

but does not do any heavy work for two months.

2. For safe or stable fracture of body of vertebrae, a Plaster of Paris spinal jacket is applied in extension for ten weeks. The patient is ambulatory after one week. He may go back to active duty after about sixteen weeks.

3. Unstable fracture of the body of vertebrae without fracture or dislocation :

Spinal jacket in hyper-extension is applied for sixteen weeks. No hard labour is allowed for six months.

4. Unstable fracture of body of vertebrae with dislocation ; Operative reduction is performed and a post-operative spinal jacket is worn for about three months.

5. Management of spinal fracture with paraplegia will be discussed in detail by Sister Shankar.

Nursing Care of Spinal Injuries with Paraplegia

by

Sister Shankar and Staff-Nurse Nickle

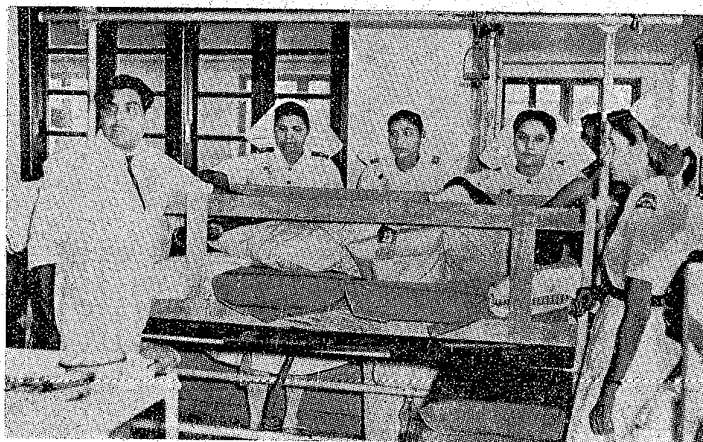
The nursing of paraplegic patients need the highest skill, ingenuity and dexterity on the part of a nurse. The nurse should be full of zeal, enthusiasm with a missionary spirit, and high courage. Hers is the very heavy responsibility of giving to the patient, on whom has befallen a most severe calamity, the courage to endure and live.

The routine procedure in our Department of Orthopedic Surgery in dealing with traumatic paraplegia in the initial stage following spinal injury is :

The patient is placed in supine position on sorbo-packs or air pillows, with additional soft pillows underneath the fracture to produce hyper-extension of the spine in order to restore, as far as possible, the normal curvature of his spine. A bolster is kept at the foot end of the bed to keep both feet in a position of dorsiflexion. From the basic supine position, the patient is turned, first to one side

to about 45 degrees, and back to supine position ; then to the other side. This changing of position is done very strictly every two hours *day and night*. The turning is carried out by 3 attendants working under the guidance of a fully trained nurse. Every precaution is taken in carrying out all the movements simultaneously, and of turning the patient in one piece ; we emphasise the importance of turning the patient in one piece during changing of position as essential to avoid further injury.

We have found that nursing of these



Demonstrating use of Sorbo packs and pillows

patients on large air pillows is much more satisfactory as the patient easily rolls on them and thus the position can be changed from one to another by two attendants. These pillows are very cheap, economical, and can be easily changed.

To further facilitate the nursing and changing of position of the patient every two hourly, we have designed a unique "hanging" paraplegic bed in our Department. The patient is kept on air pillows on a large wooden frame which is suspended and adjusted by pulleys and ropes. The nurse has simply to pull two ropes at a time to turn the patient from the supine to side position. This has solved the problem of turning these patients every two hourly when we are short of nurses. Another advantage is that the patient is turned in one piece as the wooden frame tilts and there is no danger of causing further damage to the patient while changing his position. It is also a great help when attending to the back and toilet of the patient or changing linen etc. As the head end of the bed can be raised just by adjusting the ropes, the patient can look around the ward and does not get bored by the monotonous and crippled life of lying for a long period in one position with one scene before him. This unique bed contributes toward making the

patient cheerful, happy, comfortable and helps to boost his morale.

When the position of the patient is changed two hourly the nurse should very carefully look for the following :

1. Any creases in bed sheets or mackintosh.
2. Any foreign particles lying there.
3. That patient is not wet or soiled.
4. That air pillows are in proper position.

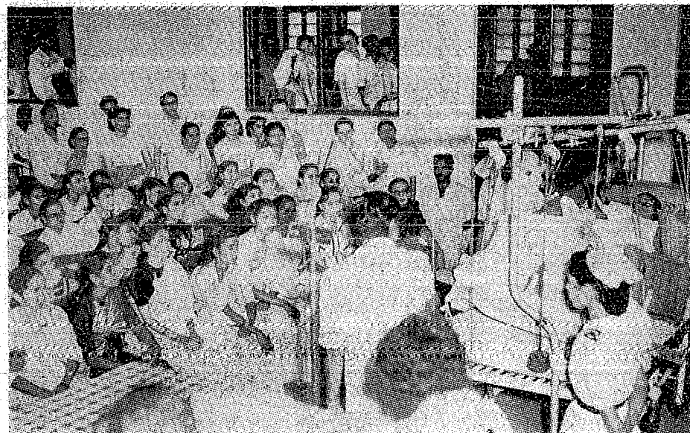
The patient should be given a daily morning sponging and his skin should be rubbed with spirit and powder four hourly ; the dusting powder should be free from grit.

Care of the Bladder

No catheterisation or any operative intervention should be done within first 24 hours after the injury. An attempt should be made to overcome any retention of urine by gentle manual pressure upon the bladder region combined with digital massage from rectum. If voluntary or reflex function has not developed within 24 to 36 hours after the injury, drainage of bladder is done. It is carried out by urethral catheterisation under scrupulous aseptic technique;

the catheter and all instruments should be especially prepared for this purpose. Inexperienced nurses or orderlies should never be permitted to carry out catheterisation in the initial stages. We emphasise a non-touch technique for urethral catheterisation.

An first intermittent catheterisation is done every twelve hours, so that the urethral mucosa becomes



The "hanging" paraplegic bed.

a c c u s t o m e d gradually to the foreign body. After four days the patient is put on a continuous urethral drainage by an indwelling Folley's catheter, size 16F with 5 c.c. volume. This indwelling catheter is changed twice in the first month, and then weekly in order to free the urethra from deposits. The bladder should be then washed out daily with boric lotion 2% or normal saline or any other weak antiseptic lotion. Before the wash-out, the stagnating residual urine should be withdrawn by a Pulitzer bag or Asepto syringe. The bladder should then be washed out and filled with lotion and left for two minutes; this helps to retain and develop the tone of the bladder musculature. If infection supervenes or the colour of urine is dirty, the patient is put on tidal drainage of the bladder for two to three days to clear the urine. The patient is kept under an umbrella of small dosages of sulphatriad.

Once the automatic function of the bladder has returned, the indwelling catheter is withdrawn and intermittent catheterisation is instituted until the detrusor action is powerful enough to leave a small amount of residual urine (less than 25%). If the patient develops an uncontrollable cystitis, or in those cases which come to us with cystitis, suprapubic cystostomy is performed. These patients are encouraged to take a

lot of fluids to avoid heavy phosphates and encrustation.

Care of Bowels

Constipation in paraplegics should be avoided at all costs. These patients, if constipated, are given a plain water enema on alternate days; the usual soap and water enema irritates the bowel mucosa and may cause uncontrollable diarrhoea. When the enema is given the patient is turned to one side. About a pint of water is given—the can kept at the height of one foot during procedure. The equipment should be sterilized to avoid infecting the patient. If the patient develops diarrhoea, the stool is examined. The diarrhoea is controlled by starch and opium enema, and by a bismuth kaolin mixture given orally; and if necessary, sulphaguenidine.

Nutrition

Constant attention is needed to combat malnutrition which is often a problem in the early stages of paraplegia. It is essential to maintain a good state of nutrition throughout. These patients should be kept on a high protein—high vitamin diet. Due to vasomotor disturbances these patients have bouts of sweating which result in loss of body fluid and mineral salts. A very careful watch is kept on the water and electrolyte balance, and glucose and saline transfusions given intravenously if required.

Surgery and Nursing Care

by

Sister Bela Singh

(Theatre Sister)

All orthopedic surgery demands meticulous care and the strict supervision of the operating theatre set-up, and provision for efficient post-operative care are vital to success. The patient with spinal injuries demanding surgical intervention, calls for top level care at every turn.

Selection of cases

More than 90% of cases of spinal injuries do not require any surgical interference. A well fitting plaster immobilization is usually sufficient in simple or stable fractures of the spine or soft tissue injuries.