

by a medical student. He was thin, obviously with poor appetite, and he had no voice. He too was having lung therapy and physiotherapy daily.

The third patient was being ventilated by an "Aga" mechanical student by day and a Kifa Cuirrass by night. He had tracheotomy with bag ventilation nine months previously, and in common with some other chronic patients, was suffering from renal calculi. He also appeared plump and quite happy—but it was a tragedy to see them thus. We next visited three other very chronic male patients. One—a very sad case—was the only one who had not completely recovered from pharyngeal paralysis. Often whilst attempting to eat his meals, food was passed into the lungs, which had to be sucked out quickly by a special suction apparatus. Doctor Sund informed us that owing to the frequent emergencies, strict asepsis could not be maintained in his case, but in spite of this very gradual improvement was taking place. This patient also had renal calculi and his condition was pathetic. His two companions had tracheotomy whilst medical students were supplying bag ventilation. Hot packs and passive movements were being given.

Next three more adult female patients, one of whom was totally and hopelessly paralysed. There was no movement of the right side of her face, which appeared mask-like. She was being ventilated by the new Engström (Swedish) respirator via a silver tracheotomy tube. She was unable to breathe for one second without her respirator! She lay quietly and appeared well nourished and obviously well nursed, having the usual treatments. We were informed that the chronic patients often get very depressed and weep during the night, but they quickly recover their optimistic outlook. They are cared for and nursed in a wonderful way; kindness and sympathy abound, and their treatment is never cancelled because of the apparent hopelessness of their condition.

We asked doctor many questions (see later notes) and he never failed in courtesy to give us answers. He explained the workings of the newer types of respirators, and was kindness and charm itself throughout the round. We owe him most grateful thanks and apologise for taking up so much of his valuable time.

Our visit to the children was curtailed by a specialist's round, so we withdrew and had some time for personal observations.

We were extremely interested in the actual nursing of the patients, and we were very enlightened by our observation. We noticed first how easily the patients were approached. Because they were not in "tank" respirators the bed could be approached from all sides. Every patient was nursed on a fracture board beneath the mattress and was in good alignment, backs quite straight. Mattresses were shorter than the bedsteads, so that there was an appreciable gap between the mattress and the foot of the bed. This allowed the patients' heels to rest over the gap and thus bedsores were easily prevented. A down pack, or light "over-mattress" was slipped into a white cotton case, and replaced top sheet, blankets and counterpane. They were light and airy and the patient was kept warm and yet had no heavy weight on his paralysed chest and limbs, and the bed-making for the nurses was reduced to a minimum. No screens were used, and I did not see any about anywhere.

Dress of Patients. The patients were dressed in short (thigh-length) open-backed vests and gowns. The women wore also short panties with elastic tops, or large nappies. Thus their limbs were free for packs and passive movements. The male patients wore short open-back vests and gowns and short pants to the knees. The children wore sleeping suits which completely encased their little bodies—with zip-up fronts.

We noticed that small, flat conical-shaped urinals were used for female patients. These were slipped between the thighs, when required, and thus the nurses were spared

frequent heavy lifting, and the patients much effort and pain of paralysed muscles.

Very few patients were able to feed themselves, therefore, meal-times were prolonged affairs. They were fed gently and slowly, and given fruit drinks through angular glass straws at very frequent intervals.

Drugs.—On admission and for six successive days the patients were given:

Intramuscular injections, 300,000 units of procaine penicillin and streptomycin daily. Then for 20 days afterwards they received intramuscular injections of aureomycin daily. Once breathing was safely established, narcotics were given for sleeplessness. Blood and serum injections and also injections of glucose were given as required. Nasal feeds were usually commenced after 48 hours, milky foods chiefly being given.

As the patients progressed from the acute to the chronic stage they were frequently weighed. Loss of weight was very evident. A doctor and patient were weighed together, the doctor supporting the patient, and the doctor's weight was subtracted from the total.

Early paralysis of the bladder was treated by catheterisation, which could be carried out with all aseptic precautions, as the patient, by not being enclosed in a tank respirator, was not in any danger of becoming hypo-ventilated. Paralytic ileus was treated by enemata on alternate days. Where there was danger of atelectasis (patients drowning in their own secretions), suction was carried out through the tracheotomy tubes and vigorous lung therapy and massage by physiotherapists was given. There were many physiotherapists on the staff, and they worked long hours daily—from 8 a.m. to 7 p.m., in order to get through their very arduous daily programme. They applied numerous hot packs daily. For this purpose they had many electric machines, similar to large washing machines. They contained an outer chamber wherein water was converted into steam and forced into a large inner chamber containing the Kenny packs. Thus the packs were steam heated. The machines were light and could be easily wheeled to the bedside, doing away with the outmoded method of carrying large baths to the bedside and there wringing out the packs for application.

The late complications now becoming evident are:

1. **Renal Calculi.** Probably due to lying flat for a long period of time, producing a tendency to stagnation of urine; also due to physical changes which occur as a result of bony and muscular breakdown, producing a deposit of extra salts in the kidneys.

2. **Tracheal Stenosis.** A very sad complication. At the moment, where this has occurred, plastic tubes are stitched into the trachea, to be removed in three months' time. No results have yet been seen. One tube will be ready to come out shortly.

3. **Fractures of Extremities** due to lack of muscular tone and probably also to decalcification of bones, rendering them more brittle.

From personal observations we felt that *tracheotomy with bag ventilation had many advantages*, the chief of which are as follows:

1. Nursing of the patients was greatly facilitated. As they could be nursed in bed instead of in tank respirators, all procedures such as catheterisation, giving of blood and serum, etc., could be carried out leisurely and with full aseptic precautions, without becoming anxious about the patient's breathing. Passive movements and hot packs could be given earlier in the disease, and oftener.

2. The patient's position can be changed oftener.

3. Aspiration of lungs through a catheter is easily performed without having to turn the patient in the prone position, which is always laborious and often difficult.

Quoting from Professor Lassen's pamphlet, he also enumerates the following advantages, amongst others:

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