

Poliomyelitis in Denmark

PART I

By GLADYS M. HARDY

On June 18th, 1953, by kind permission of my Hospital Management Committee and of the South West Metropolitan Regional Hospital Board, I flew out to Copenhagen in order to study every aspect of the recent polio epidemic there. Through the good offices of the National Council of Nurses of Great Britain and Northern Ireland and of the Danish National Nurse's Association a most interesting series of visits to the Blegdam Hospital and various physiotherapy institutions were arranged. Thus I, in company with another matron of a Cambridge hospital, was able to observe the medical and nursing techniques, the administration, the chronic patients and the cripples, whilst at the same time enjoying much friendly hospitality.

Our kind and charming hostess at the headquarters of the Danish Nurses Association was Miss Zangenberg. She went to endless trouble to see that we were comfortable and able to find our way around Copenhagen. She also telephoned the matrons of the various hospitals and made advance arrangements for our visits there. She was determined that the best use would be made of our time, and arranged quite a strenuous and most interesting itinerary for us!

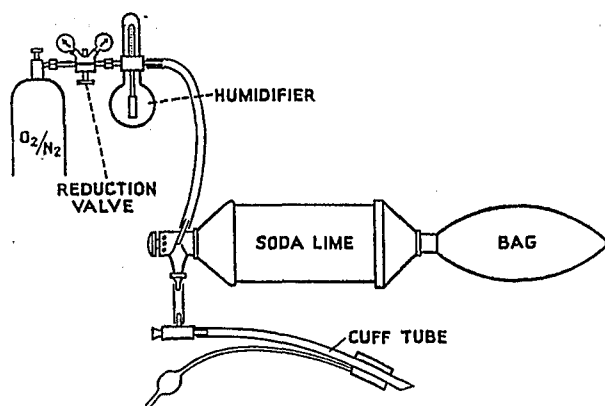
Friday, June 19th, found us in the matron's office of Blegdamshospital. Matron, Miss Z. Mollerup, kindly outlined for us her early experiences of the epidemic. She reminded us of facts we already knew, but it was a great occasion for us to be hearing them from such a reliable source. She told us that the epidemic which struck Copenhagen in the late summer and autumn of 1952 was unique from many aspects. For example:

1. Because of the great numbers of persons affected. (Over 3,000 in all over a short period of six months.)

2. Fifty people per day were admitted to the hospital during the peak period.

3. Over 800 of the victims required artificial aids to respiration with mechanical or manual ventilation of the lungs.

4. Owing to the fearful severity of the disease and partly because of lack of respirators, high tracheotomy was performed under general anaesthesia on those desperately ill cases requiring artificial ventilation. A cupped endo-tracheal tube was inserted and manual positive-pressure ventilation from a rubber bag through a soda-lime absorber was maintained. (See diagram.)



Apparatus for administration of bag ventilation.

5. Because of the great numbers of nurses, doctors and medical students which were so suddenly needed for so long a period.

6. Because of the tremendous cost thrown upon the municipality of Copenhagen, which, in a lesser degree, it is still having to bear. At the height of the epidemic each patient artificially or manually ventilated was costing 2,000 kronen, or £20 per day.

7. Nursing and medical services were mobilised as for war emergencies.

The types of Poliomyelitis met with were:

- (1) Bulbar.
- (2) Bulbo-spinal.
- (3) Spinal.
- (4) Encephalitic.
- (5) Non-paralytic.
- (6) Abortive.

Those patients suffering from the bulbar and bulbo-spinal types in July and August, 1952, suffered 100 per cent mortality, even when given respiratory assistance. Teams of E.N.T. surgeons, anaesthetists and physicians were then set up and tracheotomy was performed on all such patients with the insertion of a rubber cuff-tube into the trachea with bag-ventilation. The death rate fell to 50 per cent in September and to 25 per cent in October. It rose gradually again to 33 per cent and remained at that level.

Miss Mollerup told us of her early intense endeavours to obtain extra nurses. She advertised in all papers throughout Scandinavia for married nurses, retired nurses and for those willing to give part-time service. The response, though good, was not good enough, and eventually the large hospitals in Copenhagen had to meet the demands at Blegdam. Eventually she built up and maintained a nursing strength of 680 nurses for 500 patients. There are still 100 of the original polio patients at Blegdam, 31 of whom are still having artificial ventilation of lungs. Two new patients were admitted during our visit, both bulbar types, and both had tracheotomy performed with bag ventilation.

Miss Mollerup finds it difficult to change the duties of the nurses as often as they, and she, would like. Because of the skill and technical knowledge the nurses must possess, changes are proving to be no easy task.

We were then requested to be at the hospital at 9 a.m. the following day, when Dr. Bund would take us with him on his official round.

Thus, at 9 a.m. on the Saturday morning, we set off on our first clinical round. The patients were nursed in three-bedded or six-bedded wards, where they had been since the previous September. We first saw three female adult patients who were bulbo-spinal types and had tracheotomy. The earlier cuffed rubber tubes had been changed for silver tracheotomy tubes, and by each bed sat a medical student giving bag ventilation through the tube. The gas given was a mixture of pure oxygen and atmospheric air. Each student worked an eight-hour shift with short relief periods, and received 3.75 kronen (about 4s.) per hour. As would be expected, the patients were very fond of their students and did not like to exchange them for "mechanical" students or respirators. Each patient spoke with effort, but they were easily understood and their wants and needs were swiftly met. Most of them were completely paralysed—arms, legs, intercostals and diaphragms. These patients on admission were tried out with Kifa Cuirass respirators, but they had to have tracheotomy performed in order to save their lives.

Physiotherapists were giving hot-packs (Kenny treatment) and passive movements to limbs and chest. The patients appeared well nourished, well nursed, happy and comfortable.

Next we visited three male adult patients. The first we saw was being ventilated through a tracheotomy tube by a "mechanical" student—a "Claus Bang" respirator which gives a positive pressure (100-200 mm. water) directly into the trachea. He was admitted the previous October and was also having hot-packs and passive movements, although his condition was pretty hopeless. His near neighbour since the previous December was having soda-lime and bag ventilation

[previous page](#)

[next page](#)