29th April 2011

Dear Commissioners,

We are pleased to see the Government's commitment to *"improve care & support services for people with disability"* and that their focus is on "*early intervention & long term care*".

We are very pleased to see that the Commission is proposing a *"real system for people with a disability"* one that incorporates *"much more & better directed money, a national approach"* & most importantly *"a shift in decision making to people with a disability"*.

As indicated previously ***apc prosthetics'*** area of expertise is in the provision of prosthetic services. Collectively we have over 100 years of experience providing services to Australian amputees. We also have extensive knowledge and experience of international prosthetic care models.

This second submission is intended to provide further clarification to our original submission. We request that this additional submission be read in conjunction with our original submission - sub0241 & the transcripts from the public hearing of 14th April 2011 - pg702-717.

Our original submission indicated the need for prosthetic services to be brought under the national banner of the proposed National Disability Insurance Scheme & provided recommendations as to how this scheme could be practically applied to prosthetic services. This additional submission provides recommendations for how Prosthetic services can be provided under the Tier 3 grouping of the NDIS.

As stated in our original submission (sub0241) we believe that with a renewed national focus, that service provision to amputees can be significantly modernized and radically improved across Australia. To ensure that this service is equitable and provides appropriate, up to date prosthetic service provision to all Australians with limb loss, regardless of where they live, we continue to recommend to the commission that the following initiatives be implemented:

1. Establishment of a national scheme for prosthetic service provision
2. Establishment of a national prosthetic management panel
3. National data collection & benchmarking be set up for amputee services
4. Prosthetic workforce development plan is established and implemented
5. Prosthetic Service provision is provided by both public and private service providers

6. Review & Re-structuring of Compensation Based Payouts
7. Prosthetic service provision be funded under a Medicare model.

In this additional submission we will provide information to assist with:

A. Clarifying the services that should be included under the NDIS

B. Early intervention

C. The role of "assessors"

D. Assessment tools

E. Development of the service model

F. Costing models

G. Implementation recommendations

Thank you for your consideration of this additional information in conjunction with our original recommendations; we make ourselves fully available as an ongoing resource for the future planning of these services.

APC prosthetics

A. Clarifying the services that should be included under the NDIS

"Chapter 4: The Commission considers that the NDIS should fund artificial limbs and seeks feedback on the desirability and practicality of this option. What items should be included if in the NDIS?"

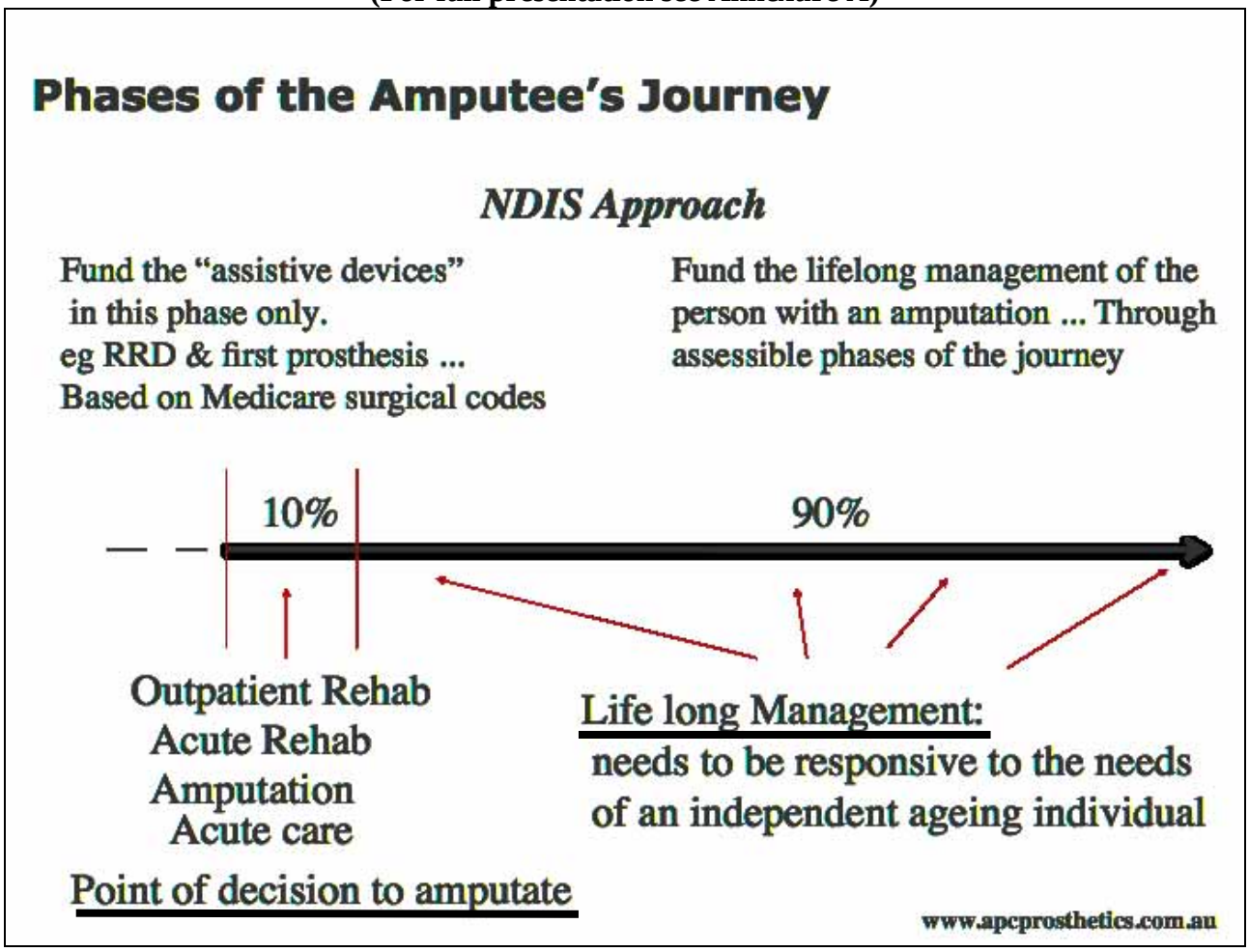
1.1 We recommend that ***all external artificial limbs***, those that replace the function of arms and legs, should be included under the NDIS ***within a system that supports the lifelong management of the person with an amputation.***

1.1.2 It should be noted that artificial limbs, are those devices that are considered class 1 within the TGA classifications, they are non-invasive medical devices. It should also be noted that unlike internal prosthetics - such as hip or knee joints - there is no private health scheme funding available for clients who require an artificial limb.

1.2 Phases of the Amputee's Journey: NDIS Approach.

1.2.1 We recommend that the NDIS fund assistive devices from point of amputation (the first 10%) and full services for life-long management (the 90%).

Slide 5 from full overview that was presented at the public hearing 140411
(For full presentation see Annexure A)



1.2.2 This system must be seamless & take into account the complexity of the amputee's journey. It must be viewed as lifelong management. From the point of decision to

amputate; taking into account all aspects from the intensity and complexity of the acute phases of care & rehabilitation, to the changing needs of an independent aging individual.

1.2.3 This system would provide *"supports that would allow a person to fulfill a range of functions, rather than only respond to what an individual cannot do"* and would *"properly fund the reasonable assessed needs of people with a disability"*. Currently services only provide the bare essentials. This is due to poor historic funding.

B. Early intervention

"the overarching objective of early intervention is to incur expenditure on a particular intervention today that, not only improves individual outcomes .... but, lowers the costs and impacts .... over the long term"

1.1 We recommend that the NDIS utilize the coding for the surgical procedure of an amputation, as it is a national system, to trigger the access to the initial funding of services for a person with an amputation.

1.1.1 This initial funding of "early interventions" in the first "10%", will incorporate the provision of assistive devices for immediate post operative management & an appropriate prosthetic device. This would not include the services that are currently being provided by the state health services.

1.1.1.1 Eg: An example of this "early intervention" is the use of Removable Rigid Dressings (RRD's). These have been shown to reduce hospital bed stays, prevent further surgical intervention due to falls & assist in more rapidly allowing individuals to return to the community following amputation. (For references see Appendix B)

1.2 A well-planned seamlessly funded national prosthetic service will reduce total health budgetary costs, through the utilization of early intervention and reduced double handling of administrative tasks across Australia.

C. The role of "assessors"

"Assessors should ... be independent of the person being assessed to reduce the potential for "sympathy" bias."

1.1 Currently all people with an amputation access "multidisciplinary teams" (MDT). These are allied health clinic teams that generally include prosthetists, rehabilitation doctors, physiotherapists, nurses and who generally have access to other disciplines such as occupational therapists, psychologists & podiatrists, who assist with the ongoing needs of the individual. In some states the requirements for funding are based on the assessment & prescription of these teams.

1.2 It is vital that amputees have ongoing access to these specialized teams - as these are the clinical experts who propose & oversight all ongoing treatment and services.

1.3 The assessors/case managers role would be communicating with each clinic team & ensure that the clients desired outcomes are being achieved. The services would be assessed not on the type of prescriptions that are being provided but on the outcomes that are being achieved by the clients.

1.4 We encourage the commission to re-review the protocols of the Transport Accident Commission (TAC) in Victoria & the Territory Insurance Office (TIO) in the Northern Territory, as to how their assessors/case managers work with the "multidisciplinary teams" & clients.

D. Assessment tools

"There is no ideal tool to use in the NDIS, but governments should not delay implementation of the scheme in the absence of perfect tools."

1.1 As the NDIS seeks to develop its "assessment toolbox", we recommend that there be specialist measures for people with amputations.

1.2 We continue to recommend the assessment of the lower extremity amputee be under an "enhanced K- Classification".

1.3 Currently there is no one all encompassing measure for people with amputations, there are a number of groups that are working towards developing amputee specific measures – See Appendix C.

E. Development of the service model

"...there are pockets of success, overall no disability system in any jurisdiction is working well in all of the areas where change is required."

1.1 Currently there is no one service in Australia that we could model effectively to create a National Prosthetic Service. The development of the NDIS system would require modeling of international & local "bright spots".

1.2 Some local "bright spots" who have managed the effective transitions of acute phase care to life-long management are Orthotic Prosthetics South Australia (OPSA) & the Caulfield General Medical Centre in Victoria.

1.3 International groups that have made significant progress in the development of evidence based practice in Prosthetics & Orthotics are:

1.3.1 The New Zealand Artificial Limb Board, NZALB, www.nzalb.govt.nz . A national service that provides artificial limbs to amputees once they have progressed from the acute stage of their journey. To improve on this system is to add the additional features as suggested in the early intervention section of this document.
1.3.2 The Netherlands (Some examples of their research is provided in Appendix F);
1.3.3 The American Academy of Orthotists & Prosthetists, (AAOP) in the USA with their ongoing consensus conferences http://www.oandp.org/jpo/ssc.asp ;

1.3.4 The British Association of Prosthetists & Orthotists (BAPO) who have developed "Overviews of practise & guidelines" eg http://www.bapo.org/docs/guideline-no%5B1%5D.4-assessment-review,-issued-mar-03.pdf

F. Costing models

"The disability support "system" overall is inequitable, underfunded, fragmented & inefficient and gives people with a disability little choice".

1.1 We recommend that all services that support the provision of artificial limbs be funded under the NDIS. This includes the clinical services associated with the delivery of an item. eg the assessment, review, maintenance & follow-up, not simply an item.

1.2 The current budgets of all the artificial limb services around Australia have not had any real increases for technological development since the devolution to the states in the 1990's.

1.3 With funding being heavily restricted, the development of technology has far exceeded the available public funding. Any funding that is solely based on the current limits that are in place, will not provide enhancement to *"the quality of life and increase economic & social participation for people with disability"*.

1.3.1 This is demonstrated by the comments in the draft report around Table 14.11. This table, based on the Commissions own analysis of information provided from 3rd party insurers such as NZ ACC, NSW LTCSA & the MS Society, provides estimates of between $331- $824 million required to provide "Aids & Appliances". These services provide support based on individually assessed needs. The NDIS will be delivering a new system to meet the individually assessed needs of an individual.

Table 14.11 Annual cost of aids and appliances
Dollars ($m)

Tier 3 categories of the NDIS	0–14 years	14–49 years	50–64 years	Total
People who require daily assistance with core activities	65–162	110–274	101–253	276–689
Early intervention	2–4	29–73	16–39	46–116
Intellectual disability	3–7	6–11	0–1	9–19
Total (annual cost $m)	70–173	144–358	117–292	331–824

Source: Commission estimates using data contained in tables 14.9 and 14.10.

1.3.2 We recommend that the commission utilize analysis based on the data that was provided by the "accident commission schemes" rather than budgets based on NSW PADP. NSW PADP is underfunded and only provides the "basic" minimum. This explains why the DIG projection came in at only $240 million.

1.4 While there is a limited amount of published research regarding cost analysis and ongoing funding requirements for prosthetic services – References to studies have been provided in Appendix D.

1.5 Appendix E, provides the "gross numbers" with reference to the NZALB's funding that was presented at the public hearing on 14th April.

G. Implementation recommendations

"Our proposal is to select a particular region that contained a modest number of likely clients ....this would be the "test bed" for the scheme ..."

1. We recommend that South Australia be the "test bed" for the implementation of the NDIS's prosthetic services roll out in Stage 1, as it has a combination of urban, regional & rural settings while still having a relatively small population size. Also, there is a combination of public & private service providers in Adelaide.

"Targeted consultation will be needed."

2. We recommend that a multidisciplinary group be consulted to assist with the development of the NDIS's prosthetic services policies. This group must include representatives from the Australian Orthotic & Prosthetics Association (AOPA), the Australian Faculty of Rehabilitation Medicine's (AFRM) special interest group for prosthetics & orthotics, service providers that represent both public & private providers, those that have expertise in evidence based practice research in Prosthetics & Orthotics and user groups, such as Limbs 4 Life.

Appendix A:

Glossary & Abbreviations:

"ADL's" Activities of Daily Living

"AMA" Australian Medical Association

"AOPA" Australian Orthotic & Prosthetic Association

"Artificial Limb Scheme" (ALS) is a Government Scheme that provides artificial limbs (prostheses) to eligible Australian residents. This is funded by individual states.

"CLiq" (Classification with IQ) is derived from ISO 9999, providing more detailed categories than the original classification. It was developed in the Netherlands. To the original six-digit codes (3 pairs of two digits) of ISO 9999, a maximum of six extra digits (three pairs of two digits) are added. With these additional digits, the 'product related intended use' of the products can be described. 'Product related intended use' is a legal term that indicates what the user can and may expect of the assistive product. It encompasses the following characteristics:

- functionality: activities (indirectly participation) for which the assistive product can be used (such as standing and work) and functions and structures supported by the product (such as respiration and a joint's range of motion)
- technical characteristics
- user friendliness
- external and cosmetic features (like color)
- other characteristics

It is important to match the wishes of the user with respect to the assistive product (human related intended use) (coded in ICF terms) to the characteristics of the products (product related intended use) (in Cliq codes).

Heerkens YF, Bougie T, de Kleijn-de Vrankrijker MW. 2010. **Classification and terminology of assistive products.** In: JH Stone, M Blouin, editors. International Encyclopedia of Rehabilitation. Available online: http://cirrie.buffalo.edu/encyclopedia/article.php?id=265&language=en

"Free Limb Scheme" (FLS) Nationally funded model of prosthetic service provision that was introduced in 1973, and administered by the Commonwealth under the Department of Veterans Affairs.

"Galileo System" Objective Patient Assessment System for Evidence Based Practice
http://orthocareinnovations.com/galileo/pdf/galileo.pdf

"ICF" The International Classification of Functioning, Disability and Health, known more commonly as ICF, is a classification of health and health-related domains. These domains are classified from body, individual and societal perspectives by means of two lists: a list of body functions and structure, and a list of domains of activity and participation. Since an individual's functioning and disability occurs in a context, the ICF also includes a list of environmental factors. http://www.who.int/classifications/icf/en/

"ISO" The International Organization for Standardization (http://www.iso.org)

"K Classification"

These are descriptive functional levels from the American Orthotic and Prosthetic Association (AOPA) used by manufacturers in classifying components.

K0	Functional Level 0	The patient does not have the ability or potential to ambulate or transfer safely with or without assistance and a prosthesis does not enhance their quality of life or mobility.
K1	Functional Level 1	The patient has the ability or potential to use a prosthesis for transfer of ambulation on level surfaces at fixed cadence. Typical of the limited and unlimited household ambulator.
K2	Functional Level 2	The patient has the ability or potential for ambulation with the ability to traverse low-level environmental barriers such as curbs, stairs or uneven surfaces. Typical of the limited community ambulator.
K3	Functional Level 3	The patient has the ability or potential for ambulation with variable cadence. Typical of the community ambulator who has the ability to traverse most environmental barriers and may have vocational, therapeutic or exercise activity that demands prosthetic utilisation beyond simple locomotion.
K4	Functional Level 4	The patient has the ability or potential for prosthetic ambulation that exceeds basic ambulation skills, exhibiting high impact, stress or energy levels. Typical of the prosthetic demands of the child, active adult or athlete.

Gailey, R., Roach, K., Brooks Applegate, E., Cho, B., Cunniffe, B., Licht, S., Maguire, M., Nash, M. (2002). **The Amputee Mobility Predictor: An Instrument to Assess Determinants of the Lower-Limb Amputee's Ability to Ambulate.** Arch Phys Med Rehabil, **83**, 613-627

"MDT" Multidisciplinary team - a group of health care workers who are members of different disciplines, each providing specific services to the patient.

"P&O" Prosthetist & Orthotist

"Removable Rigid Dressing" (RRD) A post surgical dressing that aids wound healing, assists with oedema reduction and provides protection to the residual limb.

"Step watch" Objective quantitative measures of physical function have become increasingly important throughout many areas of medical, rehabilitation, health maintenance, and behavioral research and practice. The StepWatch™ activity monitor provides a reliable, unobtrusive means for obtaining such data. This highly accurate instrument allows users to easily record the number of steps a person or large animal takes every minute in normal daily life for up to six continuous weeks per session.
http://www.nichd.nih.gov/about/org/ncmrr/prog_bsret/stepwatch/index.cfm

"team without walls" "Team members may be seeing the same patient at different locations in the same day, making direct communication more of a challenge.

This "team without walls" demands increased effort and attentiveness to continue to work toward the common goal of maximum recovery and rehabilitation after limb loss. It demands increased efforts for the various providers to communicate on behalf of the patient."
http://www.oandp.org/jpo/library/2004_03S_006.asp

Appendix B:

Studies demonstrating value of early Post Operative Management:

1. This study shows that Removable Rigid Dressings (RRD) reduce the healing time by two weeks compared to traditional dressings. The study also shows that RRDs protect the stump from fall injuries.
Deutsch, A., R. D. English, et al. (2005). "Removable rigid dressings versus soft dressings: a randomized, controlled study with dysvascular, trans-tibial amputees." Prosthet Orthot Int 29(2): 193-200.

2. This study shows that the use of ORD followed by compression treatment with Iceross silicone liners is effective and has been used for many years. The study was performed on 130 transtibial amputees and shows unsurpassed results with the use of ORD and compression therapy.
Johannesson, A., G. U. Larsson, et al. (2004). "From major amputation to prosthetic outcome: a prospective study of 190 patients in a defined population." Prosthet Orthot Int 28(1): 9-21.

3. Rigid dressings and silicone liners give a significantly improved wound healing in patients with open wounds compared to traditional wrapping. The healing time was shortened by 26 days. The study shows significant positive effects with the use of silicone liners.
Vigier, S., J. M. Casillas, et al. (1999). "Healing of open stump wounds after vascular below-knee amputation: plaster cast socket with silicone sleeve versus elastic compression." Arch Phys Med Rehabil 80(10): 1327-30.

4. ORD shows at least the same good results as circular plaster for wound healing and time to casting of a prosthetic socket.
Johannesson, A., G. U. Larsson, et al. (2008). "Comparison of vacuum-formed removable rigid dressing with conventional rigid dressing after transtibial amputation: similar outcome in a randomized controlled trial involving 27 patients." Acta Orthop 79(3): 361-9.

5. Removable Rigid Dressings (RRD) shortened hospital stay directly after amputation by 7.2 days. The total rehabilitation time was reduced by 8 days. The time to prosthesis casting was also reduced by 8.8 days.
Taylor, L., S. Cavenett, et al. (2008). "Removable rigid dressings: a retrospective case-note audit to determine the validity of post-amputation application." Prosthet Orthot Int 32(2): 223-30.

6. Rigid dressings speed up wound healing significantly after amputation. The study also shows that RRD significantly reduces knee contractures.
van Velzen, A. D., M. J. Nederhand, et al. (2005). "Early treatment of transtibial amputees: retrospective analysis of early fitting and elastic bandaging." Prosthet Orthot Int 29(1): 3-12.

Appendix C:

International Groups Developing Assessment & Outcome measures for Prosthetics:

The commission could also seek assistance in developing assessment measures from international groups such as:

The team in the Netherlands who are developing the **"CLiq",** Classification with IQ. A classification that is derived from ISO 9999. This would interface well with an online IT platform.

The University of Washington, who is currently developing a specific outcome assessment measure for prosthetics & orthotics. http://uwcorr.washington.edu/prosthetics_orthotics.htm

The American Academy of Orthotists & Prosthetists, who have recently published State of the Science Consensus documentation for both upper & lower limb prosthetics - http://www.oandp.org/jpo/library/index/2009_04S.asp & http://www.oandp.org/jpo/library/index/2006_01S.asp

The NZALB, www.nzalb.govt.nz , who commissioned Price Waterhouse Cooper to develop a suite of appropriate measures for their services in 2004.

Appendix D:

Some examples Costing Research:

Blough DK, Hubbard S, McFarlane LV, Smith DG, Gambel JM, Reiber, GE. Prosthetic Cost projections from service members with major limb loss from Vietnam and OIF/OEF. J Rehabil Res Dev. 2010;47(4):387-402.

Brodtkorb TH, Henriksson M, Johannesen-Munk K, Thidell F. Cost-effectiveness of C-leg compared with non-microprocessor-controlled knees: A modeling approach. Arch Phys Med Rehabil. 2008;89(1):24–30

Gerzeli S, Torbica A, Fattore G. Cost utility analysis of knee prosthesis with complete microprocessor control (C- leg) compared with mechanical technology in trans-femoral amputees. Eur J Health Econ. 2009;10(1):47–55.

Hafner BJ, Smith DG. Differences in function and safety between Medicare Functional Classification Level-2 and -3 transfemoral amputees and influence of prosthetic knee joint control.
J Rehabil Res Dev. 2009;46(3):417–433.

McAleer N. Mobility redux: Post-World War II prosthetics and functional aids for veterans, 1945 to 2010. J Rehabil Res Dev. 2011;48(2):vii–xvi. DOI:10.1682/JRRD.2010.11.0222

Appendix E

Extrapolated Costs for Amputee Services in Australia based on simplified costings from amputee services in New Zealand

Data based on NZALB Statistics report 2008/2009 from http://www.nzalb.govt.nz/resources.html .
All Population data taken from Wikipedia www.wikipedia.com

	Budget	Clients	Population	Amp Pop Ratio	Avg Spending per Client
NZALB	$7,500,000	4832	4,400,000	0.001098	1552.152

Extrapolated data for the Australian population based on NZ statistics
eg Equivalent Budget = NZ Avg Spending per Client x Aus Equivalent Clients
Equivalent Clients = NZ Amp Pop Ratio x Aus Population

State	Equivalent Budget	Equivalent Clients	Population
NSW	$12,272,727.27	7906.909	7,200,000
Qld	$7,840,909.09	5051.636	4,600,000
Vic	$9,545,454.55	6149.818	5,600,000
SA	$2,897,727.27	1866.909	1,700,000
WA	$3,920,454.55	2525.818	2,300,000
Tas	$852,272.73	549.0909	500,000
ACT	$613,636.36	395.3455	360,000
NT	$409,090.91	263.5636	240,000
Australian Equivalent Totals	$38,352,272.73	24709.09	22,500,000

Appendix F:

Some examples of Netherlands research:

Van der Linde H, Hofstad CJ, Van Limbeek J, Postema K, Geertzen JH. Use of the Delphi Technique for developing national clinical guidelines for prescription of lower-limb prostheses.
J Rehabil Res Dev. 2005;42(5):693-704

Van der Linde H, Hofstad CJ, Guerts ACH, Postema K, Geertzen JHB, Van Limbeek J. A systematic literature review of the effects of different prosthetic components on human functioning with a lower limb prosthesis. J Rehabil Res Dev. 2004;41(4):555–570

Van der Linde H, Geertzen JH, Hofstad CJ, Van Limbeek J, Postema K. Prosthetic prescription in the Netherlands: an observational study. Prosthet Orthot Int. 2003;27(3):170–178.

Van der Linde H, Geertzen JH, Hofstad CJ, Van Limbeek J, Postema K. Prosthetic prescription in the Netherlands: an interview with clinical experts. Prosthet Orthot Int. 2004; 28(2):98–104.