat ragged, five-inch laceration under the left scapula. The entrance wound is no bigger than a sixpence; the exit wound is more the size of a half-crown and pouts open, showing lacerated muscle and an irregular-shaped piece of bone. The limb is freely mobile about the site of the fracture, and its continuity depends wholly upon the intact muscles which surround the point of breakage. Below the fracture it is cold and numb. However, the presence of a pulse at the wrist shows that the circulation is intact. Even were no pulse detectable it is probable that the limb could survive, for the small arteries in the muscle would dilate in response to the circulatory demands of the hand and forearm. Only a high division of the brachial artery would prevent this.

Bullet Wound Characteristics.—The term "dum-dum" was originally applied to soft-nosed bullets, or to rifle bullets, which had had their nickel-cases nipped off at the tip before being fired. In the writer's experience most ammunition shows "dum-dum" characteristics in the wounds produced. This effect is simply that of a small object entering the skin through a (naturally) small wound and then mushrooming out so as to produce a broad wound tract and a large wound of exit. Should such an object strike a bone it produces a comminuted fracture with many small fragments. These fragments, along with scraps of in-driven clothing, can later form the focus of sepsis and appear in the wound as dead sequestræ. The same effect is produced when a bullet, without mushrooming out, turns sideways and proceeds for the rest of its course rotating head over heels. This invariably happens when a bone is struck.

The lesson to be drawn from this is that external appearances, particularly of the entrance wound, are no guide to the degree of destruction inside, which becomes apparent only when the wounds are excised.

Surgical Treatment of the Case—All war fractures produced by bullets or shrapnel must (a) receive complete excision and (b) be immobilised in the position of function. Sergeant R. must, therefore, have all damaged tissue removed from the skin right down to the site of fracture. This is simple and only requires scalpel, tissue forceps and artery forceps for any small bleeding points. This process applies equally to entrance and exit wounds and serves to remove impacted bits of uniform and skin dirt from the dead torn muscle where the in-driven germs would breed, causing sepsis. Further anaesthesia will be required for this—the quarter-grain of morphia being quite insufficient to deaden the pain. This may be either general, local or regional. This question of anaesthesia is so important to the future progress of the patient that it must be discussed briefly.

1. *General Anaesthesia.* This is generally obtained by inhalation, and under emergency circumstances ether is most usual. It has several disadvantages, chiefly that induction is difficult, for the patient "gags" a lot. It serves further to refrigerate him by providing him with very cold air to breathe, and finally has a serious nursing disadvantage in that it makes the man sick for a good many hours. Luckily general anaesthesia can also be obtained for short periods by the intravenous injection of drugs, such as Evipan and Pentothal Sodium. Induction is easy and rapid and there is no post-anaesthetic sickness. The disadvantage is the short period of anaesthesia.

2. *Local Anaesthesia.*—This is easiest in small lacerations, but is not so practical for large deep wounds, particularly when the area of the wound is dirty and damaged.

3. *Regional Anæsthesia*.—By this term is meant the blocking off of a particular area from its nerve supply, *e.g.*, in the case of the arm the blocking by Novocaine injection of the brachial plexus right up in the root of the arm so that the whole limb becomes insensitive and paralysed. This is easily achieved by passing a needle over the top of the clavicle down on to the nerve trunks and injecting a few c.c. of Novocaine. This method is ideal as it reduces muscle spasm, and leaves a perfectly confident patient with a long period of immunity from pain.

When surgical excision under a suitable anæsthesia is complete, the limb must be set suitably. Once again the ideal method is simple. Plaster of Paris bandages have saved quite as many lives as the Thomas's splint. The important thing when doing a skin plaster is to allow some room for the cedematous swelling of the wound and to watch the finger tips for any sign of a blocked circulation. The other essential is to set the limb in the position of function, *e.g.*, with the elbow bent to nearly 90 degrees. If by some mischance the progress of the case is complicated, and a stiff joint ensues, a limb set in the position of maximum use can be put into service without further surgical intervention.

The type of case outlined above is simple to treat and should be got up early, and such casualties usually make cheerful assistants in the minor routine of the ward.

—By Courtesy of "The Nursing Mirror."

Wounds of the Head

TREATMENT OF POSSIBLE CASES DESCRIBED BY K.W.C. SINCLAIR LOUTIT, M.B.E.,
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Two Typical Cases.—Two men lying behind light cover on a scorching day had pushed their tin hats back. A burst of machine-gun fire penetrated the cover and they both received head injuries. They were dragged clear while unconscious, the wounds covered with field dressings, during which process one man started groaning. Two hours afterwards they arrive at your Casualty Concentration Post.

Condition on Reception.—*Case 1:* This man is conscious, though a little confused as to the circumstances of his wound. Removal of the dressing shows nothing more than a gash of the left temporal region some five inches long, following, roughly, the direction of his hair parting. His hair is matted with blood, though the flow has now abated.

Case 2: At first sight this man appears conscious. He is breathing stertorously and gives a regular groan every two or three breaths. His hands are free of the blankets, at which they are plucking. If a hand is taken, he grips with some vigour; this gradually relaxes. Examination of his wound shows what looks like an irregular tear across the front of his head from side to side. The whole picture is obscured by blood-matted hair, amongst which fragments of white brain tissue can be seen.

Immediate Handling and Treatment.—No wound can be treated until its extent is known. Both men should, therefore, be freed of equipment and damp clothing and well covered with blankets. The hair around the wound should be cut away gently with scissors, leaving a good three or four inch margin. If there is any sign of nits in the hair, the whole head must be clipped short. If anyone is skilled in the use of a razor, the margin around the wound should be shaved away from its actual tract. Blood and clot lying superficially should be removed with a sterile swab.

Case 1: This man should be propped up in bed—he will be well enough to co-operate—and the wound (after the shaving) washed out with sterile saline or plain boiled water. It will then be seen that the skull is intact, though actually scored for