

International Society for Prosthetics and Orthotics (ISPO)

World Health Organization (WHO)

THE RELATIONSHIP BETWEEN PROSTHETICS AND ORTHOTICS SERVICES AND COMMUNITY-BASED REHABILITATION

A Joint ISPO/WHO Statement
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Introduction

In the 1970s the World Health Organization (WHO) introduced a new approach to disability prevention and rehabilitation known as community-based rehabilitation. The aim was to ensure that rehabilitation services can be provided to all people with disabilities, whether they live in a city or in the countryside or whether they are rich or poor.

This approach involves measures taken at community level to use and to build upon the resources of the community as well as drawing on the services offered at district, provincial and central level. Thus the complete rehabilitation structure of this model consists in all of four levels: community, district, provincial and central. The last three of these levels constitute the referral system for the first, i.e. the community level.

The personnel of institutions at the central and provincial levels are the professionals who can be expected to work in conventional rehabilitation and health services. At *central level* they may, for example, include specialized physicians, therapists, and prosthetics and orthotics staff. At *provincial level* they may be general physicians, some (though usually few) specialized physicians, therapists, and prosthetics and orthotics staff.

The professionals based at *district level*, however, are not likely to possess any specialized training in rehabilitation. They are usually general physicians and nurses who are concerned with the provision of primary health care services. Nevertheless, as discussed below, they may play an important role in the referral system and in the transfer of knowledge and skills in rehabilitation to the community level.

Finally, at *community level*, there are usually no professionals at all, in either health or rehabilitation. The persons working there - usually called *community health workers* or *community rehabilitation workers* - often do their work on a voluntary and part-time basis in addition to their normal duties in the community. Since they are likely to have limited or minimal education in health and rehabilitation, they need to receive training and support from personnel in the referral system.

The success of this approach to rehabilitation will depend on the development of an integrated and coordinated programme in which the activities at each level are clearly defined. It will also depend on the development of an educated and trained workforce, with clear definition of the role of the different types of personnel.

WHO has recognized that although most basic rehabilitation can be carried out in the disabled person's own community, many persons with disabilities have to be referred to other rehabilitation services outside their own community. Among this group are those people who require prostheses and orthoses. This is because prosthetic and orthotic devices of an acceptable quality cannot realistically

be made in every single community within a country. This means that for the successful, widespread provision of prosthetics and orthotics services there needs to be a strong relationship between the specialized services and community-based rehabilitation programmes.

With regard to the provision of prosthetics and orthotics services, the International Society for Prosthetics and Orthotics (ISPO) has gone some way towards defining the job descriptions and educational requirements for the different categories of professionals directly involved in this field. These categories are: prosthetist/orthotists (Category I); orthopaedic technologists (Category II); and prosthetics/orthotics technicians (Category III). Some consideration needs to be given to the use of these categories of professionals in the referral system on which WHO's approach depends and in particular to the role and training in prosthetics and orthotics of primary health care staff and community health/rehabilitation workers.

Ideally, each country should have adequate numbers – possibly many thousands – of community health/rehabilitation workers. While all of these workers need to receive training so that they possess a certain minimum knowledge of rehabilitation, the obvious challenge with respect to the prosthetics/orthotics component is how to manage the transfer of this knowledge when so few resource persons are normally available in prosthetics and orthotics services in low-income countries. Here the approach of WHO is clear: prosthetics and orthotics personnel cannot be directly involved in the training of community health/rehabilitation workers. At best, they can only contribute to the training of *primary health care staff*, so that these in turn can include prosthetics and orthotics issues in the ordinary training courses for persons serving at the community level.

The following sections offer guidance on how community-based rehabilitation and the referral system may be used to help to promote and improve prosthetics and orthotics services in low-income countries.

Basic community level

The basic community level is situated in the village or community; it is staffed by community health/rehabilitation workers, who usually work under the supervision of a primary health care nurse at district level.

In matters related to prosthetics and orthotics, the basic community level will:

- give priority to the early detection of disabilities;
- consider the socioeconomic situation and needs of persons with disabilities;
- guide persons with disabilities towards sources of funding for treatment;
- act as a link between the person with disability, the family, and the prosthetics and orthotics services;
- explain the treatment programme to the person with disability and the family;
- refer persons with disabilities to the appropriate support or service level together with information about the needs and expectations of the person;
- assist persons with disabilities in preparations for the fitting and use of prosthetic and orthotic devices, including physical therapy and wrapping of residual limbs;
- encourage the person with disability to carry out needed exercises;

- assist with follow-up of the person with disability with regard to the use of, and adaptation to, the device;
- assist with the rehabilitation of the person with disability;
- assist with adaptation of the environment and take measures to facilitate accessibility, good hygiene and activities of daily living;
- help to prevent causes of disability, e.g. through good hygiene, wound treatment, and prevention of secondary deformities such as contractures and bed-sores;
- arrange for maintenance and repairs to prosthetic and orthotic devices. It is important for the community health/rehabilitation worker to recognize what repairs can be done in the community by a local craftsman and what repairs should be referred to the support level;
- help in the provision of simple mobility and rehabilitation devices;
- help persons with disabilities to be integrated into society, e.g. through education and work opportunities;
- promote awareness of the benefits of using prosthetic and orthotic devices;
- provide information to the appropriate support level with regard to follow-up and the acceptance and use of devices;
- provide information to the support level on the numbers of people with disabilities and the types of disabilities found.

District support level (primary health care)

This support level does not normally offer any *specialized* rehabilitation services, since specialized physicians, therapists, and prosthetics and orthotics staff are rarely available here. However, basic and general rehabilitation services may be provided by primary health care staff, such as general physicians and (in particular) nurses since, as stated in the 1978 Declaration of Alma-Ata, primary health care should address the main health problems by providing promotive, preventive, curative *and rehabilitative* services.

At district level, in matters related to prosthetics and orthotics, primary health care services will:

- provide training to community health/rehabilitation workers in rehabilitation, including basic prosthetics- and orthotics-related issues (see duties of community health/rehabilitation workers above). There is a great need to educate and train community health/rehabilitation workers for their role in prosthetics and orthotics. This training should be based on a curriculum set centrally. Supervision and advice on their work in prosthetics and orthotics will continue to be needed as there is no tradition or depth of experience in this field;
- provide support in rehabilitation issues to the community;
- refer persons with disabilities to the appropriate support or service level together with information about the needs and expectations of the person;

- monitor and evaluate prosthetics and orthotics services and programmes of disability prevention from a district viewpoint;
- provide information to the provincial service level on the numbers of people with disabilities, the types of disabilities found and treated, the numbers and types of devices fitted, and outcomes of the services.

Provincial support level

This intermediate support level is situated in a provincial institution and, apart from other medical and paramedical professionals, may be staffed by all categories of prosthetics and orthotics professionals up to and including Category II.

The intermediate support level will:

- provide general prosthetics and orthotics services, including repair and replacement of devices. The services that it should offer must include the most common and most needed prosthetic and orthotic devices, i.e. prostheses and orthoses for the lower limb. However, devices for other levels may be fitted if there is a particular need and demand for such a service;
- refer persons with less common disabilities for specialist treatment to the specialized service level;
- participate in the training of primary health care personnel in prosthetics- and orthotics-related subjects so that all these staff, in turn, can include prosthetics and orthotics issues in the training they provide for community health/rehabilitation workers. As in the case of training for community health/rehabilitation workers, the training of primary health care personnel should be based on a curriculum set centrally;
- provide support in rehabilitation issues to the district level;
- monitor and evaluate prosthetics and orthotics services and programmes of disability prevention from a provincial viewpoint;
- provide information to the specialized service level on the numbers of people with disabilities, the types of disabilities found and treated, the numbers and types of devices fitted, and outcomes of the services.

Specialized service level

The specialized service level is situated in a central or national institution and should be staffed by all categories of prosthetics and orthotics professionals up to and including Category I.

The specialized service level will:

- provide specialized prosthetics and orthotics services, i.e. the full range of prosthetics and orthotics devices and services;
- contribute to the development and coordination of a national policy with regard to prosthetics and orthotics services and referral. The specialized service level is expected to provide help and advice to government in the development of its policy on the planning,

organization and administration of prosthetics and orthotics services and national policies related to people with disabilities. This is of great importance if the concept of community-based rehabilitation in prosthetics and orthotics is to be adopted by a country;

- contribute to the development of a central policy for disability prevention in the field of prosthetics and orthotics;
- contribute to the organization of programmes of education and training for all personnel involved in the provision of prosthetics and orthotics services, including primary health care staff and community health/rehabilitation workers (the education and training of primary health care staff and community health/rehabilitation workers is discussed below);
- participate in the training of primary health care professionals on prosthetics and orthotics issues;
- provide support in rehabilitation issues to the provincial level;
- develop an information package for primary health care staff and community health/rehabilitation workers outlining the prosthetics and orthotics delivery system;
- oversee the professional development of all personnel involved in the provision of prosthetics and orthotics services;
- monitor and evaluate prosthetics and orthotics services and programmes of disability prevention from a national viewpoint. It is important for all services and programmes to be evaluated in order to check whether they meet the needs of the country and to determine ways in which they may be improved and their quality can be assured.

Training of community health/rehabilitation workers

It is important to bear in mind that the community health/rehabilitation worker is neither a prosthetist/orthotist nor an orthopaedic technologist and will not be expected to fit prostheses or orthoses. He or she has a wide range of information on many different aspects of rehabilitation, of which prosthetics/orthotics is only one. Thus some prosthetics- and orthotics-related subjects need to be included in the training provided.

A syllabus to achieve this might include components on:

- disabilities that can be helped by prostheses or orthoses and how they can be helped;
- prosthetics and orthotics services available in the country and how to gain access to them;
- the range of prosthetic and orthotic devices available from district, provincial and central institutions and how the supply process works;
- fit and function of prosthetic and orthotic devices. This is important in helping to determine whether there is a problem with regard to fit and/or function of a prosthesis or orthosis;
- measures for preparing a person with disability for the fitting of prosthetic and orthotic devices, including exercises and wrapping of residual limbs;

- use, maintenance and hygiene of a prosthesis or orthosis, including exercising;
- simple repairs to prostheses and orthoses. The community health/rehabilitation worker should know what repairs can be carried out by a local craftsman and what repairs need to be referred to prosthetics/orthotics services at another level;
- construction and use of simple mobility and rehabilitation devices;
- adaptation of the environment;
- data collection. The community health/rehabilitation worker should be taught simple techniques to gather information about numbers of persons with disabilities, range of disabilities found, use of a prosthesis or orthosis, etc;
- sources of funding for prosthetic and orthotic treatment;
- integration of the person with disability into society.

Recruitment of community health/rehabilitation workers

Community health/rehabilitation workers have an important role to play in the provision of prosthetics and orthotics services. It is essential for these workers to be carefully selected and persons with disabilities, their family members and women should be encouraged to take up these posts. The following attributes are considered to be important:

- to have a good attitude to disability;
- to live in the community and be accepted and selected by it;
- to be able to read and write satisfactorily.

Education of primary health care staff

Primary health care professionals should be the trainers of the community health/rehabilitation workers. The curriculum for the training of primary health care staff in prosthetics and orthotics should therefore include the same topics as for community health/rehabilitation workers (see “Training of community health/rehabilitation workers“ above).

Education of prosthetics and orthotics personnel

In order to ensure that there is an effective relationship between the prosthetics and orthotics services and the services offered at community level, it is important for prosthetics and orthotics personnel to be made aware of the role and function of the community rehabilitation services.

A syllabus to achieve this might cover:

- the philosophy of community-based rehabilitation;
- the United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities;

- the national health service structure, including primary health care and community-based rehabilitation;
- community-based rehabilitation activities in the country;
- interaction of prosthetics and orthotics services, primary health care and community-based rehabilitation;
- problems of persons with disabilities in rural areas;
- adaptation of prosthetic and orthotic devices to local conditions;
- ways of providing advice in a simple and effective manner;
- basic physical therapy (exercises) before and after fitting devices.

Team approach

The foregoing sections outline the roles of the technical personnel directly involved in the provision of prostheses and orthoses: Category I and II prosthetics/orthotics professionals; non-specialized professionals, such as primary health care staff; and community health/rehabilitation workers, many of whom may be volunteers. Most people who require a prosthetic or orthotic device also require treatment from other medical and health personnel, such as surgeons and other physicians, occupational and physical therapists, and social workers. In order for those involved to work together effectively, they should be encouraged to share information with each other and, based on their respective professional and personal viewpoints, offer suggestions on measures that need to be taken to assist in the person's rehabilitation. In this respect, though not all of them meet face to face at one and the same time, the people involved in the rehabilitation process should be seen as a team. The person with disability and his or her family have an important role in this team and should be positioned at the centre of the relationship between prosthetics and orthotics services and community-based rehabilitation. For the rehabilitation services to be effective in the provision of prostheses and orthoses, an integrated approach by all the members of the team at the community level, the intermediate support levels and the specialized service level is essential.

Conclusions

A number of matters need to be addressed to enable adequate prosthetics and orthotics services to be provided in low-income countries. Some of these are set out below:

- Community, district, provincial and centralized services should all be part of the overall prosthetics and orthotics services. In order to provide an adequate prosthetics and orthotics delivery system, all services need to function in a coordinated way;
- There is a lack of trained personnel in the prosthetics and orthotics services. There is still a great need to train Category I, Category II and Category III professionals as well as training primary health care staff and community health/rehabilitation workers in subjects related to prosthetics and orthotics services;
- The training of primary health care staff and community health/rehabilitation workers should not be seen as a substitute for training professionals in prosthetics and orthotics. They are a different type of worker with completely different skills and a different job to do;

- There is a lack of financial resources. It is not possible to solve all the prosthetics and orthotics problems immediately. It is important to plan for the future and ensure that any developments are part of an overall plan so that resources are used effectively;
- Awareness of community-based rehabilitation and its role in prosthetics and orthotics needs to be increased. There is a need to make the public, existing prosthetics and orthotics professionals and the government aware of community-based rehabilitation and how it can be used to improve the prosthetics and orthotics care system;
- A team approach is crucial. When possible, proper use must be made of all members of the team in order to ensure a better quality of rehabilitation.

To sum up, this document attempts to describe the relationship between prosthetics and orthotics services and community-based rehabilitation. It shows how the services offered by central, provincial and district institutions and the community can work together in helping to provide a comprehensive prosthetics and orthotics service. It should be noted that no definitive model of community-based rehabilitation in prosthetics and orthotics is available; each country should develop its own system according to its needs and the resources available.