

## REHABILITATION AND THE PARAPLEGIC

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I think that Dr Cooksey has put his finger on a very sore spot by emphasizing the difficulty that we are up against in this so-called "paper planning". This affects in particular the neglected group of severely disabled people, and I only wish that representatives of the Ministry of Health could have been here today to listen to Dr Cooksey. I hope that he will put the views that he expressed today very clearly to the powers that be in the Ministry of Health. It is a most depressing situation, as I can tell you from my experience of this group of severely disabled people. People who owe their disablement to an injury or disease of the spinal cord are among the most neglected people one can imagine.

You all know the importance of the spinal cord as the main mediator of all impulses from the brain to the periphery, muscles, skin, and internal organs, and vice versa of all afferent impulses from the skin and the muscles to the brain. However, the spinal cord is also a nerve centre in its own right. You know only too well what happens in an illness like polio when the anterior horn, the origin of the peripheral innervation of the skeletal muscles, is destroyed—the patient is paralysed and may remain so for the rest of his life. If the spinal cord is severed or crushed as a result of a gun-shot or knife injury or fracture of the spine, this is one of the greatest tragedies in human life, because such a person is instantaneously deprived of the most essential functions of our body, as apart from the complete loss of the voluntary motor functions all forms of sensation are abolished, including the most important one of postural sensitivity. That was the reason why not very long ago such a person raised from the horizontal to the vertical position had to be propped up in a bed by a leather and steel corset. Furthermore, such a person has lost the control of bladder and bowels, and in men sexual function is also abolished. As a result of the loss of sensation pressure sores may develop and the infection of the bladder resulting from the paralysis of the bladder leads to urinary sepsis and renal deficiency if the treatment is not understood. Hardly 20 years ago these people were considered as hopeless cases with a very short duration of life, and our profession, not only in this country but all over the world, took a very defeatist attitude towards them. There was nothing, or very little, that could be done, and the sooner they died the better. Probably many of you will remember

these unfortunate people screened off at the end of the ward, with the doctor or surgeon embarrassed to pass by. Now this has changed radically, because during the war a new approach was made here in this country, and this new approach has spread all over the world. It is based on the view that the mere fact that a man is a paraplegic does not necessarily make him a hopeless case or an institutional case, and that if proper rehabilitation and treatment are supplied from the start, not only can all the complications such as sepsis from bed sores and urinary infection be controlled and avoided and life prolonged for many years, but the paraplegic can become a useful and happy member of society again.

The unit which started this new approach is the one at Stoke Mandeville Hospital, Aylesbury, Bucks. The unit was set up as one of the preparations for the Second Front, and started in February 1944 with one bed and one patient; this unit is today the largest of its kind in the whole British Commonwealth, Europe and the world, with 190 beds. Associated with this centre are auxiliary units in London, one of them, the Star and Garter Home for ex-servicemen, and another the Duchess of Gloucester House, a resident hostel for paraplegics physically fit and willing to do full-time employment, and situated in the neighbourhood of the Great West Road, where there is a good deal of light industry. In this small area only, over a hundred paraplegics are working in factories and offices full-time, not just as paraplegics but as workers. That will give you one example of how things have changed. Furthermore, there is a unit in Eastbourne for ex-service men and one in Cardiff and there are settlements for certain groups of paraplegics (also ex-servicemen) like the one in Watford which was founded by Holland-Hibbert and has been a very great success, and the other at Macclesfield, where people can work on the premises.

Most of our first 2,500 patients (1,658 or 66.4 per cent) were traumatic cases; then follow in order of frequency, polio (5.6 per cent), vascular processes (3.1 per cent), spina bifida in children and adults (2.1), certain groups of multiple sclerosis and a miscellaneous group (all sorts of degenerative processes and also certain surgical mishaps, for instance paraplegia after disc operations). There were 19.6 per cent of the traumatic injuries in the cervical area (5.7 per cent complete and 13.9 per cent incomplete lesions), 9.5 per cent in the upper thoracic and 45 per cent in the lower thoracic and 25.5 per cent in the cauda equina region. I would like to emphasize how the family doctor can play a very important part in the prevention of cervical injuries by enlightening the public, because these injuries are produced mainly by two causes: motor-cycling and diving into shallow water. In all my lectures I emphasize what an important point this is

today, because these people do not die, they live for many years. We must warn and educate the public, including parents, teachers, and swimming instructors about the hazards of diving, and in particular educate younger people between 16 and 25 about the dangers of motor-cycling. If the spinal cord in the cervical area is crushed or severed, the patient is transformed in a split second from a healthy individual to a quadriplegic. Not only his lower limbs and trunk, but most of the fingers are paralysed. Yet in spite of this great disablement even the quadriplegic is going to survive for many years. The reason why I am telling you is this: today the problem of paraplegia and quadriplegia is no longer a medical problem alone, it is a social problem of increasing importance, and I have no doubt that in about ten or 20 years paraplegia will be one of the major causes of disablement in this country and in any other civilized country, because of the high survival rate of these victims.

What has happened to these patients in these 19 years? Are they still dying after two years or so? I would like to draw your attention to some statistics. The overall death rate for the 2,500 patients treated at Stoke Mandeville between 1944 and 1962 is 14.8 per cent and for traumatic patients it is 15.5 per cent. This includes every paraplegic or quadriplegic who died either during the treatment at Stoke Mandeville or after his discharge home or to other institutions, but it also includes paraplegics who went out fairly fit, got another injury and were killed, or developed cancer, tuberculosis, or some thing else which has nothing to do with the paraplegia. All these are included in this very low figure; if we take out these patients dying from unrelated causes, then the death rate of traumatic cases is only 11.5 per cent. I now draw your attention to the 461 survivors from the second world war, people who have now survived for more than 20 years with a death rate of only 20.8 per cent. For the civilians, the mortality rate is only 7.7 per cent. These very sobering figures are a great warning to everyone regarding the high survival rate of paraplegics, not only to the people who are doing the initial treatment but also to the family doctor. Today the family doctor is more and more involved in the after-care and rehabilitation of these patients.

Are paraplegics still forced to live in institutions as hopeless cripples? Our figures for domestic resettlement of our first 2,500 patients show that we succeeded in discharging 1,682 to their own homes. That I consider the ideal domestic resettlement of paraplegics and quadriplegics: the paralysed fellow man should live within the community. Here, we need the full co-operation: (a) of the family, (b) of the local authorities, and (c) of the medical attendant. The reason why a patient cannot be discharged from hospital

is often the fact that their houses are impossible and cannot be re-adjusted. You will no doubt realize how much public money is wasted by unnecessarily prolonged hospital care if the local authorities are not co-operative and do not try to resettle the disabled people domestically as quickly as possible. Only 233 of our former patients live in hostels.

Are these people still the outcasts of society, dependent on other people's help, on charity, on pensions and so on? Are they still hopeless people who are unemployable and to whom life has nothing to offer but misery and despair? Industrial re-settlement statistics will show you how things have changed: 800 out of the 2,500 had to be taken off the list through death, retirement, or old age; only 94 were physically unfit (these are the persons with the very high cervical injuries), 160 were under treatment at Stoke Mandeville at the time of the statistics, 54 under hospital treatment, and 38 could not be traced. Therefore at the time of the statistics 1,700 were capable of employment. Of these, 972 are employed full-time (57.0 per cent), 10.6 per cent part-time, 17.5 per cent in home occupation; altogether 85 per cent of these 1,700 people are enjoying their working life. What Dr Cooksey told you is quite correct—it is not money which induces the paraplegic to work. Quite a number of them could live from their pension, and in our Welfare State a paraplegic who does not do any work gets from the state no less than £9 a week. It is not the money, it is the realization that regular work is important for their well-being: the most healthy of my paraplegics are those who have been in full-time employment for many years.

At the time of the statistics 256 were not working. That does not mean of course that they are incapable of work. Quite a number of people had been discharged a short time previously and had not yet found employment. Here again, although the Ministry of Labour has greatly improved its efforts to find employment for paraplegics, there is still a long way to go, and it is sometimes very disappointing to see how long it takes for the representative of the Ministry of Labour, the disablement resettlement officer, to find a suitable job for a paraplegic. This is a tragedy, for if the paraplegic or any other severely disabled person cannot continue the activities for which he has been trained in the hospital or in the rehabilitation centre, he will sink back very soon into inactivity and resign himself to his disability, and it will be extremely difficult to get him out of his lethargy and apathy. Therefore, everybody has to help to restore the paraplegic to useful citizenship and here again I have to appeal to the family doctor, because the family doctor very often has close relationships with local authorities and employers and can persuade

the employer to employ a paraplegic in his own area.

Let us analyse these paraplegics who are unemployed. There are certain groups of paralysed who cannot find work in their own village or their own little town, and amongst them there is in particular one group: the coal miners. It is an old tradition that the coal miner with a broken back has to be helped by his folks; he gets free coal, he gets all sorts of help from his fellows. Miners live for generations in their little village and are loth to leave the companionship of their friends, but if we succeed in rehousing paraplegic coal miners in other areas, these are very often the best workers, and this applies also to other paraplegics who cannot find employment in their own village or town. Lastly, there is a group of paraplegics who have grasped at the disability, as they would have at any other disability, to do no more work in their life. In other words, the fact that a person has sustained paraplegia does not necessarily transform a work-shy individual into a hard worker. It must be remembered that it is not the disablement so much as the personality which is decisive for full rehabilitation, and that is where we doctors, whether practitioners, surgeons or physicians, are responsible for bringing out the best of the personality of the severely disabled patient and helping him to return to a useful life. Of course, it is sometimes very difficult to convince a paraplegic who comes in a serious state to the hospital that he will be able to work. One of my early patients came in a dreadful condition and I asked him for his plans for the future (we very soon talk to the patient about his future to convince him that paraplegia is not the end but the beginning of a new scheme of life); he said to me: "I have no plans, I am waiting for God Almighty to take me up". So I replied: "While you are waiting, you will have to do some work here". Since 1946, this man has been the cobbler of his village. At Stoke Mandeville work is prescribed as part of the medical treatment, first by the conventional method of occupational therapy, but as soon as the patient is up in his wheelchair he has to go to our workshops and be trained to activity in a variety of occupations. There are two things which we are keen to develop—activity of mind and self-confidence as well as regularity and precision of work. If a paraplegic gets this idea he will be all right. The motto of the centre was coined by a cockney: we get many visitors, and one day I took a Greek professor round and he saw a young man sitting at a lathe and working and asked, "Haven't I seen you in the gym climbing ropes?" The answer was, "Oh, yes". "You must be very busy here". Like a shot, he said, "We are so busy in this bloody place, we haven't the time to be ill". I am very proud of that comment, which has become the motto of the unit.

I would like to tell you what kind of occupations the paraplegic

can do: these are many, in fact most occupations which do not involve climbing or walking. Today paraplegics are doctors, lawyers, accountants, architects, draughtsmen, all trained in colleges. Many are employed as clerks in offices and there are teachers—can you imagine a better education for young people than by a teacher in a wheelchair? These children will grow up to understand the relativity of disablement, even severe disablement. One of my patients, a quadriplegic, is a teacher in an ordinary school. Many paraplegics are working in factories side by side with able-bodied people. Of course, one has to impress on the paralysed person as on any other severely disabled person that when he takes up a job he takes on a great responsibility, not only for himself but for other paraplegics. He must realize that even the most sympathetic employer is not a chairman of a charity organization, and he must know that if he fails, not only will he lose his job but the employer will be reluctant to employ other paraplegics, and this also applies to any other severely disabled persons also.

Apart from rehabilitation by work, sport has proved invaluable in promoting activity of mind, self-confidence and competitive spirit. Sport was introduced from the beginning with my first paralysed soldiers in the war. We found that many sports can be adjusted to the disabilities of paraplegics and even quadriplegics. In 1948 we started a sports movement called the "Stoke Mandeville Games". First this consisted of ex-servicemen only, but very soon it became a national annual sports event. Paralysed people from all over the country come to Stoke Mandeville every year to compete in various sports—archery, swimming, basket ball, table tennis, fencing, field events and so forth. In 1952, these games became the first international sports movement for disabled in the world when a team of Dutch paralysed ex-servicemen came to us to compete with our people. Our sports movement has now grown and spread all over the world like wildfire as sport for the disabled, not only for paraplegics. It is gratifying to see that the paraplegics who only 20 years ago had been considered outcasts of society have become the banner-bearers for sport for other disabled people. Two years ago we started the British Sport Association for all disabled which includes amputees, spastics and the blind, and here again the family doctor in his own district can take a very active part and can help in this very important part of physical, psychological and social reintegration of the disabled.

So far, the international games have been held at Stoke Mandeville. There was only one exception, in 1960, when 400 paralysed people from all parts of the world came together in Rome immediately

after the Olympic Games and had a fortnight of sports competition. They lived in the Olympic village and the competitions were held in the Olympic stadium. This was not only a very interesting medical experiment, but I can assure you it stirred the public in Italy and also in other countries. Last year the paraplegics had their first Paraplegic Commonwealth Games, in Perth, Australia, held just before the Commonwealth Games for the able-bodied. Over 100 paraplegics went to Australia; we took 80 people in a chartered plane to Australia, which again proved that a paralysed person can travel 10,000 or 20,000 miles without any mishap if properly rehabilitated. It was most gratifying to see the enthusiastic reaction of the people in Perth to these games of the paralysed. In fact the newly built swimming pool there, one of the finest I have ever seen, was officially opened by our games. On the first day we had 3,500 spectators, and on the next day the house was full, with 5,500. This shows how the public takes an interest in the sports of the disabled. Moreover, many sport organizations of able-bodied people have taken a great interest in this sport for the disabled.

In 1956, during the Olympic Games in Melbourne, the Olympic Committee awarded to the organization of the Stoke Mandeville Games, the Fearnley Cup which is an Olympic award open to any sports organization for outstanding achievement in the service of the Olympic idea. It was the first time that this cup had ever come to Great Britain, in fact to any English-speaking country, but what is much more important than a national honour is the fact that it was the first time since the Olympic Games were founded in ancient times that an Olympic award had been given to a sports organization for the disabled, and what kind of disabled! Those people not long ago were written off by our profession and by society. Today they are respected citizens and by their work are contributing to the wealth of the nation. Perhaps you will say that this is a drop in the ocean, but does not the ocean consist of drops? They are also the banner-bearers of sport for the disabled in the world, and that is their contribution to humanity.