



Nursing in Times of Disaster-4

Secondary Injuries - (i)

By

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THE four life-saving steps in First Aid are :

1. Insure an adequate airway
2. Stop the bleeding
3. Protect the wound
4. Prevent or treat shock.

Every nurse should memorize these four steps and learn the simple methods of carrying them out. Prompt and correct First Aid treatment will not only speed healing but will save lives.

Severe wounds are treated with care, stopping the haemorrhage and treating the patient for shock. Any limb with serious soft tissue injury should be splinted and kept immobile. In case of the penetrating wound of the eye ball, transport the victim flat on his back. If there is any foreign body in a penetrating wound of the abdomen or chest it should not be removed. Open wounds should be cleaned and covered with a sterile dressing. The affected part should be supported and kept in proper position to prevent later deformities. If bleeding shows through the dressing, apply a fresh dressing over the original one using slight pressure.

Seal all chest and abdominal wounds and if evisceration has occurred, put a wet sterile cloth on the viscera. Keep all torn off tissue or membrane wrapped up with the patient as they may be later rejoined to the body. If a blast was very near the casualty, or under water, pulmonary oedema will occur. This is treated by

giving oxygen, broncho dilators and sedation.

It is quoted that in the Hiroshima and Nagasaki Nuclear disaster burns caused half the fatal casualties, and that probably 3/4 of all casualties there had burns. Therefore it is important to know the first aid care for burns.

Burns are injuries of the tissue by thermal, chemical or electrical agents and radiant energy. They are classified according to their depth and the extent of body surface involved. We are all familiar with 1st, 2nd 3rd degree burns, but a fourth degree or type of burn is called segmental charring, which is not common during peace time but probably will be seen during a disaster. It consists of definite necrosis and total destruction of parts of limbs.

The nurse should make an immediate estimate of the degree and extent of the burn and know the agent that caused the burn so that the patient can be treated better. She should know that burns caused by fire are usually deep and that the extent of the burn determines whether the patient will live or die. Facial burns are accompanied by burns of the respiratory tract, which are often the cause of death. The very old and the very young with burn injuries do not respond to treatment well.

A burn of more than 20% of the body endangers life. Without proper care, a burn of more than 30% is generally fatal. Efforts will be spent on those with burns of up to 20% of the body and they will

be given priority care and taken to the Emergency Hospital first. Next in order are those with 20 to 50% burns ; they are given Morphine, (and encouraged to care for each other, due to the shortage of personnel). Time will not be spent on those with over 50% burns.

Chemical burns may be treated by flushing the skin or the eye with large quantities of water immediately. Artificial respiration and oxygen may be necessary. For electrical shock burns—the body is removed from the source of electricity by means of non-conductive article such as a wooden stick and then artificial respiration is given.

The general principles of emergency treatment for burns include maintaining fluid balance, the prevention of shock or its relief, the prevention of infection and the relief of pain and anxiety. At the First Aid Station, the nurse will expose the wound, removing only easily separated foreign particles such as clothing or debris. Clothing that overlaps the wound is cut away and gently removed. Do not try to clean the burn or break the blisters. Unnecessary moving may cause shock. Avoid wringing or overlapping the dressings.

If the nurse sees the patient with a 1st or 2nd degree burn immediately after the disaster, she can put the injured part in cold water or apply cold packs but the wound must be treated with strict asepsis. This would be practical only if the accident occurred near the Emergency or Fixed Hospital, where ice may be available. For

small 1st degree burn an ointment may be applied.

The following points are important to consider :

- (i) In most cases even the severely burned can be transported a short distance without a dressing if they are not available.
- (ii) If the victim must lie upon a burned body part, a dressing should be applied before transporting him.
- (iii) Dressing will reduce pain and help combat shock, by keeping out the air. It also helps prevent infection.

Shock must be watched for and treated early. Morphine or Pethidine for pain, is given intravenously, because of the poor circulation.

The nurse must consider if the patient is able to bear the pain and if he will receive a dressing soon after he reaches the First Aid Station. If not, it is applied at the accident, completely covering the burn, and then bandaged in place.

It is important that pressure is even over all parts of the burn, and that it is moderate. While working over the casualty the nurse should try to avoid droplet infection, as there is a great danger of infection. The body should be kept in proper position to prevent deformity or contractures. Plenty of fluids are to be given orally if the casualty is conscious and the kidneys excreting sufficient urine ; about one cupful of water every hour unless the doctor orders otherwise.

In the Emergency Hospital, the nurse may have to debride minor burn wounds. This is done gently and carefully to remove loose dead tissue, in order to prevent infection. All foreign material and burned tissue is removed, and the area flushed with sterile water or sterile normal saline. After this a sterile dressing is applied, but not to the face which is left uncovered ; this helps prevent disfiguring scars. Of course, tetanus antitoxin is given at the First Aid Station.

Burns due to nuclear explosions

are treated the same as ordinary burns. They can be divided into two classes :

- (1) Primary or Flash burns which are caused by radiant heat waves from the bomb. These waves cause a very high temperature which lasts only a few seconds but if the body is not protected, burns will occur.
- (2) Secondary burns which are caused by flames or contact with hot objects.

The face is left unbandaged and separate dressings are applied to the fingers and toes. The modified open method of treatment is used. This utilizes the open method, except when circumferential burns have occurred as of the hand, foot and those encircling the entire trunk or when there is possibility of wound infection. These should be covered. Only those burns in which result can be expected, are treated. Only those are admitted to the hospital who have major or complicated burns.

(To be Continued)

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