

Holte revisited — a review of the quality of prosthetic treatment

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Abstract

The standards recommended at the United Nations Inter regional Seminar on Standards for the Training of Prosthetists in Holte, Denmark, in 1968 were universally accepted as being ideal, practical and economical. As these standards and the services to patients are not always observed, world wide, a study was made to investigate the situation in Australia. Australia is a federation with responsibility for health and education vested in six States. The Federal Government is the principal taxing authority with the States dependent on it for financing services. The isolation of Australia led the Government during 1960 to send a rehabilitation medical officer to survey the system in Europe and North America. The best features of overseas practice became the basis for updating an Australian Service and establishing the Central Development Unit. The Artificial Limb Service is based on clinical care, formal in-service training of limb makers and fitters, patient training by therapists and the purchase of components from mass producers. The Service is answerable to lay and medical staff in the State Branches and to the Central Office of the Department, located in Canberra. The division of responsibility between the State and Federal Governments seems to lead to competition for control of services rather than to an integrated plan for Prosthetic-Orthotic training with services. Industrial conflict due to a perceived threat of the supplanting of apprentices by formally trained prosthetists-orthotists has also adversely affected development.

In this paper the views of Government authorities, medical prosthetic prescribers and of personnel who conducted a pilot study in delivery of a prosthetic service are discussed.

Principles outlined at Holte remain a yardstick with which to measure the quality of service. In practice, however, it has not always been possible to meet those standards as one would wish.

Introduction

At a seminar in Holte, Denmark, in 1968, agreements were reached on standards for training and service delivery in prosthetics and orthotics (U.N., 1969). These standards were considered to be ideal, practical and economical. An Australian government representative participated in the conference. Following the conference, efforts have been made to develop training and services in prosthetics and orthotics which meet these standards.

Australia is a federation comprising six states and two Territories, the Australian Capital Territory and the Northern Territory, the latter a vast tract of arid land largely populated by aborigines (Fig. 1). The States are dependent on the Federal Government for finance but are responsible for the implementation of health and education services.



Fig. 1. Australia

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Over the years, there has been competition between the States and the Commonwealth in relation to the areas of responsibility for delivery of health services. The Commonwealth controls the purse strings, but the States implement the programmes. The Commonwealth finances a free limb scheme whereby artificial limbs are available without cost to all persons in need, but the State doctors prescribe and approve the prosthesis for payment.

Due largely to its isolation and small population, Australia has relied heavily on overseas advice and standards, hence the Holte recommendations were particularly appropriate.

Prior to the Holte Seminar, the outstanding achievement was the establishment in 1961 of the Australian Institute of Limb and Appliance Research, that is the Central Unit in Australia for evaluation, education, research and development of prosthetics and orthotics based on the Artificial Limbs Research Project which existed in the U.S.A. in the past.

Although this Unit was established prior to the Holte Seminar, it has an establishment of two formally trained diplomates in prosthetics and orthotics, a bio-medical engineer and a therapist under medical direction.

The most outstanding achievement related to the Holte recommendation was the establishment in 1975 of a School of Prosthetics and Orthotics at the Lincoln Institute of Health Sciences, Melbourne, Victoria. This is a tertiary college which provides a three year course in prosthetics and orthotics, leading to a diploma. This institute is largely federally funded. There is an annual intake of 15 students. At the time this school was established, the Federal Government considered that one school should be able to meet the needs of the Australian population which is approximately 13,400,000.

Method and results

In order to ascertain the current situation regarding prosthetics and orthotics, information has been sought from all the States and Territories as to their current standards and services. Largely as a result of interviews and questionnaires (see sample), it has been ascertained that:

1. A low priority is given by States to prosthetic/orthotic services. The staff employed, whether medical, nursing,

physio or occupational therapy, are generally junior or recent graduates, often employed on a rotating basis which means that inexperienced staff are providing the services.

2. Some disputes have arisen from the perceived fears of the apprentice trained limb makers that the employment of prosthetic/orthotic graduates would supplant them. There have been union bans on the employment of the prosthetic/orthotic graduates at the Limb Centre of the Department of Veterans' Affairs. This has been accompanied by a proposal that the designation "Prosthetist" be abolished. Industrial disputes might have been avoided by better communication in planning.
3. In Victoria, the Health Commission is responsible for all health and prosthetic/orthotic services. In 1978 it commissioned a report on prosthetics and orthotics which recommended *inter alia*, that two pilot prosthetic/orthotic units be established, one in the capital city of Melbourne and one in Ballarat, some 100 kilometres away. These units were established in 1981. It was intended that these pilot programmes be evaluated in 18 months and that the evaluation be used as the basis for developing further regional centres.

Largely due to employment of inexperienced staff and lack of adequate monitoring this evaluation has not been completed and no policy has been determined in relation to future development of a prosthetic/orthotic service on a State-wide basis.

Recently two "Workshops" were organized by I.S.P.O. (Australian National Member Society) held six months apart, for the voicing of opinions of medical and allied health personnel working in prosthetic and orthotic clinics. Although poorly attended, there was much valuable discussion, many questions, but few answers.

In Victoria with a population of 3,900,000 there are 20 prosthetic/orthotic diplomates employed — this is much less than the number required if we are to meet the Holte standards of one prosthetist/orthotist for 130,000 of population.

- Technicians are not employed in Victoria nor are special courses provided or planned for this group — this is in contrast to the two tier structure recommended at Holte.
4. New South Wales has a population of 5,250,000 in an area the size of France. Most of the population live in the capital, Sydney. Of the remainder, most live along the fertile coastal strip; the hinterland is very sparsely populated. Unfortunately prosthetic/orthotic services are not considered to be of sufficient importance to be included in the Health Department's data collection scheme. This Health Department does not have a formal policy regarding the provision of prosthetic/orthotic services, but it does endorse the philosophies implicit in the standards established at the Holte Seminar, i.e. "that services should be located within large general hospitals and be an integral part of an orthopaedic or medical rehabilitation centre". Five hospitals are listed in this State which have established these services. However, formally trained prosthetist/orthotists are not necessarily employed. There are four formally trained prosthetists/orthotists and approximately 105 informally trained prosthetist/orthotists working in the state.
 5. Queensland, where the population is 2,250,000 for an area the size of Arabia, the stated policy is "to develop a hospital based prosthetic and orthotic service at three city hospitals and a rural community hospital; to continue using private contractors to construct prostheses; to upgrade staff establishments and to provide scholarships to the Prosthetic and Orthotic School at Lincoln Institute".
The service in Queensland indicates longer than desirable waiting time for prostheses. There are five prosthetic/orthotic diplomates employed but the private limb makers undertake the bulk of prosthetic work in the State.
 6. In South Australia (population 1,250,000 for an area the size of Germany), data is not readily available and there appears to be no State policy or even an officer for overseeing prosthetic/orthotic services.
 7. Western Australia has a population of 1,250,000 and is the size of India. No response.
 8. Tasmania, with a population of 500,000 is the size of Ireland. It seemed that there was little real appreciation of the difference between apprentice-type limb makers or apprentice-type orthotists, prosthetic/orthotics technicians, i.e. non-clinical assistants, and prosthetic/orthotics diplomates. The answers provided are difficult to correlate.
 9. Australian Capital Territory has a population of 230,000 and an area of 2½ thousand square kilometres. No information could be obtained.
 10. Northern Territory has a population of 120,000 in an area larger than Germany. Advice was received that "the prosthetic/orthotic services in this territory are provided by the Federal Government's Department of Veterans' Affairs".
- A literature search, attendance at conferences and seminars relating to prosthetics and orthotics and discussions with personnel in the field, indicate that prosthetic/orthotic services in Australia reflect the generally unsatisfactory situation world wide, that the service to the amputee patient remains haphazard or falls short of the ideal.
- Rose (1978) states — "Many, and often bitter, complaints are made by patients and doctors about orthoses and no one disputes the need for very considerable improvement in quality, delivery and research".
- James (1981) states — "It would seem that the disabled of today are coasting along on the inventiveness of the Victorian (era)", and his further comment is frequently expressed — "it was found difficult to integrate the Limb Fitting Service with the hospital and community".
- In a commentary by Whipple (1982) — "The profession of prosthetics is beset by two major problems.
- 1) inadequate education and training and
 - 2) too few prosthetists.
- The interaction of these problems has created a crisis in the profession".
- English and Dean (1982) state the oft heard — "For many years a cause of dissatisfaction with the service has been delay in the provision of a finished prosthesis. The time between amputation and the fitting of a prosthesis is very important in the total management of amputees".

It would seem that Australian amputees are not alone in their plea for a priority in health care.

Summary

The quality of prosthetic service received by amputees in Victoria and in Australia, even world wide, could be optimum if the recommendations of the Inter-regional Seminar on Standards for the Training of Prosthetists are followed. The International Society for Prosthetics and Orthotics (I.S.P.O.) should be highly commended for instigating this Seminar. Obviously the recommendations did not go far enough.

The delegating of junior or inexperienced staff, both medical and paramedical, to the amputee/prosthetic patients, the attitude of key personnel at interviews, the poor response or lack of response to information requests from senior staff in the Health Departments, are all a reflection of the lack of concern for these patients and this field of medicine and rehabilitation.

Consideration should be given to "Revisiting Holte" and adopting "Holte type" recommendations which should be possible to implement as part of governmental policy, together with major commitments by governments to rehabilitation programmes. This should include

- a) case study presentations
- b) amputee associations collectively voicing their views
- c) greater emphasis in medical school curricula on amputee and prosthetic treatment.

The reasons why the Holte recommendations were not implemented in Australia would seem to be:—

1. The division of responsibility between State and Federal Governments and the lack of total government commitments with policy in relation to prosthetic/orthotic training and services.
2. The absence of communication which would result in a greater government commitment and reduce industrial unrest.

Accordingly, the following recommendations are made:

1. That all policy makers should consider prosthetic/orthotic training and services and prepare guidelines for the medical and allied health professionals.

2. That such policies and guidelines be widely publicised.
3. That there should be a community education programme in regard to prosthetist/orthotists and the role of trained workers in the field.
4. That training courses be established for technicians to work with prosthetists.
5. That the International Society for Prosthetics and Orthotics lobby international governments to give greater recognition to the needs of this relatively small sector of the disabled and those helping them.

Such recommendations would, if implemented, enable the patient to return in the shortest possible time to the best quality of life.

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QUESTIONNAIRE

Assessment of the quality of prosthetic/orthotic service to patients in Australia

IN YOUR STATE

1. Does the Health Commission/Department have an official policy on Prosthetic/Orthotic service to patients? YES NO
2. If yes, please outline policy
3. Does this relate only to employed, formally trained Prosthetist/Orthotist diplomates? YES NO
4. Does this relate only to establishing Prosthetic/Orthotic Departments? YES NO
5. Does the policy follow the Holte recommendations, as outlined in your letter? YES NO
6. If no, would you please explain your policy
7. How many Prosthetic/Orthotic Departments or Centres are/were in your State in 1983, 1973, 1963
8. How many Prosthetic/Orthotic Departments are located
 - a) In large General Hospitals?
 - b) In Centres other than large General Hospitals?
9. How many Prosthetic/Orthotic diplomates are currently in the workforce in your State?
10. How many Prosthetic/Orthotic diplomates are currently in the workforce
 - a) In large General Hospitals?
 - b) In Centres other than large General Hospitals?
11. How many apprentice type Limb Makers are currently in the workforce
 - a) In large General Hospitals?
 - b) In Centres other than large General Hospitals?
12. How many apprentice type Orthotists (splint makers) are currently in the workforce
 - a) In large General Hospitals?
 - b) In Centres other than large General Hospitals?

- 13. How many Prosthetic/Orthotic "technicians" (non clinical assistants) are currently in the workforce?
- 14. What is the role of the technician in Prosthetic/Orthotic departments in your State?.....
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- 15. How many amputees in hospitals in your State during the 12 month period 1982-1983?
- 16. It has been estimated that one Prosthetist/Orthotist is required per 300 of amputee population, giving an indication of the number a hospital (or group of hospitals) should employ;
 - a) Is this in accordance with your policy? YES NO
 - b) If no what policy do you adopt?
- 17. Do returns indicate acceptable waiting time for prostheses and length of hospital stay?.....
 - a) Average period from amputation to interim prosthesis
 - b) Average period from amputation to definitive
 - c) Average period from amputation to return home/job
- 18. What is the effect of competition/private limb makers on the service to patients?.....
 - i) on overall service of Prosthetic/Orthotic Clinics?.....
 - ii) on fit function, alignment of Prostheses and/or Orthoses?
 - iii) on period of waiting time?
 - iv) on measuring up to recommendations of Holte?
 - v) on follow-up?
 - vi) does private enterprise decentralize?
- 19. Is the amputee patient's treatment co-ordinated and completed by the hospital that commenced it?.....
- 20. Is follow-up a point of total treatment or not?.....

Does this occur with the service to patients with other conditions? YES NO

Please enlarge

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