

SYNOPSIS OF PHYSIOTHERAPY IN OWAMBOLAND, NAMIBIA (SOUTH WEST AFRICA)

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SUMMARY

A resumé of the author's experience as the sole physiotherapist at the Oshakati State Hospital situated close to the Angolan border in Owamboland, Namibia, is given. The conditions seen over a one-year period and appropriate treatment, are described, emphasising the shortcomings and problems facing a physiotherapist in a rural hospital situated in a bush-war area. Particular emphasis is placed on those patients with orthopaedic, neurological and burn injuries, as well as those requiring chest physiotherapy.

OPSOMMING

'n Oorsig van die skrywer se ondervinding as die enigste fisioterapeut by die Oshakati Staatshospitaal naby die Angolese grens in Owamboland, word gegee. Die toestande gesien gedurende 'n periode van een jaar en toepaslike behandeling word beskryf met klem op die tekortkominge en probleme wat 'n fisioterapeut in 'n plattelandse hospitaal in 'n bosoerlogsarea in die gesig staar. pasiënte met ortopediese, neurologiese en brandwond beserings, asook diegene wat borskas fisioterapie benodig, word beklemtoon.

INTRODUCTION

Oshakati State Hospital is a 600-bed general hospital situated in the heart of Owamboland, 52 km from the Angolan border. It is a training hospital for Owambo nurses, and serves over 500 000 people, from all areas of Owamboland. The physiotherapy department which had been non-operational for four months, consisted, in May 1980, of one physiotherapist and four Owambo aids, as well as a large gym, equipped with weights, pulleys, springs, slings, mats, 3 parallel bars, an exercise bicycle, 6 plinths, short-wave diathermy, ultrasound and faradic machines, 3 Bird respirators, oxygen cylinders, a suction machine and plaster-of-paris facilities. The aids acted as translators because of the language barrier and were taught to apply fundamental techniques and treatment principles following basic instructions.

ORTHOPAEDIC CONDITIONS

Because of the war situation, orthopaedic conditions were by far the commonest seen. These consisted of injuries

sustained mostly as a result of high velocity missiles, motor-vehicle and land-mine accidents. Fractures were therefore commonly seen, with amputation often the end result of severe limb injuries. In addition, because of the poor immunisation programme, poliomyelitis with its resultant deformities was another condition not too infrequently seen. Patients were often well into their teens when presenting for treatment (often for an unrelated medical problem).

Every two months the Orthopaedic Department was greatly enhanced by the presence of an orthopaedic team from Tygerberg Hospital which ran a special clinic for the duration of one week. The team consisted of a specialist orthopaedic surgeon ably assisted by two orthotists/prosthetists who prescribed calipers, special boots and prostheses for the patients. Without these aids the patients would be unable to cope on their own or support their families who would then reject them. Instruction was given in the care and use of the aids as well as training the patients to develop a proper gait pattern.

Interesting cases were encountered for which solutions, not readily available in any text-book, had to be found. For example, a bilateral lower limb amputee who lived in a kraal surrounded by rugged rural terrain and whose home had a very low entrance required instruction in getting to and entering his home. Psychological problems were often

associated with these disabilities. However, the patients accepted their disabilities quite readily and the aids soon became part of their daily routine.

Fractures

Fractured femurs were the commonest encountered (see Table). As the majority of fractured femurs were compound fractures, hospital treatment was usually conservative, namely skeletal traction for three months. Physiotherapy consisted of general body strengthening exercises as well as specific quadriceps strengthening exercises, which were commenced immediately to maintain joint mobility and muscle strength. Following this, gait training on crutches was initiated and patients were instructed not to bear weight on the injured leg for a further three months. This regime was followed because it was felt that partial weight-bearing was a concept that would be abused by the patients and once out of hospital supervision, they would take full weight on the injured limb with re-fracture a possible complication. Fractures of the foot (especially the calcaneus), were seen following land-mine explosions. As a result of associated severe soft tissue damage, patients developed adhesions and fibrosis which led to contractures of the intrinsic muscles and long digit flexors, limiting their range of movement. Prompt physiotherapy in the form of passive stretching had to be instituted to maintain full range of movement, thus allowing normal function during the gait cycle. However, despite vigorous physiotherapy, contractures still occurred, due to the severe nature of the injury. These patients were fitted with a special shoe, the so-called "land-mine boot" with a rocker bottom sole, to compensate for this action.

Amputations

Physiotherapy played a large role in the rehabilitation of amputees during all stages of their treatment programme. Pre-prosthetic treatment consisted initially of the application of elastic coning bandages to the stump to reduce the swelling and to shape the stump. Coban elastic bandages were found to be the most effective in this regard and were commenced soon after operation ($\pm 5 - 10$ days). Light pressure was applied until the stitches were removed and firm pressure was applied thereafter. General body strengthening exercises to the stump (dynamic stump exercises) were taught to the patients and performed daily. Gait training on crutches followed and the patients were

discharged with instructions to return to the hospital during the following orthopaedic clinic week for measurement and casting of the prosthesis. The average duration of treatment from initial injury to discharge with prosthesis was 3 - 4 months. This was often prolonged due to additional injuries sustained by the patient, e.g. multiple fractures of the other limbs, burns, etc.

The Pneumatic Post-Amputation Mobility Aid (P.P.A.M. Aid) was used for commencing standing balance and gait training in elderly patients. This was also used for bilateral lower-limb amputees in the period prior to receiving their prostheses. In a small percentage of below-knee amputees, a plaster-of-paris pylon was made to aid the patient during the intermediate stage at home and to accustom him to an artificial limb. In order to make the pylon secure, it had to be extended to above the knee and this prevented knee flexion during the gait cycle. Although this increased patient independence in the interim period while awaiting orthopaedic clinic week, it was found that bad gait patterns developed which were difficult to correct once the permanent prosthesis was received. This idea was then abandoned.

Tuberculosis

Tuberculosis with its attendant complications, is prevalent in Owamboland. Patients with tuberculosis of the hip (the majority of patients) were put on a regime of drugs and strict bed rest with skin traction applied to the limb for three months. Quadriceps exercises were given to maintain strength, and towards the end of three months gentle hip flexion exercises were given to regain mobility. The patients were ambulated partial weight-bearing on crutches for six weeks. Patients with tuberculosis of the spine were treated along similar lines, being fitted with a corset where necessary.

NEUROLOGICAL CONDITIONS

Hemiplegia, paraplegia and cerebral palsy were the conditions most commonly seen (Table).

Hemiplegia

Hemiplegic patients constituted ± 50 percent of the patients seen with neurological problems. Hypertension with resultant cerebrovascular accident, was the commonest

TABLE. — TOTAL NO. OF PATIENTS SEEN — 536

<i>Orthopaedic</i>	<i>Neurology</i>	<i>Chest Physiotherapy</i>	<i>Burns</i>
Lower limb fractures	93	Hemiplegia	28
Soft tissue injury (upper limb)	35	Cerebral Palsy	14
Amputation	32	Paraplegia	12
Upper limb fractures	31	Other	10
Tuberculosis	18	Total	64
Soft tissue injury (lower limb)	22	Medical chest conditions	101
Polio	10	Post surgery	68
Other	15	Total	169
Total	256		47

cause of hemiplegia. In most cases, the upper limb was found to be more severely affected than the lower limb, resulting in a poorer prognosis. Physiotherapy in the initial flaccid stage consisted of correct positioning of the patient in bed and passive movements to prevent contractures. This was followed by exercising the patient through the stages of the normal developmental sequence. Standing and walking were first performed in the parallel bars. Use was sometimes made of a plaster-of-paris back slab to support the affected lower limb. Once the patient was mobile (usually with the aid of a stick) in-patient management ceased and the patient was discharged. (The demand for beds necessitated an early discharge). Because of the difficulty of out-patient follow-up, the patient usually received little or no further management and therefore the best possible result was often not achieved.

Paraplegia

In most cases trauma was the cause of paraplegia. Because of the lack of facilities and the inability of families to care for patients at home, they faced the grim reality of being confined to the hospital on a permanent basis. These patients were accommodated in a special ward of their own with specially trained sisters. Following diagnosis, the patients were put on a programme of strict bed rest with turning every two hours to prevent bed sores, and passive movements to prevent contractures. Once the condition stabilised, they were mobilised in a wheelchair and taught to manage all activities of daily living. A special rehabilitation programme consisting of standing and walking (with aid of calipers and crutches), passive movements and sport was designed and carried out. The services of an occupational therapist would have been useful in rehabilitating these patients. Although they appeared to adapt physically to their condition, problems did manifest on a social level with patients experiencing the frustrations of being confined to the hospital for the rest of their lives, and they often caused disturbances in the hospital.

Cerebral Palsy

Cerebral Palsy in children was usually first diagnosed at 2-3 years of age when the child was brought into hospital by his parents, unable to walk. Adequate facilities for intensive cerebral palsy rehabilitation were not available, and a make-shift programme had to be devised. This consisted of an explanation of the condition to the mother (through an interpreter) with the hope that once she understood the situation, she would be able to assist with basic physiotherapy at home. The following were demonstrated to the mother:

- The application of plaster-of-paris night splints, made for the affected limb/s to maintain a position inhibiting the developing spastic pattern.
- Passive movements to prevent contractures of affected limb/s to be done twice daily at home.
- A few basic postures and exercises to assist in the handling of the child and to prevent deterioration of the condition.

The child was followed up monthly where possible, and for a few patients who lived close by, a programme of assisted gait using a walker frame was carried out twice weekly.

BURNS

Nearly two-thirds of all patients with burns were children who had been burnt in accidental fires in their homes

(kraals). Early skin grafting was performed and the limb splinted to prevent contracture formation. Early removal of the dressing was carried out (3 - 5 days following graft). Physiotherapy commenced at this stage. This consisted of active exercises as well as gentle passive stretching to maintain the fullest range of movement possible. Because of the absence of a physiotherapist in the preceding four months, some patients had already developed severe contractures. In these cases physiotherapy consisted of serial splinting, passive stretching and active exercises to decrease the contractures. In those patients in whom physiotherapy proved ineffective, surgery was carried out. Of the remaining one-third of the burn injuries, the majority resulted from motor-vehicle or land-mine accidents. Most of these were high percentage surface area burns with the lungs also being involved. In these patients, despite intensive chest physiotherapy, mortality was high.

CHEST PHYSIOTHERAPY

The spectrum of chest physiotherapy seen was similar to that of any general hospital and contributed to 30% of the department's workload. Medical chest conditions most commonly seen were pneumonia (childhood and adult), pulmonary tuberculosis and lung abscess. Chest physiotherapy was also carried out post-operatively, usually post-abdominal surgery.

Therapy was conventional, consisting of breathing exercises, postural drainage with vibration, percussion and coughing, and, where necessary, intermittent positive pressure ventilation using the Bird Respirator.

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SUB COMMITTEE ON RESEARCH

There has been a very poor response to the suggestion that the feasibility of establishing a Co-ordinating Committee on Research be investigated. Only a few replies were received after the notice in the December 1981 issue of the Journal.

Members are reminded of the need to co-ordinate research, as trials carried out by individuals could well be duplicated and nothing constructive will emerge. Knowledge and ideas should be pooled in order to co-ordinate research.

By setting up a register of what is being done, who is doing it and whether these persons would be prepared to share their knowledge or ideas, members of the Society who are interested in research and/or clinical trials can be united.

Would members who are interested in doing research or running clinical trials or who are already doing so please send the following information to: **The Chairman, Research, SASP, P.O. Box 11151, Johannesburg 2000.** Name; address; research interest; already carrying out research/clinical trials; willing to share ideas; whether interested in receiving a copy of the list of research/clinical trials being carried out; whether registered for a higher degree.

Research is not a luxury. It is essential for survival of the profession. (Basmajian).