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CAS HIST

THE ROAD BACK TO HEALTH

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THE STORY OF MEDICAL REHABILITATION

PRICE 6d. NET



REHABILITATION STARTS IN BED. This man has had a lung removed. Basket work helps to exercise his arm and chest muscles.

THE ROAD BACK TO HEALTH

THE STORY OF MEDICAL
REHABILITATION

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Foreword

by the

MINISTER OF HEALTH

One of the best things that has come out of the war is the development of the Rehabilitation services. It has enlarged all our ideas about what can be done for the wounded or injured man and woman. It offers new hope of a full, active life after accident, of quicker recovery after illness—a real Road Back to Health. This is a field in which Britain leads the world.

We know that the problems of the sick or injured worker are psychological, social and economic as well as medical. In more and more hospitals, recognition of that fact is being put into practice, with remarkable results. The patient has to be studied in relation to his job and his home. That means team work inside the hospital, and close co-operation with the working world outside.

The medical rehabilitation services form the first stretch of the Road Back. Beyond the hospital gates are the Ministry of Labour's schemes for re-training and the placing of the disabled in suitable work. This book describes only the hospital services within the field of the Ministry of Health. It is intended mainly for hospital authorities, family doctors, employers, welfare workers, trade union officials and voluntary bodies. Much useful after-care work is being done by voluntary organisations, and arrangements are now being planned by my Department to co-ordinate all this work and bring it into relationship with hospitals and local authorities. But the further advancement of Rehabilitation depends a great deal on the interest and support of the workers themselves, and their wives, and I hope that many members of the general public will read this account, and realise not only what is being done, but also how much more can be done.

Arden Bower

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The Road Back to Health

WHEN the medical history of the War is completed, one of its most fascinating stories will tell of the promptness with which sick and wounded soldiers received expert attention. Every modern medical aid was brought to them with the minimum of delay, and they were transported to special hospitals with as little discomfort as possible. All this required a human "conveyor belt" of medical relief, to which many different agencies contributed. Among them were blood donors and laboratory workers: the discoverers of penicillin and their staff of expert technicians: stretcher-bearers collecting casualties under heavy mortar and shell fire: field ambulances, with medical officers always at hand to combat shock and relieve pain: mobile surgical units, operating in the front line of battle: transport planes and hospital ships: highly skilled surgeons, who decided which cases should be retained in port hospitals and which might safely travel: teams of radiologists and surgeons and nurses, working day and night at the Transit Hospitals: hospital trains, with facilities for continuing treatment on the way to the Base Hospitals: and the Special Centres, where the more gravely wounded received the attention of expert surgeons and nursing teams. It was by team work that such successful results were obtained, and the fatality figures reduced to an unprecedentedly low level.

Yet this is only a part of the story. It is not enough to see that a sick or wounded man is brought within range of expert medical and surgical treatment with the least possible delay. What is going to happen to him afterwards? Will he become a cripple for life, and unable to earn his own living? Or can anything be done to restore him to complete physical fitness, or prepare him for some useful place in the community? These were the questions which the fighting men were asking.

That is why the journey could not stop at the hospital door. A return journey had also to be planned—a "road back to health." Here again it was a matter of team work, with different types of workers making their different contributions, to restore physical function, strengthen weakened muscles and mobilise stiff joints, allay anxiety and apprehension and use every modern device to assist quick and complete recovery. If the injury proved so serious that, in spite of all efforts, some permanent disability could not be avoided, then other workers would have to take up the task of fitting the man for a fresh niche in life, where, in spite of physical handicap, he could still live happily and usefully.

It is this "return journey" to which the terms "rehabilitation" and "resettlement" are applied—a return journey to health and usefulness. Thousands of men and women have made this journey successfully. Others are making it now.

The Story of David Jones

Here is the story of one man—we will call him David Jones—who, from a hospital bed, made the return journey, by way of rehabilitation, back to normal, active life.

David Jones was badly wounded in Normandy soon after D-day, with a smashed thigh and a piece of shell in his knee-joint. He was seriously shocked by the injury, but in a very short time he was being cared for behind the lines, with morphia to relieve the pain, the limb immobilised in a splint and all necessary measures taken to combat shock, hæmorrhage and risk of blood-poisoning. Within thirty-six hours he was in hospital in England, the fracture had been x-rayed, the piece of shell removed, the wound surgically treated and the whole leg encased in plaster of paris.

All this was excellent treatment for the compound fracture ; but what about that knee-joint of his, and what chance was there of his ever being able to get about again as before ? That was what was worrying Jones. He had been a first-class footballer before the war ; but it looked now as if his football days were over, and his chance of going back to the kind of work he used to do in civilian life seemed pretty poor.

Jones was soon relieved on that score. The very morning after his operation he was visited by the surgeon and the physiotherapist. They explained exactly what was going to be done to prevent his becoming a cripple, and how much would depend on his own co-operation. He was shown the exercises he would have to do each day to prevent his muscles becoming weak or his joints stiff and painful. The quadriceps muscle in front of his thigh would have to be braced up inside the plaster so many times each day, the ankle and toes moved freely and the whole limb raised from the bed and moved at the hip-joint.

Each morning the physiotherapist came into the ward to give all the patients their course of bed exercises. First came some general exercises, often carried out to music, with separate movements for each part of the body in turn ; then the special exercises prescribed for each patient according to his particular disability and repeated at stated periods throughout the day.

It was not long before Jones's fracture was doing so well that gentle movements of the knee itself were permitted, by means of a weight and pulley apparatus attached to the framework round his bed. Shortly afterwards he was allowed to leave his ward and be wheeled down every morning and afternoon to the gymnasium, to take part in group exercises. He had now been promoted to Grade Two, and found himself in a class with several other fellows, all recovering from fractures of the thigh or leg. They all did their exercises together, under the guidance and stimulus of a Physical Training Instructor. The fact of their forming a group introduced a healthy spirit of competition and comradeship, and they were soon vying with one another to see who could raise his leg the highest, or lift the heaviest weight. Scattered round the gymnasium, or doing their exercises out of doors, were several different groups and



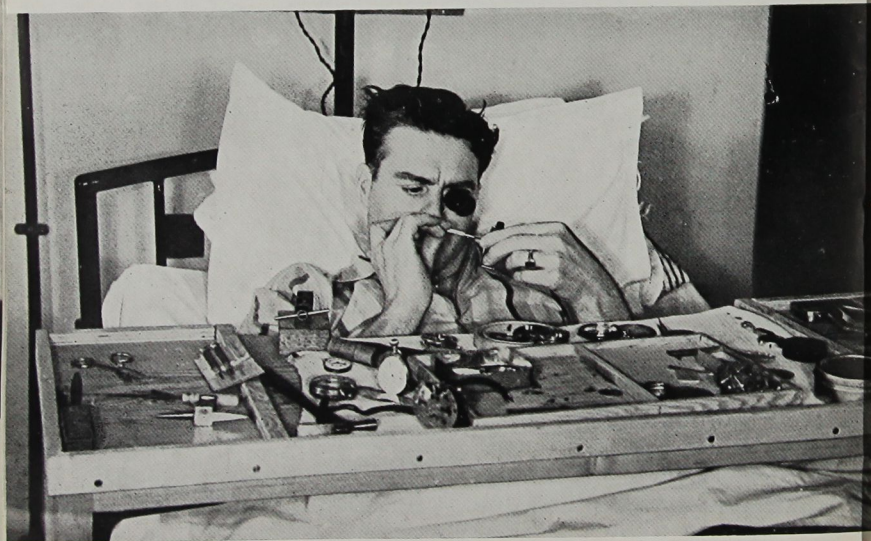
These men, who are suffering from various injuries, carry out daily exercises in bed.



This soldier had a fracture of the right side of the pelvis, with a painful hip. The right leg is supported by slings while he is being taught to move it from the hip.



Leg-raising drill after operations on the knee.



Watch-repairing is excellent for the fingers.

grades, each following a progressive course of movements adapted to their particular disabilities and stages of recovery.

By this time Jones was quite ready to take part in other forms of rehabilitation, and his programme card had times allotted daily to occupational therapy and remedial games. As a matter of fact, he had started some occupational therapy while he was kept in bed—he had embroidered his regimental colours on canvas, and made a few toys—but that was mainly to occupy his mind with something interesting and constructive. Now he was being put on to something more definitely remedial in purpose. His injured limb needed constant gentle movement, in order to improve the circulation and maintain muscular tone, but gymnastic exercises were too strenuous for more than a limited period each day. If he could be taught some simple handicraft which involved regular easy movement of the leg, alternating with periods of relaxation, the object would be achieved. So Jones was taken along to the occupational therapy department and was soon interested in some light carpentry work, carried out with a treadle fretsaw, and some rug-making performed on a treadle loom. In this way he spent an hour or two every day doing something really interesting and useful, while at the same time providing the gentle, steady movement which the surgeon had prescribed for Jones's wounded leg.

Remedial games came next into the picture. These help to give a further stimulus to a patient's recovery, provided they are suited to his disability, and given under expert supervision. Jones could not take much part at first because of his leg, but he very soon learned to play a variety of ball games while sitting on a mattress in the gymnasium or resting on the grass. He found that the fun and excitement made him forget all about his injury, and that he was doing things he would never have thought possible.

He had now reached the stage at which the fracture was pronounced united, his wounds had all healed and his plaster was finally removed. His leg felt stiff and heavy at first, and he was afraid to put any weight on it; but some brisk massage from the physiotherapist and some movements under warm water in a swimming-bath rapidly removed that trouble, and he was ready for harder work. Stronger exercises were ordered for him in the gymnasium, to be performed against weight-and-pulley resistance. A more strenuous form of occupational therapy was prescribed, including the use of a foot lathe in the carpenter's workshop and some digging in the garden. He was able to take part in such vigorous games as cycling, volley ball, netball and swimming. By this time he had reached Grade Three—a stage which can be carried out in the hospital to which a patient is originally admitted, or, better still, right away from the hospital atmosphere, in a country rehabilitation centre well equipped with playing fields, swimming pool and facilities for heavy handicrafts of all kinds.

Within two or three weeks Jones had passed into Grade Four, and then Grade Five, and was carrying out a full programme of activities every day. This included tough exercises in the gymnasium, running, jumping

and all sorts of games out of doors, and such heavy occupations as cross-cut sawing, log splitting and real hard work with a pick and shovel. The extent to which a patient is hardened up in these latter grades naturally depends on the type of work to which he has to return, whether in the armed forces (as with David Jones) or in civilian life. Rehabilitation, if carried out efficiently, must always be related to the kind of work which is going to be done afterwards.

Throughout this whole period of physical rehabilitation, everything possible was being done to provide Jones and his fellow patients with plenty of healthy exercise for mind as well as body. Concerts, film-shows, debates and Brains Trust meetings were held each week. Lectures and discussions were provided by Army Educational Officers attached to the hospital, or by voluntary civilian helpers. The hospital library, augmented by books from the War Organisation of the British Red Cross and Order of St. John, and from the County Library, brought him a good selection of interesting literature, and any special book he was anxious to read was obtained for him within a few days. Had he, like some of his fellow patients, wanted to follow any special course of study, the hospital almoner or Army educational authorities would have arranged to get him the textbooks and instructional aid offered by the Ministry of Education through the local educational authority.

Meanwhile it was constantly borne in mind that worries about his future or about personal and domestic problems might handicap his quick return to health and vigour. With Jones there were no serious problems of this kind. Once he knew that he was going to get completely fit again, and could watch his own recovery week by week, his anxieties were quickly dispelled. But it is not always so, particularly with civilians who are afraid of losing their job, or those with serious injuries who are haunted by the fear of becoming permanent invalids. It is here that, for Service patients the welfare officers, and for civilians the almoners, do such important work. Until a man's apprehensions are removed, it is useless to expect his whole-hearted co-operation. In helping to smooth out domestic difficulties, or in reassuring a patient that even if he is unable to return to his former occupation he will be fitted for some new and worth-while job, the help of the welfare officer or almoner will often do more than anything else to speed recovery.

David Jones made a first-class recovery. After a few weeks in an Army Convalescent Depot for a special "hardening" course, he was able to rejoin his unit as fit as he had ever been in his life, and able once more to play a very useful game of football when the chance occurred. But had he been so unfortunate as to be invalided out of the Forces with a permanent disability, he would soon have found other roads opening up for him. Before being discharged from hospital he would have been interviewed by a special officer from the Ministry of Labour and National Service, and arrangements would have been made for him to follow whatever course of industrial training and resettlement was most suitable to him.

What is Rehabilitation ?

Rehabilitation may be defined as that part of medical and surgical treatment which is concerned with the full recovery of physical and mental functions that have been damaged by illness or injury, and with the restoration of the patient to his former sphere of usefulness, or with his preparation for a new vocation better suited to his reduced capacity.

Four principles are involved in this definition. Firstly, rehabilitation is primarily a medical process, forming an integral part of modern treatment, and not something which happens only during convalescence. Secondly, it includes psychological restoration as well as physical—it is hopeless to expect full recovery so long as there is some hidden anxiety in the patient's mind, or the seeds of a future neurosis. Thirdly, this path of rehabilitation does not stop with the patient's discharge from hospital, but leads right on to the point at which he is fully able to resume his former life. And fourthly, rehabilitation must provide a suitable alternative for the patient who can never get back to the kind of work he was doing previously, but who can yet be fitted and trained for some other useful vocation in life.

It has been found that rehabilitation need not, and should not be confined to cases of injury. A variety of other conditions, both medical and surgical, result in loss of physical power. This loss, often associated with psychological disturbance, can quickly be restored if the patient is brought under suitable rehabilitative treatment. Apart from conditions involving high fever and acute infection, or incurable disorders of long standing, it appears that there are practically no forms of medical or surgical disability which will not improve with proper rehabilitation given under expert medical supervision.

For example, chest complaints of varying degrees of gravity—bronchitis, asthma, pneumonia, empyema and conditions involving serious chest operations—are responsible for a great deal of invalidism and absenteeism from employment. Most of these conditions are capable of great improvement if suitable rehabilitation facilities are available. Courses of breathing exercises under skilled physiotherapists and physical training instructors, combined with outdoor games and handicrafts which help to expand the chest and strengthen the thoracic muscles, not only shorten the period of convalescence but enable patients to undertake manual work of which they would not otherwise be capable.

John Edwards, for instance, who was admitted to a large general hospital, was suffering from a tumour in the lung—a condition which would have been rapidly fatal a few years ago, or which would have left him an invalid for life. It was necessary to remove the whole lung, but

before he was submitted to so serious an operation, every possible step was taken to improve his general condition, and he was given a blood transfusion and special diets and put through a careful course of breathing exercises. The operation was carried out by an expert thoracic surgeon. Every device known to modern surgery and nursing was employed during the critical period immediately following; and at the earliest possible moment he was using the special breathing exercises which he had previously been taught. Within a few days he was able to sit up in bed and undertake a wider range of exercises of the upper extremity, all designed to strengthen his chest muscles and assist in the aeration of his remaining lung. Some light occupational therapy was added at this stage. This involved the use of a needle and long thread, thus helping to keep up the expansion of the chest. In less than three weeks he was well enough to go home, though naturally not yet fit to return to work. Fortunately the hospital at which he had been treated possessed an excellent out-patient rehabilitation department, which Edwards was able to attend every morning, and at which special classes for chest patients were held. Here, in common with patients recovering from pneumonia, chronic bronchitis and a variety of other respiratory disorders, Edwards was able to continue his rehabilitation until his chest muscles had fully recovered their former strength, and he was able to go back to his old job without any sense of disability.

Abdominal disorders, particularly those associated with surgical operations, often lead to weakness of the abdominal muscles and inability to undertake strenuous work. Special courses of exercises are given both before and after operation, to counteract this tendency and at the same time reduce the risk of post-operative complications. These courses can be continued in the gymnasium and occupational therapy department until there is full recovery of muscular tone. Similar exercises are given, with excellent results, before and after childbirth—in fact, some obstetricians now claim that exercises should be started within twelve hours of a normal confinement, and that the risk of thrombosis or prolapse is reduced to a minimum if this procedure is followed.

The modern treatment of neurosis, in all its forms, is incomplete unless full use is made of rehabilitation. Cases of anxiety neurosis, effort-syndrome, post-concussional headache and vertigo, hysteria and many other disorders of this kind all benefit from wisely planned programmes of physical training, team games and carefully selected occupational therapy. Not only does such a course help to divert the patient's mind from constant obsession with his physical state but it helps to tone up his whole body, provides useful and creative outlet for his mental faculties and assists him in overcoming his antisocial tendencies.

Diseases and injuries of the central nervous system, such as infantile paralysis, spastic paraplegia, hemiplegia and peripheral nerve injuries are obvious subjects for appropriate forms of rehabilitation. Weak or paralysed

muscles need to be stimulated and strengthened, poor circulation to be improved, deformities and contractures prevented and good co-ordination developed. Massage, electrotherapy, remedial baths, exercises and handicrafts are all of service, and without their full use there is little or no hope of good or quick recovery.

Injuries and infections of the hands, and partial paralysis of the fingers as a result of nerve injuries, require a special technique, but excellent results are obtained by a combination of expert surgical treatment and early rehabilitation. In cases of this kind it is of the utmost importance to recover complete freedom of movement and delicacy of touch. Special forms of physiotherapy, for instance heat, galvanism and wax baths, followed immediately by finger exercises, are used for these patients, together with light occupational therapy to promote frequent and gentle movement of the fingers and hands. Sewing and knitting, net-making and weaving, stool-seating and basketry, clay-modelling and painting are some of the many occupations which help to rehabilitate a weak or injured hand. Light metal work, and the assembling of small parts, are also excellent for this purpose, and can often be carried out in industry itself.

One of the most tragic forms of injury, in war or peace, is fracture of the spine combined with destruction of the spinal cord. Such patients in the past had nothing to look forward to but a life of complete inactivity, unable to leave their beds, paralysed from the waist down, and subject to terrible pressure sores and associated infection. To-day the whole scene is changed. By a combination of surgical skill, fine nursing and expert rehabilitation, a large proportion of these patients are now taught to use the muscles of the upper part of the body so effectively that they manage to get about anywhere they like in their wheeled chairs. They learn to walk on crutches (or even without crutches) with the aid of supports for their useless legs. They can even spend the day at near-by workshops, engaged in interesting and profitable occupations. To see them playing "wheel-chair polo," with excitement so intense that they have to be strapped into their chairs to prevent overbalancing, is something that can never be forgotten.

Another instance of rehabilitation is the re-education of patients who have lost one or more limbs. These patients are now taught to cover an amazing range of activities by means of artificial arms and legs. Excellent facilities are now available at certain of the special centres organised by the Ministry of Pensions, the best-known being at Queen Mary's Hospital, Roehampton. Each case is taken in hand by a special limb-fitting surgeon. After a course of massage, exercises and tight bandaging applied to the stump, an artificial limb is fitted carefully and the patient is handed over to an instructor. This man is usually one who has himself lost the use of one or more limbs, and is therefore peculiarly qualified to train the new patient. It is slow work at first,

as the patient feels clumsy and hopeless, but by degrees his confidence is won and he then makes rapid strides. It is amazing to see what these crippled men and women are eventually able to undertake. Men who have lost both legs learn to walk, to ride a bicycle, to drive a car and even to fly an aeroplane. Men who have lost both arms are supplied with a variety of gadgets which they can fit into their artificial limbs and with this help they are able to dress and shave themselves, feed themselves, operate a typewriter at high speed, play an excellent game at billiards and take part in such occupations as draughtsmanship, carpentry, metal work and gardening. After a careful course of instruction there is practically no limit to the activities of the patient who has lost only a single arm or leg.

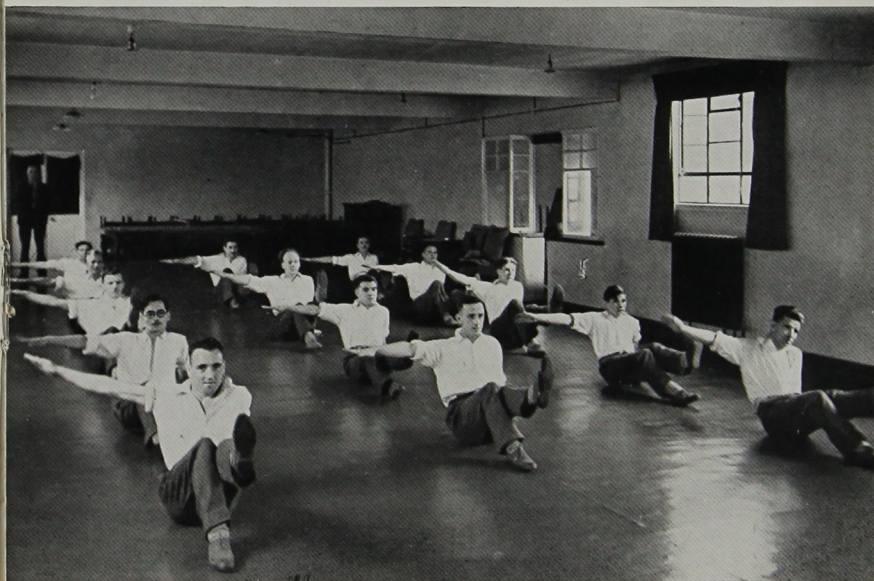
Many other examples could be given of the application of rehabilitation to special types of disability. These include the training of the blind and of deaf mutes for a variety of useful occupations, special and progressive courses of exercise for certain types of chronic heart disease, the combination of manipulative surgery and daily exercise in the treatment of chronic arthritis and the special measures now used in the treatment of pulmonary tuberculosis. It is now realised that no form of recent disability should be regarded as necessarily permanent and irremediable until it has been examined by those who are expert in the use of medical rehabilitation.

The programme of rehabilitation treatment suitable for each patient cannot be laid down beforehand. This is an individual matter, varying with the form of disability and the stage of recovery already reached. The treatment must be prescribed by the physician or surgeon with as much care as the patient's diet or drugs or surgical treatment. Special prescription cards are provided in most hospital rehabilitation departments, indicating the various forms of rehabilitation available. It is for the doctor to decide, week by week, what activities should be attempted by each of his patients. Cases are usually grouped according to their disability and graded (like David Jones) according to their progress, so that a patient whose card is marked "Shoulder Grade One" is seen at once to be a shoulder case in the first stage of rehabilitation, whilst "Spine Grade Three" will indicate a patient with some affection of the spine who has already reached the walking stage, midway between the earliest movements and a complete return to fitness.

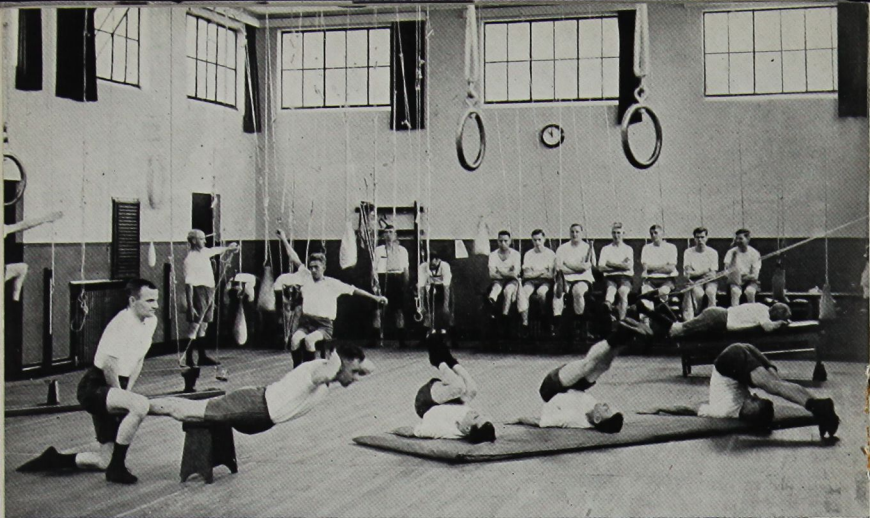
From the prescription cards made out by the doctors an appropriate time-table is prepared for each patient. This shows exactly when he will be receiving physiotherapy, at what time he should attend the gymnasium for group exercises and games, what are his special hours for occupational therapy or work in a curative workshop, and what part of the day will be spent in outdoor recreations or will be free for him to make his own plans. In the early stages of rehabilitation a considerable portion of each day will necessarily be given up to rest and complete



Even with a broken leg he means to beat the other fellow!



Group exercises in the hospital gymnasium.



General remedial exercises, each patient carrying out his own programme.



A young miner, with a broken back, learns to recover his sense of balance and start walking again.

physical relaxation. As recovery progresses, a fuller programme of activity is prescribed, until in the higher grade the day is completely occupied.

Throughout the whole course of rehabilitation the patient remains under close medical supervision. If the programme should prove too strenuous it can at once be changed. Patients capable of attempting heavier exercises are promoted to a higher grade and given a fuller day's activity. The forms of activity prescribed are all carried out under the guidance and instruction of expert teachers—physiotherapists, physical training instructors or instructresses and occupational therapists or handicraft teachers; but all form part of a single process, designed to produce variety of movement alternating with physical relaxation, combined with mental stimulus and recreation.

The Road to Resettlement

The real object of rehabilitation is not achieved until the patient is able to go back to his old life and work, and resume his place in the community. Rehabilitation does not, therefore, end at the hospital door, nor even at the entrance to the factory or office. The hospital must keep in constant touch with the patient, advising him as to his fitness to return to his old employment, guiding the employment exchanges and industrial authorities as to his physical and nervous capacity for work and the conditions under which he could most successfully operate. There must be a good follow-up system under which his case is periodically reviewed and he himself re-examined, by the physician or surgeon who originally treated him, whenever there is likelihood of his breaking down under the strain of work.

How is all this to be accomplished? Only by the closest possible co-operation between the hospital staff, the employment exchange and the representatives of industry. Each has a special part to play in getting the patient settled in satisfactory work. The hospital staff is concerned with the medical and social aspects of the case, the employment exchange with employment advice and vocational training (especially for those who have incurred some residual disablement), and industry with direct selection of occupations under the guidance, wherever possible, of the industrial medical officer.

Here is how the system works, in hospitals where the full service is available.

The first step is taken by the almoner, who finds out from the physician or surgeon whether the patient will be able to return to his former job, and, if so, whether there are any special precautions to be observed. The patient is advised accordingly. The employer is told the date when

the man will be able to return to work. Arrangements are made, if necessary, for him to have a period of rest at home or at a convalescent centre before resuming work.

In some cases the medical officer may advise a further period of rehabilitation before the patient will be able to stand up to a full day's work, but states that after such a course of further treatment his recovery should be complete. Meanwhile the man needs daily exercises for the weakened arm or leg, chest or back, as the case may be. It is the task of the rehabilitation medical officer or the almoner to arrange for him to get this finishing course of medical rehabilitation. In some hospitals it will be possible for him to attend daily at the out-patient department, for a combined programme of physiotherapy, special exercises and remedial handicrafts, all designed to strengthen the particular part of his body which is still weak, or to loosen up joints still stiff. In other centres it may be possible for him to carry out this final stage of rehabilitation in industry itself. This may be in a special remedial workshop, such as has been fitted up by some of the larger industrial organisations, or in factories in which a careful job-analysis of each process has been made, and each classified according to the muscle-groups which it calls into play or the psychological strain which it may impose. It is obvious that if a patient can be put on to work which does not involve any undue strain and which can be performed by the steady use of the particular muscles which he needs to exercise, he can combine his own personal rehabilitation with useful temporary employment until fit to go back to his old job.

Another group of patients consists of those who are left with some residual disability which affects their capacity for employment. Return to their former job may be difficult or inadvisable. Yet they may be fully capable of work of a different character, after special training if necessary. It is in these cases that the closest co-operation is essential, between those who have actually treated the patients and know all about their personal and domestic circumstances and those who will be responsible for placing them in suitable occupations. In each employment exchange there is a special officer, known as the Disablement Resettlement Officer (or D.R.O.), whose duty it is to help the satisfactory resettlement of the disabled. He visits the local hospitals for the purpose of interviewing any patient likely to require change of occupation as a result of disability. The system, already established in some hospitals, of weekly conferences between the rehabilitation medical officer, the almoner and the D.R.O. is ideal for the purpose. The patient's own views are consulted, as to the type of work he would like to take up in place of his old job. The almoner is acquainted with his general financial position and special needs. The medical officer gives clear and precise instructions as to what he can and cannot do, and what conditions would be prejudicial to his health or likely to cause breakdown. Then the D.R.O., from his knowledge of local industry, is able to suggest

available work in which the patient's disability would not prove a handicap, or possible courses of training he might undertake.

Many patients receive hospital and rehabilitation treatment at centres far distant from their homes. In such cases a full report on the patient's disability is prepared by the doctor, on a form, for the information of the D.R.O. This form, including a report of the D.R.O.'s own interview with the patient, is then forwarded to the D.R.O. of the patient's district, who gets into touch with the man as soon as possible after his return home.

The terminal stages of resettlement constitute an industrial problem, to be carried out by the D.R.O. of the local employment exchange and representatives of local industry. These stages include advice and assistance in the selection of alternative work, vocational training for new occupations, the finding of sheltered employment for the more seriously disabled, and the placing of the disabled man in a job in which his disability is not a handicap. Throughout this final stage contact with the hospital should never be lost. It is at the hospital that the patient was originally cared for, and that they know all about his disability and response to treatment. This knowledge will always be of the greatest possible value to any industrial medical officer who may be concerned with the patient. The information may also be required by his own doctor, who may need to keep an eye on him if he is in a job where there is no works' doctor. All cases of difficult readjustment, or failure to "make the grade," should be reported back to the physician or surgeon who originally had charge of the case. His advice should be sought as to any further treatment that may be needed, or any change in conditions of work. To assist in maintaining this contact some hospitals are experimenting in the use of "field officers" attached to their rehabilitation departments and charged with the responsibility of seeing that the medical officer's recommendations are carried out as regards the selection of the patient's new job, and of following him up after his resettlement.

This whole process of "seeing a patient through" requires continual liaison between all concerned. A Central Committee, which has been considering this problem, has suggested that Local Rehabilitation Committees should be set up, on which local authorities, hospitals, the British Red Cross Society, the Order of St. John, the British Legion, the W.V.S. and other voluntary organisations, and the Ministries of Health, Labour and Pensions would be represented. Indeed, some hospitals have themselves already set up Rehabilitation Committees representing hospital staff, welfare organisations, employment exchanges and industry. Local Committees can also do much to foster local interest in rehabilitation facilities and the problem of finding employment for disabled patients, and will be able to maintain contact with the Disablement Advisory Committee set up by the Ministry of Labour and National Service under the Disabled Persons (Employment) Act.



Fun and games in the open air.



This soldier had a severe head injury, but is now overcoming his giddiness.



Injured Royal Air Force men playing football on crutches.



Wheelbarrow racing is good for chests and backs.

Ready for bicycle exercise a few days after breaking ankles.



How Rehabilitation has Developed*

It was during the 1914-18 war that medical rehabilitation became established on a large scale, as a result of the initiative and genius of that great orthopædic surgeon, Sir Robert Jones. The unsatisfactory after-treatment of severe fractures and orthopædic disabilities was causing a serious loss of man-power at that time. Sir Robert Jones therefore established a series of first-class rehabilitation departments in the military orthopædic hospitals at Shepherds Bush and elsewhere. These were fitted up with physiotherapy departments, special baths for hydrotherapy, gymnasia for group exercises and remedial games, and curative workshops for light and heavy handicrafts. The success which attended these efforts and those of the American orthopædic centres (which were modelled on the British scheme but also introduced occupational therapy) established rehabilitation as a necessary part of the treatment of fractures and similar injuries. This movement received fresh impetus from the findings of the British Medical Association Committee on Fractures (1935) and the Delevingne Inter-departmental Committee on the Rehabilitation of Persons Injured by Accidents (1939), and led to the establishment of special Fracture Clinics, with facilities for rehabilitation, in certain hospitals. At the same time steps were taken to develop residential rehabilitation centres for more serious cases of fracture among workers in certain of the heavy industries.

Thus it came about that when war broke out again in 1939, it was already accepted that full facilities for rehabilitation must be provided at every hospital to which the more seriously wounded cases (including both Service patients and civilian air-raid casualties) were transferred. The range of rehabilitation has since been constantly widened, as a result of study and experiment, to include, not only cases of injury, but the great variety of other conditions described on pp. 9 to 12 above.

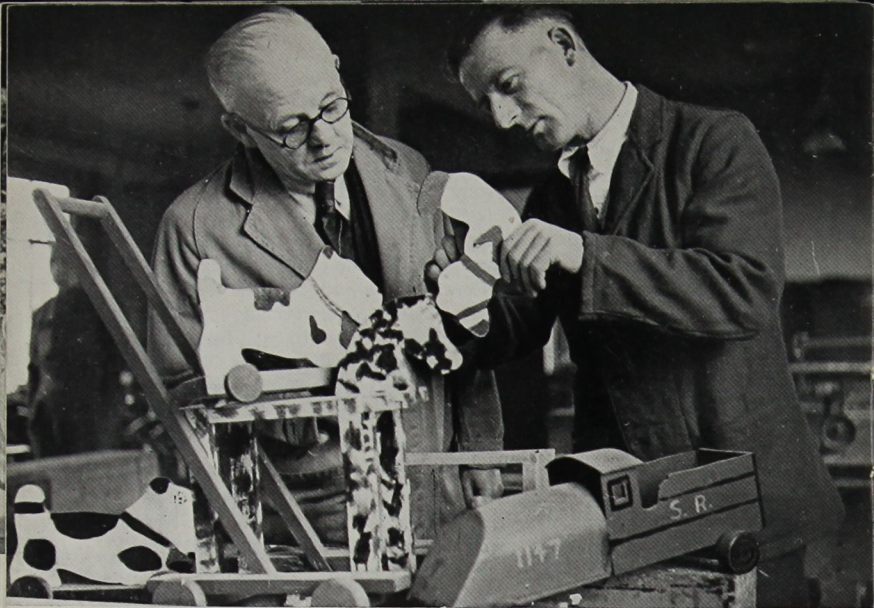
In September, 1939, there were only one or two hospitals in Great Britain—notably the little hospital for seamen at the Albert Docks—which contained suitable facilities for physical rehabilitation. Immediate steps had to be taken to remedy this deficiency. Certain hospitals had already been designated as those to which the more serious orthopædic cases and severe fractures would be transferred. At each of these centres a special rehabilitation department was set up. Buildings were erected (if not already in existence) as physiotherapy units, gymnasia and occupational therapy departments, modern equipment and apparatus were supplied by the Ministry of Health, and the necessary staff was collected.

*A Report on rehabilitation policy in Scotland, by the Medical Advisory Committee, Scotland, was published in 1946 by H.M. Stationery Office (Price 7d. post free).

Similar measures were adopted at the special hospitals reserved for the treatment of neurosis, and at some other centres. But as the advantages of rehabilitation became more fully understood, and were found to be applicable to most cases of serious illness or injury involving long periods of immobility, the Ministry of Health decided to extend such facilities to other hospitals also. A full survey was made of the leading hospitals in the Emergency Hospital Service, including both voluntary, municipal and special E.M.S. institutions, with a view to ascertaining how far each was in a position to organise a rehabilitation department (if not already in existence) and what measures should be taken to facilitate such development. This survey was conducted in each region by the Ministry's Hospital Officer and by an expert in rehabilitation. Their reports were considered and recommendations made to the various hospital authorities.

In this way 464 hospitals have now been surveyed, and specific recommendations made in each case. An analysis of the reports showed that at the time of the survey 48 hospitals possessed the necessary staff, accommodation and equipment to offer all forms of rehabilitation treatment, including physiotherapy, gymnastic exercises, remedial games and occupational therapy. A further 102 hospitals were able to supply some of these forms of treatment. As a result of the recommendations and help offered by the Ministry and put into operation by the hospital authorities, there are now 204 hospitals which are giving all forms of rehabilitation treatment, and an additional 129 hospitals which have partial facilities. This means that in 333 of the chief hospitals in England and Wales patients are able to receive good medical rehabilitation, and in 76 other hospitals it is hoped to organise rehabilitation departments as soon as the necessary accommodation and staff can be obtained.

The steps taken by the Ministry to help the hospitals in the development of these new departments were many and varied, and involved the Ministry's representatives in visits to a large number of hospitals on the invitation of the hospitals authorities, and in conferences with members of boards of managers and medical staffs. From these conferences it soon became clear that there was a great desire, on the part of numbers of doctors and physiotherapists, to become more acquainted with the technique of modern rehabilitation and with the running of a first-class rehabilitation centre. To meet this demand, arrangements were accordingly made at eight of the leading rehabilitation departments in the country to conduct a series of special courses. Those for doctors usually took place over the week-end, and consisted of lectures and demonstrations on the application of rehabilitation methods to all forms of medical and surgical disabilities, with ample opportunity for discussion on matters of organisation and staffing. The courses for physiotherapists were longer, usually lasting for a fortnight, and giving an opportunity not only



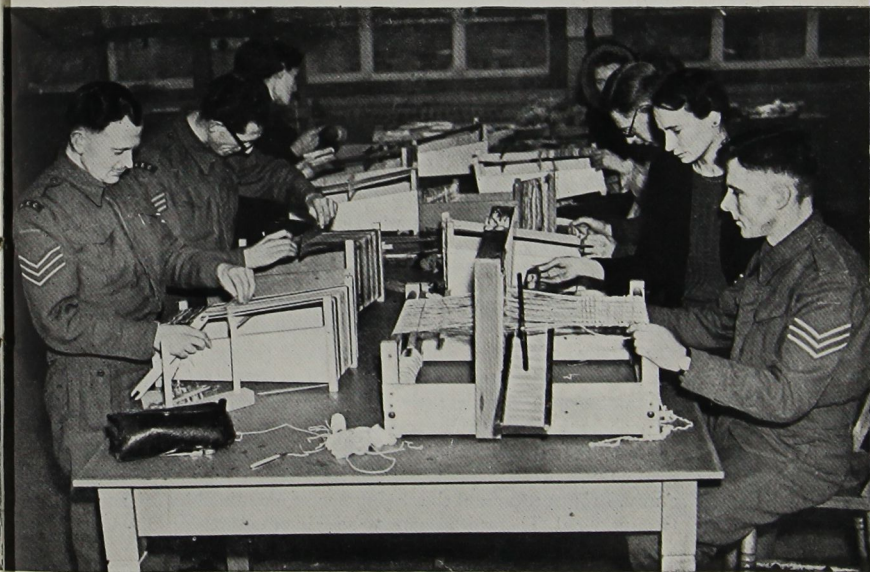
Toy-making in the occupational therapy department—good for fingers.



Treadle fretsaw work is excellent for painful ankles and feet.



Painting lamp-shades is a popular form of "diversionary" occupation.



Learning to weave on small looms.

of watching rehabilitation demonstrations but of actually sharing in the conduct of group exercises and remedial games. So popular were these courses that they were attended by over 250 doctors from 172 different hospitals and by 420 physiotherapists from 322 hospitals.

The next problem was that of finding suitable accommodation. Most of the larger hospitals already had a good physiotherapy department, but it was rare to find a gymnasium of adequate size, and still rarer an occupational therapy department. It was manifestly impossible to secure the labour and material for an extensive building programme, and all sorts of rooms had to be improvised for the purpose—first-aid posts, gas-decontamination units, disused wards and storehouses, church halls, rooms in private houses and so on. Pre-fabricated huts, prepared by the Ministry of Works for war nurseries and other purposes, also became available in some instances, and 34 of them were supplied by the Ministry to hospitals able to erect them. Permits for adaptation of existing buildings, with a substantial financial grant, were given to 24 other hospitals. In these and other ways the problem of accommodation was surmounted in a considerable number of hospitals, though it prevented many others from carrying out the programme which they would have desired.

Equipment and apparatus for gymnastic exercises, remedial games and sports and all sorts of occupational handicrafts constituted another obvious need, as it was often difficult for hospitals to get supplies locally, nor did they always know just what to order. Special committees were appointed by the Ministry to draw up lists of the most suitable apparatus, and sets were supplied on loan to every hospital possessing adequate accommodation and the necessary staff of instructors. Among the many items which were supplied from central stores, and which made it possible for these new hospital rehabilitation departments to operate, were wall-bars, wrist machines, pulley sets, balance benches, volley-ball sets, footballs, medicine balls, dart boards, carpentry benches, lathes, looms of every kind, fretsaw "bicycles," physical training kit and gym shoes. In this way 420 hospitals were supplied with gymnastic and sports equipment, 300 hospitals with additional physiotherapy apparatus, and over 200 hospitals with occupational therapy equipment.

The shortage of occupational therapists held up developments in many hospitals, and as it was impossible to wait until sufficient candidates had taken the full course of training and were available for appointment, the Ministry arranged for the provision of special six-months' courses to selected candidates who already possessed some knowledge of massage, anatomy, psychology, handicrafts or similar "back-ground" subjects, and who were willing to work in hospital rehabilitation departments. These special courses were given at the Dorset House School of Occupational Therapy, Bromsgrove, and the students were examined by the Institute of Occupational Therapists and were given a special diploma.

One hundred and nine students attended these courses and helped to swell the ranks of hospital occupational therapists, whilst courses of similar length were provided for junior students, who were trained to act as auxiliaries to qualified occupational therapists. Eighty-nine auxiliaries were trained in this way.

Another serious handicap was the small number of physical training instructors and instructresses qualified to conduct group exercises and remedial games. Here the service departments generously came to the rescue, by attaching a number of experienced members of the Physical Training Corps to hospitals in which service patients were undergoing rehabilitation. With the end of the war and the demobilisation of a large number of senior men, these physical training instructors have had to be withdrawn but a special six-months' course of intensive training on remedial gymnastics and recreational therapy has been arranged by the Ministry of Health and the Ministry of Labour and National Service in co-operation with the Ling Association, for 150 selected candidates from the three service departments, on their release from the forces. After completion of this training these men will be available for appointment as remedial gymnasts at any rehabilitation centre.

One further step was the issuing of a memorandum on "The Organisation of a Hospital Rehabilitation Department." This was published by the Stationery Office (Emergency Medical Service Memorandum No. 6) (Price 3d. post free) and was widely distributed to administrators and medical staffs of hospitals throughout the country, and proved a useful guide to hospital committees.

All these various developments were mainly concerned with the provision of first-class rehabilitation treatment for service patients, but civilian patients have also shared fully in the benefits offered, and it is now essential that these advantages should be retained for the civilian population. Nor should they be confined (as they very largely have been in the past) to in-patients only. In the few hospitals which have had the necessary staff and accommodation to experiment in extending rehabilitation facilities to out-patients, it has been clearly proved that a substantial proportion of hospital cases benefit greatly by such treatment, both in speed of recovery and in the avoiding of permanent disability.

Medical officers and general practitioners anxious to get rehabilitation facilities for their patients will be able to obtain from the Ministry of Health, or from the Regional Medical Officers, a list of hospitals in their district which are already equipped with modern rehabilitation departments. This list will be extended as soon as the present limitations of staff and building operations are eased.

Future Plans and Hopes

If facilities for medical rehabilitation are to be available for all who would benefit by them after serious illness or injury, we shall need many more departments than we have at present. Every general hospital will need to establish its own rehabilitation unit, sufficiently large and well-equipped to be able to provide all that is necessary for its in-patients. Special provision will also have to be made for those requiring out-patient rehabilitation, for residential centres for long-term cases and for special centres for types of disability needing a particular programme of treatment. This will take some time to develop, especially in view of building difficulties and the shortage of medical officers, physiotherapists, physical training instructors and occupational therapists.

Out-patient rehabilitation departments will be needed :

- (1) for the various types of minor disability which are to be seen daily at any hospital casualty department—broken fingers, lacerated and septic hands, fractures of wrist and ankle, burns and so on. All these require daily rehabilitation to bring about speedy recovery ;
- (2) for many forms of chronic disability, to be found amongst hospital out-patients. An active programme of remedial exercise and occupational therapy would be far better for these patients than the familiar routine of weekly bottles of medicine or short sessions of massage and radiant heat ;
- (3) for the continued rehabilitation of patients discharged from the wards before they are fit enough to return to duty or undertake vocational training ;
- (4) for patients referred by industrial, panel and private doctors and requiring active rehabilitation after illness or accident for which they have been attended at home. Many hospitals will not possess sufficient space or accommodation for such a centre, but this is one of the many instances in which joint action, by two or more hospitals in the same area, would be far more efficient and economical than separate action taken by each. If, in a particular district, no hospital should be able to make the necessary provision, the possibility of establishing a separate non-residential rehabilitation centre, under the medical supervision of the consultants of the adjacent hospitals, would require consideration by the hospital authority.

Residential rehabilitation centres, situated in pleasant rural surroundings within easy access of the nearest town, will be required for the



The mind has to be kept healthy while the body is made fit. The daily programme includes entertainments, lectures and Quiz contests.

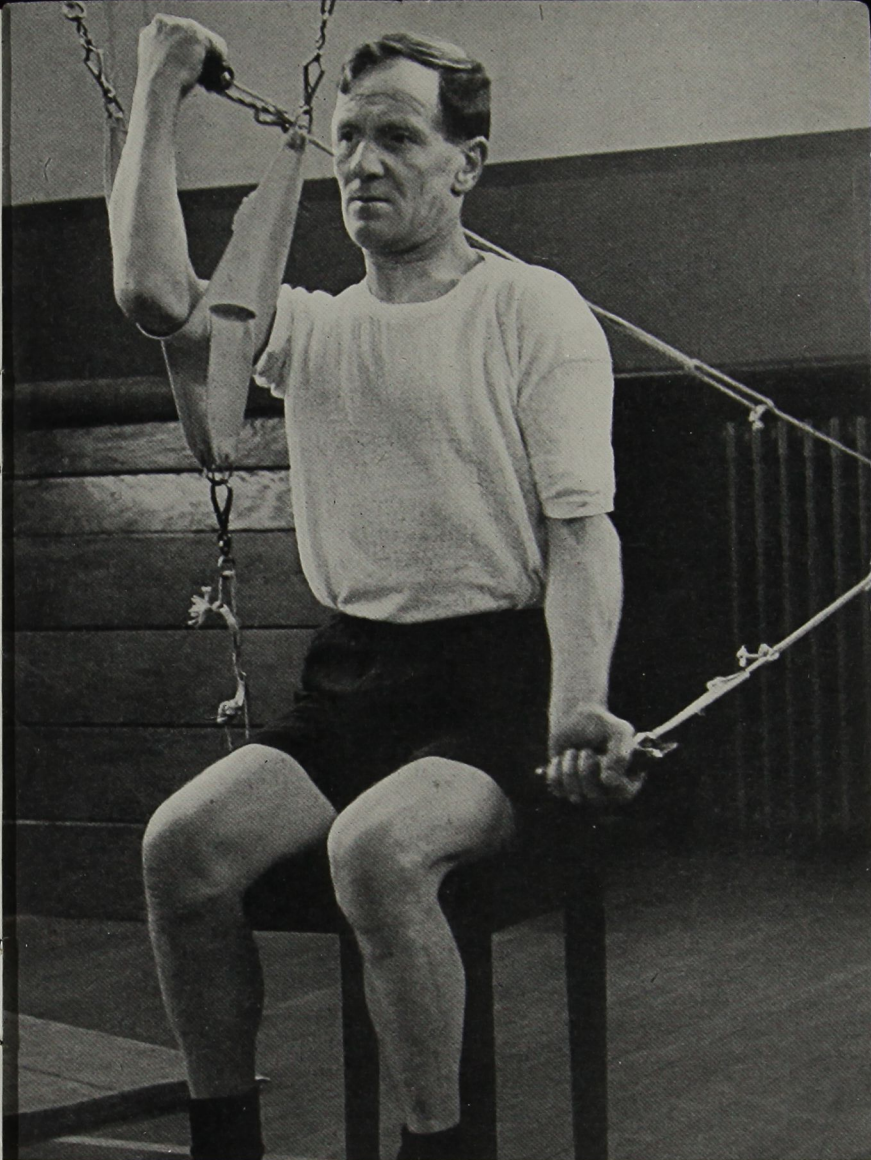


Weekly talks on music and art appreciation are popular.

accommodation and treatment of the more prolonged types of illness and injury, and for the "reconditioning" of men from the heavier industries who require to go through special hardening courses before being fit to return to their former employment. The ordinary acute hospital, with its long waiting list and quick turn-over of patients, cannot afford the bed-space; but a country branch which could be fitted up as a rehabilitation centre, such as some hospitals are already planning to acquire, would provide all that is necessary. These centres should of course be attached to the hospital or hospitals of the adjacent town, whose physicians and surgeons would continue to direct the treatment of any patient transferred there; but they would at the same time be under the daily supervision of a resident rehabilitation medical officer. Each of these centres should be amply supplied with every facility for complete rehabilitation, including a commodious gymnasium, good playing fields, swimming-pool and opportunities for various forms of occupational therapy and remedial handicrafts, both light and heavy. The Miners' Welfare Commission has already established seven such residential centres in districts adjacent to the larger coalfields of England and Wales. These centres may well serve as illustrations of the larger centres which will be required all over the country.

Lastly, hospitals with attached rehabilitation units, or separate rehabilitation centres, will be required throughout the country for the efficient treatment and rehabilitation of certain specific disorders. Units on the model of some of the best orthopaedic hospitals in the country, and combining facilities for expert treatment, physical rehabilitation and education, will be needed in increasing number for such conditions as chronic arthritis, spastic paraplegia, chronic heart disease, neurosis, and for many other disorders which require scientific investigation associated with modern facilities for physical and psychological rehabilitation.

This is an extensive programme. It will probably take some years to carry out. A good start has already been made. As soon as the new health services take shape, and conditions for hospital expansion become easier, it is hoped that rapid progress will be possible in the development of a comprehensive rehabilitation service throughout the country.



DETERMINED TO GET FIT. This man, whose shoulder was smashed in the mines, is well on the way to recovery.



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