



Rehabilitation Programs Research

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1 Objectives and research area

Clinical rehabilitation generally deals with complex patients with multiple co-morbidities and complications rather than with a single disease. Treatment is focused on enduring and coping with the disabilities of patients with multiple problems for which there is no curative intervention. As a consequence, multidisciplinary interventions characterize most treatment programs in clinical rehabilitation. Rehabilitation programs aim to improve patients' mobility, independence in self-care, ability to communicate and ability to live independently and engage in productive activity. That is why our theme for the coming years will be 'moving beyond disability'. With this theme we support and embrace the general theme of the University Medical Center Groningen (UMCG): 'healthy aging'.

The central topic of the RPR program during the review period was 'outcome and evaluation of interventions in patients with motor problems.' It was the same central topic as during the last evaluation period.

The mission of the Center for Rehabilitation of the University Medical Center Groningen is to help people with disabilities to return to society, using the patient as our partner in the treatment.

We are the only university rehabilitation center (combination of the department of Rehabilitation Medicine of a university medical center and a rehabilitation center) in the Netherlands; this means that research, health care and education are in balance and that our rehabilitation treatment is based on the latest scientific views. In our research we focus on two groups of diagnoses:

- Disorders of extremities such as amputation of upper and lower extremities, and prosthetics and orthotics; and other problems of the extremities such as tendon or muscular problems
- Specific and a-specific (chronic) pain syndromes such as low back pain, complex regional pain syndromes or phantom pain.

We differ from other Dutch rehabilitation centers in the fact that we are offering continuity of cure and care, and that we carry out research in these diagnosis groups. High quality rehabilitation care combined with high quality research is our goal. We are involved in the patients' treatment and their chain of care in order to enable a fluent transfer from hospital to rehabilitation center and finally to their home with coordination and continuity of that care. We want to be innovative and our aim is to provide the best rehabilitation care in the Netherlands.

During the last five years, some of our research has moved from rather descriptive research (epidemiology) towards explanatory research that calls for the development of experimental interventions, implementation of new treatments in clinical practice. This will hopefully result in a better quality of life for rehabilitation patients (translational research). We have attempted to achieve this by:

- Making the research on disablement and the treatment effectiveness more theory-driven
- Explicating and conceptualizing the content and underlying assumptions of experimental and established treatments
- Identifying implementation research problems at the beginning of the development of experimental treatments.

Over the past few years, we have encountered some problems due to a combination of understaffing and the time-consuming nature of the kind of theory-driven research we conduct, which has somewhat limited our capacity to reach the intended level of output.

During the last evaluation, the committee felt that we had too many spearheads. Over the last few years it became clear that three spearheads for a relatively small department were too many to focus on. This could ultimately result in less knowledge and less depth of knowledge and therefore result in less chance of securing more funding.

We decided to combine the spearheads 'amputation, prosthetics and orthotics of the lower extremity' and 'arm and hand problems' into 'disorders of the extremities.' This was suggested during the last audit five years ago.

2 Composition of the research program

Strategy and policy

The central topic of the RPR program was 'outcome and evaluation of interventions in patients with motor problems'. Outcome research in rehabilitation can be defined as research intended to objectify the sustained impact of rehabilitative strategies and treatments on the everyday life of patients with disabilities due to disease or a severe accident. We recently had a change in management of the department of Rehabilitation Medicine and the rehabilitation center, and even more changes are in progress. Our strategy and policy at this moment is still to combine three spearheads into two spearheads. In this way we hope for more intensive interaction and exchange of ideas and knowledge between junior and senior researchers. Several times a year, all the researchers with one focus come together. Short presentations of ongoing research are given and researchers exchange knowledge, views and the actual state of their research in an informal way. These meetings are presided over by one of the senior researchers. By combining the two spearheads 'amputation, prosthetics and orthotics of the lower extremity' and 'arm and hand problems' into one spearhead, we are becoming more focused and we think that we will receive more external funding for our research. By combining these spearheads, we will also present a better face externally (also good for public relations) regarding research. We are planning a mission and vision meeting at the end of 2009 / beginning of 2010 regarding research. This meeting will be presided over by an emeritus professor of our university, and established researchers, PhD students, and managers will attend; researchers from outside the department will also be invited. In this way we will attempt to refocus and hopefully to start off with an updated research strategy for the future.

Research input by type of appointment

Table 1 provides a description of research staff. An explanation of the way research fte's are computed is given in chapter 1.

Table 1 Research staff

| | 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | |
|--------------------------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|
| | fte | n | fte | n | fte | n | fte | n | fte | n | fte | n |
| Tenured staff | | | | | | | | | | | | |
| Professor | 0.60 | 2 | 0.60 | 2 | 0.60 | 2 | 0.60 | 2 | 0.60 | 2 | 0.60 | 2 |
| Associate prof | 0.32 | 1 | 0.32 | 1 | 0.44 | 2 | 0.53 | 2 | 0.83 | 3 | 0.83 | 3 |
| Assistant prof | 1.17 | 4 | 1.17 | 4 | 1.07 | 5 | 0.86 | 3 | 0.56 | 2 | 0.56 | 2 |
| Total tenured | 2.09 | 7 | 2.09 | 7 | 2.12 | 8 | 1.99 | 7 | 1.99 | 7 | 1.99 | 7 |
| Non tenured staff | | | | | | | | | | | | |
| Post doc | 0.90 | 1 | 0.90 | 1 | 0.90 | 1 | 0.90 | 1 | 0.23 | 1 | 0.00 | 1 |
| PhD | 4.07 | 10 | 4.17 | 10 | 3.56 | 10 | 4.16 | 9 | 4.98 | 12 | 3.64 | 14 |
| Total staff | 7.06 | 18 | 7.16 | 18 | 6.58 | 19 | 7.05 | 17 | 7.20 | 20 | 5.63 | 22 |

Table 2 provides an overview of the various types of PhD students, as well as their progress.

Table 2 PhDs, types and progress

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|--------------|-----------|-----------|-----------|----------|-----------|-----------|
| | n | n | n | n | n | n |
| Total | 10 | 10 | 10 | 9 | 12 | 14 |
| Type: | | | | | | |
| AIO, MD/PhD | 4 | 5 | 4 | 3 | 5 | 6 |
| Bursary | | | 1 | 1 | 1 | 3 |
| Clinical | 1 | 1 | 1 | 1 | 1 | 1 |
| Ext. funding | 2 | 3 | 3 | 3 | 3 | 1 |
| External | 3 | 1 | 1 | 1 | 2 | 3 |
| Progress: | | | | | | |
| Graduated | 3 | 4 | 2 | 1 | 2 | |
| In progress | 7 | 6 | 6 | 8 | 10 | 13 |
| Stopped | | | 2 | | | 1 |

Research input by sources of funding

In addition to the internal grants (for fellows) and the large external grants (ZonMw and Industry), the RPR has received many small grants (between € 5.000,- and € 20.000,-) from foundations, such as: Foundation Beatrixoord, Foundation Nuts Ohra, Foundation OIM, Foundation of Orthopedic Shoe Technicians, Anna Fonds, JK de Cock Foundation.

These grants enable us in particular, apart from covering salaries, to pay additional expenses, such as attending congresses, for many of our young researchers, who are both externally and internally funded PhD students.

Table 3 provides the proportion between internal funding ('tenured staff') and externally obtained resources ('other research input'). An overview of large projects acquired will be presented hereafter in section 6: Earning capacity.

Table 3 Funding

| | 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | |
|----------------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|----------------|------------|
| | € | % | € | % | € | % | € | % | € | % | € | % |
| Tenured staff | 180.275 | 50 | 187.605 | 49 | 194.118 | 48 | 184.147 | 44 | 195.087 | 46 | 201.062 | 53 |
| Other research input | 178.004 | 50 | 193.797 | 51 | 208.054 | 52 | 230.560 | 56 | 225.492 | 54 | 178.730 | 47 |
| Total | 358.279 | 100 | 381.402 | 100 | 402.172 | 100 | 414.707 | 100 | 420.579 | 100 | 379.792 | 100 |

3 Research environment and embedding

Disorders of the extremities

'Disorders of the extremities' encompasses research into the field of prosthetics and orthotics of the upper and lower extremities. In addition, sports injuries and problems after hand surgery are also studied.

Within the UMCG, there are a multitude of good working relationships with the department of Human Movement Sciences, Orthopedic Surgery, Sports Medicine, Plastic and Reconstructive Surgery, Neurology, Neurosurgery, Oral and Maxillofacial Surgery, Vascular Surgery, and Oncology Surgery. Over the last few years, we have established a further good working relationship with the Hanze University Groningen (a university of applied sciences that trains physical therapists, nurses, speech therapists, etc.). We hope to establish a professorship in 2010 so as to continue, strengthen and intensify our relationship with this university.

We have a good scientific output regarding both topics of the two new spearheads. Regarding the first spearhead, 'disorders of the extremities', we are not only acknowledged in the Netherlands but also abroad. Nationally, in the field of amputation, prosthetics and orthotics, we collaborate with the St. Maartenskliniek in Nijmegen (dr H van der Linde), Het Roessingh Research and Development Center Enschede (prof JS Rietman), the Rehabilitation Center De Vogellanden Zwolle (ECT Baars, MD), and the Isala Kliniek Zwolle (dr C Emmelot). In the field of 'arm and hand problems', we collaborate with many additional rehabilitation centers, such as ones in Utrecht, Rotterdam, Nijmegen, Zwolle, Hoensbroek, etc.

With respect to this spearhead in international terms, we play a leading role in the International Society for Prosthetics and Orthotics (ISPO). The program leader, prof JHB Geertzen, is at this moment president elect of ISPO and will in 2010 become the president. He has received a grant of € 200.000,- from the Association for Medical Specialists in the Netherlands for writing an evidence-based guideline for the period between the first thought of amputating a limb to the prescription for the first limb prosthesis. This guideline will be national, multidisciplinary, and 'Evidence-based Development Guidelines' (EBRO), based. This project will be finished by the end of 2010. At the same time Prof Geertzen has received a grant from the ISPO to rewrite this guideline for the international community. Finally, he has received a grant of more than USD 3 million, also awarded to the ISPO, from USAID / Leahy War Victims Fund for the education of prosthetists, orthotists, and orthopedic shoe technicians all around the world, especially in non-industrial countries, and to set up long-distance learning projects for those prosthetists and orthotists so as to ensure continuous education for these professionals. Internationally, there are also working relationships with Germany and Austria (Otto Bock), Manchester (UK) and Vancouver (Canada).

Pain

Our research with respect to pain concentrates mainly on 'chronic low back pain' and especially on 'return to work' with low back pain. In addition to research into low back pain, we focus on phantom pain and complex Type I regional pain syndromes.

Locally we have a good working relationship with the Pain Center (department of Anesthesiology). Adding to this strong relationship, a few years ago we started a Spine Center together with the departments of Neurosurgery, Neurology, Anesthesiology, and Orthopedic Surgery. Patients with back pain are seen at the same time by these departments. A lot of data have come together which will provide a unique publishing opportunity.

Nationally we have very good working relationships with Revalidatie Friesland and the other three Dutch Rehabilitation Centers recognized by the Dutch Government as Development Center for Pain Rehabilitation (Ontwikkelcentrum Pijn in de Revalidatie - OPR): Rehabilitation Center Rijndam (Rotterdam), Rehabilitation Center Roessingh (Enschede) and Rehabilitation Center Hoensbroek (Hoensbroek). In the field of pain research, the program leader, prof

Geertzen, is the chairman of the research team in the Netherlands that deals with all research in the field of rehabilitation of low back pain, known as 'Low Back Disability' (LoBaDis). In the spearhead of pain research, the center for rehabilitation has now been acknowledged by the Dutch central government through a large grant of € 800.000,- for the development of the theme 'Pain in Rehabilitation' (OPR). Currently we are now remodeling the OPR to create an Innovation Center for Pain and Rehabilitation. The main focus in this spearhead is 'return to work with pain'.

The spearhead of pain research encompasses international collaboration with Canada, Switzerland, Finland and the United States regarding Functional Capacity Evaluations.

To ensure the academic careers of some principal investigators of the Center for Rehabilitation, we are taking steps to make sure that they will be 'saved' for our department. In collaboration with the Dean, we have made strict arrangements for their academic careers. Finally, we are establishing better and more intensive working relationships with the departments of Human Movement Sciences, Sports Medicine and Orthopedic Surgery in order to establish a center called Sports and Handicap. Dr R Dekker will be in charge of his field of research which will fall under the spearhead of 'disorders of extremities.' We have just appointed four Ubbo Emmius scholarship PhD students (UE-PhD students) to ensure a powerful start for this new topic. This topic will also fit in very well with the general theme of the UMCG: 'healthy aging.'

4 Quality and scientific relevance

Most relevant results

In addition to the grants mentioned in table 5, one other grant deserves special mention: dr Van der Sluis, together with the department of Human Movement Sciences, was awarded a grant of € 400.000,- by the orthopedic industry. This was one of the first grants from this industry and was awarded after the installation of the Orthopedic Academy (a joint venture) (Otto Bock).

The department has also been involved in writing the first evidence-based guidelines in diagnosis and treatment of Complex Regional Pain Syndrome Type I. This process took two years and involved many medical (13), and para-medical (3) specialists as well as the Netherlands Association of Posttraumatic Dystrophy Patients. The process was lead by the Dutch Institute for Healthcare Improvement (CBO) and paid for by the General Medical Association (OMS). It has resulted in Dutch guidelines for medical doctors as well as for para-medical professionals such as physical and occupational therapists, and psychologists. These are the first evidence-based guidelines for Complex Regional Pain Syndrome (CRPS) in the world. They have been published in book form as well as in the form of a large patient leaflet, and both have been translated into English and are available through many Dutch medical associations, on www.CBO.nl and also through patient organizations in Canada and the USA. There was a peer-reviewed paper in the *Nederlands Tijdschrift voor Geneeskunde*, and a paper has been submitted to an international journal (accepted with minor revisions).

In the years to be evaluated, 2003-2008, sixteen theses have been published in which individuals from the RPR were involved, either as primary author, or as supervisor, or as co-supervisor. Also in the last five years, two individuals from this program passed the threshold of 100 PubMed publications: prof PU Dijkstra and prof JHB Geertzen.

Key publications

- Reneman MF, Fokkens AS, Dijkstra PU, Geertzen JHB, Groothoff JW. Testing lifting capacity: validity of determining effort level by means of observation. *Spine* 2005; 30:E40-E46.
- Dijkstra PU, Rietman JS, Geertzen JHB. Phantom breast sensations and phantom breast pain: A 2-year prospective study and a methodological analysis of literature. *European Journal of Pain* 2007; 11:99-108.
- Schiphorst Preuper HR, Reneman MF, Boonstra AM, Dijkstra PU, Versteegen GJ, Geertzen JH. The relationship between psychosocial distress and disability assessed by the Symptom Checklist-90-Revised and Roland Morris Disability Questionnaire in patients with chronic low back pain. *Spine Journal* 2007; 7:525-530.
- Hodselmans AP, Dijkstra PU, Geertzen JH, van der Schans CP. Exercise capacity in non-specific chronic low back pain patients: a lean body mass-based astrand bicycle test; reliability, validity and feasibility. *Journal of Occupational Rehabilitation* 2008; 18:282-289.
- Soer R, Groothoff JW, Geertzen JHB, van der Schans CP, Reesink DD, Reneman MF. Pain response of healthy workers following a Functional Capacity Evaluation and implications for clinical interpretation. *Journal of Occupational Rehabilitation* 2008; 18:290-298.

Most important books / book chapters

- Geertzen JHB, Harden N. Physical and occupational therapies in Complex Regional Pain Syndrome type 1. In: Wilson PR, Stanton-Hicks M, Harden RN (eds). *CRPS: current diagnosis and therapy. Progress in pain research and management*. Seattle, IASP Press, 2005.
- Geertzen JHB, Perez RSGM, Dijkstra PU, Kemler MA, Rosenbrand CJGM, (eds.). *Richtlijn Complex Regionaal Pijn Syndroom (Evidence-Based Guidelines for Multidisciplinary Treatment and Diagnosis of Complex Regional Pain Syndrome Type I)*. Alphen a/d Rijn, Van Zuiden Communications BV, 2006.
- Geertzen JHB, Rietman JS, (eds.). *Amputatie en prothesiologie van de onderste extremiteit (Amputation and prosthetics of the lower limb)*. Den Haag, Lemma, 2008.

No leg to stand on? The motor skills of leg amputees



In October 2005, Carolin Curtze started her PhD research project into prosthetic foot properties and motor skills in patients who have had a lower leg amputated. She is the first ever foreign scholarship student to work at the Rehabilitation Center in the UMCG. In a previous research project, Helco van Keeken and Aline Vrieling studied the walking and balancing strategies of lower leg amputees. Curtze is continuing along this path. She initially chose to study the relationship between the characteristics of the patient and the properties of the prosthesis in the form of an intervention study, but it soon became clear that no suitable tests for measuring motor skills existed so she modified her research to develop such a test.

Body image and prosthetic feet

Before being able to start devising tests, Curtze first examined how people's body image changes after undergoing a limb amputation. Nineteen patients were shown a picture of a rotated foot and asked whether it was a left or a right foot. Conclusion: even years after an amputation, patients still have an intact body image, comparable with that of healthy people.

Curtze then wrote an article about the properties of prosthetic feet. These are essential to amputees, as they must ensure that the person can walk efficiently and keep his/her balance. Curtze studied the roll-over characteristics of a number of prosthetic feet, combined with various types of shoes (sports shoes, hiking boots and men's leather shoes). She found little variation in prosthetic feet, particularly when combined with different types of shoe. And yet the feet can feel very different when used by different patients. Curtze therefore concluded that the properties of prosthetic feet should not be studied independently, but always within a context that is important to the patient. It is all about the patient's abilities and motivation, she explains.

Testing motor skills

Curtze is currently examining a number of tests designed to measure patients' motor skills. Most of the tests have never been used on amputees before, such as test whereby the patient is asked to walk across an uneven surface. Curtze designed a special 'stumble rug' for this test, comprising a piece of carpet covering randomly arranged blocks of wood designed to resemble a bumpy road. The test is intended to shed light on the walking strategies patients use to prevent themselves from falling while crossing the rug. Another test she uses has been used on amputees in the past: the timed up & go test. In this test patients are timed standing up from a standard chair and walk a distance of approximately 3 meters, turn around and walk back to the chair and sit down again. Curtze has added another two tests to the package: a balance test and a test whereby the patient has to walk on a slope. In the balance test, the patient is asked to perform one-leg stance. Curtze then examines the strategies patients use to maintain their balance, like moving their arms in relation to their body for example.

The tests are ultimately intended to represent reality as closely as possible. Curtze will only be able to draw conclusions about the strategies patients use to keep their balance in everyday life if she is able to imitate reality. She then wants to compare the strategies she identifies with those of healthy participants. The results will be used to devise training programs and aids for amputees, specifically aimed at preventing falls. It is hoped that this will drastically improve the quality of this group of patients' lives.

Germany on the map...

So this intervention study eventually turned into research for developing tests. But this is not the only aspect of the study that has changed. Curtze's initial intention had been to work closely with the university in Wuppertal (Germany). This relationship has now diminished into sporadic consultation, with the majority of her work being carried out in the Netherlands. Yet German influences are still evident in her research: some of the healthy participants Curtze has examined live in her German home town.

The factor that finally made Curtze chose the Netherlands for her research was the difference between the PhD systems in the two countries. To obtain a PhD title in Germany, you have to write a thesis, which you must then try to have published afterwards. In the Netherlands, you publish articles during the course of the PhD project itself. This implies more feedback on your work and greater opportunities for scientific development. There is no fixed period for a PhD project in Germany, whereas this is laid down at the start in the Netherlands.

Alongside these considerations, Curtze was also keen to spend time working abroad. When her German supervisor drew her attention to the vacancy, she did not hesitate. She has not been homesick, but is not yet sure whether she intends to stay in the Netherlands after obtaining her PhD title in a year's time.

Publications

- Curtze C, Hof AL, van Keeken HG, Halbertsma JPK, Postema K & Otten E (2009). Comparative roll-over analysis of prosthetic feet. *Journal of Biomechanics* 42(11), 1746—1753.

Conference Contributions

- Curtze C, Hof AL, van Keeken HG, Halbertsma JPK, Otten E & Postema K (2009). Lower limb amputation and the ability to reorganize motor control. European Society of Movement Analysis in Adults and Children, September 14 — 19, London, UK.
- Curtze C, Hof AL, van Keeken HG, Halbertsma JPK, Postema K & Otten E (2009). Comparative biomechanics of prosthetic feet. European Society of Movement Analysis in Adults and Children, September 14 — 19, London, UK.
- Curtze C, Otten E & Postema K (2009). Mental representation of leg movement in lower-limb amputees: constraints or plasticity? Progress in Motor Control VII, July 23 — 25, Marseille, France.

5 Quantity of scientific output

Publication strategy

We follow the UMCG policy regarding publication strategy as closely as possible. We always evaluate the balance of visibility vs impact factor. The first goal is to publish in journals with a high impact factor, but that is not always good for visibility. The journal where we try to publish our papers depends on the topic of the study. In the field of prosthetics and orthotics, there are not many journals with a high impact factor. Sometimes we consider the audience as more important than the impact factor. As a rule the impact factor of journals in the field of rehabilitation research is not as high as the impact factor for other medical specialties. In the process of writing scientific papers this is always the consideration we have to make. Our thought and hope is that the more we publish the more we will grow in the ranks of the top thirty percent, by offering better studies (two spearheads). The body of knowledge within the spearheads (by focusing on two spearheads) will grow and thus support the basis of our research, and will probably also lead to more output in the top thirty percent.

Number of publications

Table 4 provides a description of several types of research output. An explanation of the the types distinguished is given in chapter 1. Table 4 also gives the average number of top-30% articles per tenured staff member.

Table 4 Output

| | 2003 | | 2004 | | 2005 | | 2006 | | 2007 | | 2008 | |
|---|------|-----|------|------|------|------|------|------|------|------|------|------|
| | n | % | n | % | n | % | n | % | n | % | n | % |
| ISI articles | | | | | | | | | | | | |
| top-30% | 14 | 58 | 18 | 62 | 14 | 47 | 20 | 61 | 16 | 55 | 31 | 62 |
| other | 10 | 42 | 11 | 38 | 16 | 53 | 13 | 39 | 13 | 45 | 19 | 38 |
| Total | 24 | 100 | 29 | 100 | 30 | 100 | 33 | 100 | 29 | 100 | 50 | 100 |
| (top-10%) | (2) | (8) | (9) | (31) | (6) | (20) | (7) | (21) | (6) | (20) | (15) | (30) |
| Other refereed articles | 5 | | 2 | | 1 | | 3 | | 10 | | 1 | |
| Book chapters | 5 | | 2 | | 2 | | 3 | | 1 | | 14 | |
| Books | | | 4 | | | | 2 | | 1 | | 3 | |
| PhD theses | | | | | | | | | | | | |
| SHARE theses | 2 | | 5 | | 3 | | 1 | | 2 | | | |
| Others, (co-)supervised | | | 2 | | | | 1 | | | | | |
| # Top-30% articles per tenured staff member | 2.7 | | 3.4 | | 2.6 | | 4.0 | | 3.4 | | 6.2 | |

6 Earning capacity

We have managed to receive many small grants. So, to that extent, we have been successful; however, we are striving for larger grants. Rehabilitation is a medical specialty with professionals whose predominant aim is to treat and help people. There are not that many researchers in this field. Fund-raising for rehabilitation is, in most cases, a difficult area. However, we do find a lot of small foundations willing to fund the majority of our research. These foundations include, for instance, the Beatrixoord Foundation, the OIM Foundation, and other small regional and superregional foundations. Focus on two spearheads should increase knowledge and expertise in the fields, which in turn should increase our ability to raise funds.

Rehabilitation is not a charismatic field, and there are relatively few funding opportunities. It is always difficult to be competitive with other medical specialties in securing the larger grants.

Table 5 provides a list of the major research projects (> €100.000,-), classified by funder.

Table 5 Major projects acquired

| |
|---|
| <p>ZonMw</p> <ul style="list-style-type: none"> • Determinants of functional recovery of gait after stroke • Stump skin problems of the lower limb amputee • The child with cerebral palsy • Program innovation in chronic low back pain rehabilitation: A transform project |
| <p>Stichting Instituut GAK</p> <ul style="list-style-type: none"> • Functional capacity evaluation: Norm references and utilities • Working with pain: Determinants of persons with non-specific chronic pain functioning well in work |
| <p>CVZ</p> <ul style="list-style-type: none"> • Development of guidelines for diagnosis and prescription of orthopedic orthoses |
| <p>Insurance Company NUTS/OHRA</p> <ul style="list-style-type: none"> • Preventive positioning and electrical stimulation of the hemiplegic arm |
| <p>Center for Rehabilitation</p> <ul style="list-style-type: none"> • Program-improvement in prosthetic rehabilitation • RUG / UMCG • Inventarisation of essential factors in the fit of the transtibial prosthesis • Sport and amputees • The interaction of prosthetic foot properties and individual motor capacity impact on motor performance • Rehabilitation of the elderly amputee • Self management in rehabilitation practice • Rehabilitation and the ability to perform activities at home and at the workplace in patients with chronic low back pain • Combined clinical and home rehabilitation for stroke patients • The added value of a problem-solving training on the duration of sick leave and work status in patients with an acute traumatic hand injury: A randomised controlled trial • Functional capacity evaluation in patients with chronic low back pain: Reliability and validity • Amputation and sexuality |

7 Academic reputation

In this section, a summary will be given of our 'international position and recognition.' The prominence of the program research staff will be demonstrated.

Prizes and awards

- Research prize of the Society for Oral Biology for the publication: Stokman AM, Spijkervet FKL, Burlage FR, Dijkstra PU, Manson WL, Vries EGE de, Roodenburg JLN. Oral mucositis and selective elimination of oral flora in head and neck cancer patients receiving radio-therapy: a double blind randomised clinical trial. Br J Cancer 2003, 88: 1012-1016 (2003, PU Dijkstra)
- Delsys Prize for his research regarding the normal and abnormal EMG profiles in walking (2005, AL Hof)
- First Prize Award for a poster during the symposium of the Gesellschaft für Orthopädische-Traumatologische Sportmedizin, Munich (2005, A Gokeler)
- Best Abstract Award of the Allied Respiratory Professionals, European Respiratory Society, Copenhagen (2005, G Reinsma)
- Honorary member of ISPO the Netherlands (2005, JHB Geertzen)
- The 'Zilveren Balk' of the Dutch Society for Rehabilitation Medicine, the Netherlands (2005, JHB Geertzen)
- Publication prize of the Dutch Society for Gnatology and Prosthetic Dentistry for the publication: Dijkstra PU, Stegenga B, Bont LGM de, Bs RRM. Function impairment and pain after closed treatment of fractures of the andibular condyle. J Trauma 2005, 59: 424-430 (2005, PU Dijkstra)
- Poster award prize VRA BSRM; Edinburgh, Scotland (2006, GM Rommers)
- The Center for Rehabilitation was appointed by the Dutch National Government as a Development Center for Pain Rehabilitation (2007)
- Poster award Dutch Society for Medical Education (2008, M Tepper)
- Third prize residents Rehabilitation Medicine, Bruges, ESPRM (2008, N Hulsman)
- Poster award prize, Bruges, ESPRM (2008, AP Hodselmans)

Invitations for major lectures and conference presentations

Prof JHB Geertzen

- Amputation and pain adaptation. Farewell symposium prof LNH Göeken, June 24, 2003, Groningen
- Rehabilitation of CRPS-I. Consensus Workshop Taxonomy and Algorithm, August 31, 2003, Budapest, Hungary
- Restoring function in patients with CRPS-I. New thinking in the diagnosis and treatment of CRPS-I, September 1, 2003, Budapest, Hungary
- Phantom pain and quality of life, IV Congreso Latinoamericano ISPO, October 20, 2003, Buenos Aires, Argentina
- Consumer satisfaction, IV Congreso Latinoamericano ISPO, October 21, 2003, Buenos Aires, Argentina
- Instructional course 'Skin and stump problems of the lower limb amputee', 11th World Congress International Society for Prosthetics and Orthotics, August 1, 2004, Hong Kong
- Phantom pain; a threat to quality of life, 11th World Congress International Society for Prosthetics and Orthotics, August 2004, Hong Kong
- Education program Rehabilitation Medicine for residents in the Netherlands. Precongress meeting 'Organization and Education Rehabilitation Medicine' May 2, 2006, Iguazu, Argentina

- Rehabilitation Medicine from the perspective of the University. Precongress meeting 'Organization and Education Rehabilitation Medicine', May 3, 2006, Iguazu, Argentina
- Síndrome simpático reflejo (Complex regional pain syndrome type I). XVIII Congreso Argentino de la Sociedad Argentina de Medicina Física y Rehabilitación, XI Jornadas del Conso Sur, IV Congreso Hispano Argentino, May 4, 2006, Buenos Aires, Argentina
 - Desarrollo de algoritmos y pautas para la prescripción de orthosis (Algorithm in prescription of orthoses in CVA). III Curso SPO Internacional de Actualización en la Atención y Equipamiento del ACV y sus secuelas. May 5, 2006, Buenos Aires, Argentina
 - Patología de piel del muñon (Stump and skin problems). XVIII Congreso Argentino de la Sociedad Argentina de Medicina Física y Rehabilitación, XI Jornadas del Conso Sur, IV Congreso Hispano Argentino, May 6, 2006, Buenos Aires, Argentina
 - Physical and occupational therapy. Evidence-based guidelines in CRPS. 7th Physiatric Summer School CRPS – Current Diagnosis and Treatment, September 1, 2006, Helsinki, Finland
 - Prosthesis and sports: a difficult combination. 27. Fort- u. Weiterbildungskurs Technische Orthopädie Biomechanik. Sport mit Handicap; orthopädische, muskelphysiologische und physiotherapeutische Aspekte, March 9, 2007, Klinik u. Poliklinik für Technische Orthopädie Münster, Germany
 - Moving beyond disability. 12th World Congress of the International Society for Prosthetics and Orthotics, July 30 - August 3, 2007, Vancouver, Canada
 - Seminar TATCOT 25 years Prosthetic and orthotic services including rehabilitation related to diabetes and other neuropathic disabilities, November 12-15, 2007, Moshi, Tanzania
Physical examination of the diabetic foot, Treatment, rehabilitation perspective (general). Closing discussion of the day, November 13, 2007 Moshi, Tanzania. Clinical guidelines for the diabetic foot, November 14, 2007
 - Facilitating the Rehabilitation of people with physical disabilities in developing countries. Leahy War Victims Fund. Ronald Reagan Building, December 11, 2007, Washington DC, USA
 - Moving beyond your profession. Don Bosco University, San Salvador, El Salvador, April 8, 2008
 - The neuropathic foot; therapeutical options. Don Bosco University, San Salvador, El Salvador, April 8, 2008
 - Lower extremity amputations: an update in management and new prosthetics. 16th European Congress of Physical and Rehabilitation Medicine, Bruges, Belgium, June 5, 2008
 - Lower extremity amputations: an update in management and new prosthetics. Physical examination – clinical guidelines for the diabetic foot. Bruges, Belgium, June 5, 2008
 - Treatment, rehabilitation, perspective (general) of the diabetic foot. I Jornadas de Manejo del Pie Diabético y del Amputado, IREP Instituto de Rehabilitación Psicofísica. Buenos Aires, Argentina, October 31, 2008

Prof K Postema

- Role of corrections in daily practice: a simple and adequate solution in different foot problems. 3rd Congress of the Asian Rehabilitation Medicine Association (ARMA), Updating Physical Medicine and Rehabilitation towards 2010, Bali, Indonesia, Sept. 8-11, 2004
- Dynamic balance with a prosthesis. 3rd Congress of the Asian Rehabilitation Medicine Association (ARMA), Updating Physical Medicine and Rehabilitation towards 2010, Bali, Indonesia, Sept. 8-11, 2004

- Foot problems and shoe solutions; adaptations on footwear with special attention for the roll of mechanism. 3rd Congress of the Asian Rehabilitation Medicine Association (ARMA), Updating Physical Medicine and Rehabilitation towards 2010, Bali, Indonesia, Sept. 8-11, 2004
- Latest developments in musculoskeletal rehabilitation. 4th Congress of the Asian Rehabilitation Medicine Association (ARMA), 31 August 2007, Manado, Indonesia
- Varus and valgus deformities in children. 4th Congress of the Asian Rehabilitation Medicine Association (ARMA), August 31, 2007, Manado, Indonesia

Prof PU Dijkstra

- Systematic review of literature. Symposium Clinical Research in Oral and Maxillofacial Prosthetics, February 4-5, 2005, University Medical Center Groningen
- Multi-center clinical research pitfalls and possibilities. Symposium Clinical Research in Oral and Maxillofacial Prosthetics, February 4-5, 2005, University Medical Center Groningen

MF Reneman

- IWS FCE: Reliability research. Isernhagen Work systems 2004 International provider Conference, September 2004, Duluth, Minnesota, USA
- Testing lift capacity: validity of determining effort level by means of observation. Isernhagen Work systems 2004 International provider Conference, September 2004, Duluth, Minnesota, USA
- Functional outcomes. The changing face of pain management programs; official satellite symposium of the 12th World Congress on Pain, August 14-15, 2008, Liverpool, UK
- Determinants of performance. Workshop Performance of performance measures, World Congress on Pain, August 18-22, 2008, Glasgow

CK van der Sluis

- Clinical examination of the hand, 18 april 2006 (Surabaya)
- Clinical examination of the hand, 25 april 2006 (Jakarta)
- Phases in wound healing and rehabilitation of complex hand injuries, 19 april 2006 (Surabaya)
- Phases in wound healing and rehabilitation of complex hand injuries, 26 april 2006 (Jakarta)
- Biomechanical principles of ulnar drift, 20 april 2006 (Surabaya)
- Biomechanical principles of ulnar drift, 27 april 2006 (Jakarta)
- Biomechanical principles of the rheumatic thumb, 20 april 2006 (Surabaya)
- Biomechanical principles of the rheumatic thumb, 27 april 2006 (Jakarta)
- Development of a protocol to train patients how to use an upper limb prosthesis. Bloorview Kids
- Rehab Center, Toronto, Canada, 6-11-2007
- Development of a protocol to train patients how to use an upper limb prosthesis. Otto Bock, Oakville, Canada, 8-11-2007
- Prosthesis simulators, a research proposal. Otto Bock, Wenen, Oostenrijk, 22 april 2008
- Learning to use an upper limb prosthesis: does order of practice matter? MEC'08 (measuring success in upper limb prosthetics), Fredericton, NB, Canada, August 13th-15th, 2008

Conference organizational activities

The Department of Rehabilitation Medicine organized the following courses / congresses:

- Amputation and Prosthetics of the Lower Extremity (three days) (2003)
- The Orthopedic Shoe (one day) (2003)
- Five-day course Physical Examination and Scientific Research (2003)
- Five-day course Physical Examination and Scientific Research (2004)
- Are there Borders of Physical Therapy (one day) (2005)
- Five-day course Physical Examination and Scientific Research (2005)
- Amputation and Prosthetics of the Lower Extremity (three days) (2006)
- The Orthopaedic Shoe (one day) (2006)
- Five-day course Physical Examination and Scientific Research (2006)
- Burn Wounds and Other Accidents from a Rehabilitation Perspective (two days) (2007)
- Five-day course Physical Examination and Scientific Research (2007)
- 19th Annual Meeting of the European Academy of Childhood Disability (EACD):
Development Differentiation in Childhood Disability, June (three days) (2007)
- Five-day course Physical Examination and Scientific Research (2008)

Editorships

Prof JHB Geertzen

- Member of the Editorial Board of Clinical Rehabilitation

Prof K Postema

- Member of the Editorial Board of Prosthetics and Orthotics International

Prof PU Dijkstra

- Member of the Editorial Board of the Yearbook Physical Therapy

MF Reneman

- Guest editor of the Journal of Occupational Rehabilitation, theme: Functional Capacity Evaluations, December 2003
- Member of the Editorial Board of Occupational Rehabilitation
- Guest editor of the Dutch Journal for Physical Therapy, theme: Work, December 2007

Membership of academies and committees

Prof JHB Geertzen

- President of the Dutch Society for Physical and Rehabilitation Medicine
- President-elect of the International Society for Prosthetics and Orthotics
- Dutch Society for Physical and Rehabilitation Medicine
- International Society for Prosthetics and Orthotics
- International Association for the Study of Pain
- Dutch Association for the Study of Pain
- International Society of Physical and Rehabilitation Medicine
- European Society of Physical and Rehabilitation Medicine

Prof K Postema

- Dutch Society for Physical and Rehabilitation Medicine
- International Society for Prosthetics and Orthotics
- International Society of Physical and Rehabilitation Medicine
- European Society of Movement, Analysis for Adults and Children

Prof PU Dijkstra

- Royal Dutch Society for Physical Therapy
- Dutch Society for Orofacial Therapists
- Dutch Society for Gnathology and Prosthetic Dentistry
- Dutch Society for Oral and Maxillofacial Surgery
- Dutch Society for Epidemiology
- Dutch Society for Physical and Rehabilitation Medicine

MF Reneman

- International Association for the Study of Pain
- International Association for the Study of Pain Special Interest Group Pain and Movement
- Dutch Society for Movement Sciences

JPK Halbertsma

- Dutch Society for Human Movement Societies

CK van der Sluis

- Dutch Society for Physical and Rehabilitation Medicine
- Scientific Committee of the Dutch Society for Physical and Rehabilitation Medicine
- Dutch Society of Traumatology
- International Society for Prosthetics and Orthotics
- Dutch Society for Hand Surgery
- Dutch Society for Hand Therapists

8 Societal relevance

This section covers the social, economic and cultural relevance of our research. In many of the research questions, patient societies are involved; before starting research in, for example, chronic pain, patients in a patient pain society will be asked whether they will read or add to our comments or make recommendations to the research proposal, or they are asked to be on an advisory board. Other stakeholders, the orthopedic industry or policymakers, for example, are also involved.

Another example: at the moment, we are working on a theme entitled 'handicap and sports'. In pursuing this theme, we are working together with the department of Sports Medicine, the department of Human Movement Sciences and the department of Orthopedic Surgery of our hospital. We also collaborate with the Dutch Olympic Committee and the Dutch Society for Physically Disabled Athletes.

Topics in the theme 'handicap and sports' range from 'from special heroes to paralympic athletes'; 'elderly and sports'; to 'the young disabled athlete'. In these themes we are working in cooperation with the Dutch Olympic Committee in order to select those young potential athletes who will become paralympic athletes. We are researching the possibilities, but also the problems encountered by young disabled athletes.

The societal impact of the research and the research outcomes of the RPR program are difficult to measure. The outcome of our research in the chronic pain group, for example, has been implemented in the Consensus report Pain Rehabilitation Netherlands, a report for all rehabilitation centers regarding chronic pain patients. As a result, the direct outcome of our research is implemented by all rehabilitation centers in the Netherlands; the pain questionnaires used in our rehabilitation center have become a standard in many other rehabilitation centers. In addition, the findings of the research done in the field of complex regional pain syndrome have been adopted by many other medical and paramedical specialties (the evidence-based guidelines for multidisciplinary treatment and diagnosis for complex regional pain syndromes). All the research done in the past few years regarding amputation and prosthetics will be adopted into a process that began on January 1, 2009, using evidence-based and multidisciplinary treatment of amputee patients of the lower extremity. The research (theory-driven) conducted by some researchers within our department has raised many questions concerning the daily treatment of amputee patients. Van Twillert's paper with this focus has been accepted and is published in 2009 in *Clinical Rehabilitation*. This paper raises many questions regarding our daily empirical treatment of amputee patients without using any evidence. Finally a few scientific reports (Lettinga) have been written by several researchers in our program under the title: 'Theory driven program innovation in chronic low back pain rehabilitation' (three reports for different rehabilitation centers in the Netherlands).

Most of the research in our department / program can be categorized as falling within the main theme of our hospital: 'healthy aging'. In the case of rehabilitation, it can be modified to 'healthy aging for people with a disability'.

9 Vitality and feasibility

Evaluation of the previous committee's recommendations

The RPR program has substantiated and extended its research by producing more publications than in the last evaluation period. We strive to publish in journals with a top-30% position in their fields. As mentioned before, we combined 3 spearheads into 2, to enable more scientific, in-depth, exchange, stimulation, and enrichment to more (young) scientists.

The Peer Review Committee advised that the methodological approach would benefit from generic epidemiological support. In this evaluation period we attracted two young scientists who have additional and more statistical and epidemiological knowledge.

Vitality and feasibility

The viability of the RPR program's research is very good. With the start of the new head of the department of Rehabilitation Medicine, prof Geertzen, new contacts have been established. Since we have access to outpatients as well as inpatients in conducting our research (at the only Dutch University Rehabilitation Center), we are also free to develop our own research plans. We are still seeking opportunities to find more partners in research as described below.

Together with Hanze University Groningen, we now have a few PhD scholarship students. All the topics of the PhD scholarship students fall within our spearheads. As of June 1, 2009, we appointed a new professor in Rehabilitation Medicine with the focus on rehabilitation research: prof PU Dijkstra. One of his tasks will be to continue and to intensify the relationship with the Hanze University Groningen. At the same time we are working with the Hanze University Groningen to have a lector appointed as a new professor in Rehabilitation Medicine with a focus on paramedical care and research. Furthermore, the Hanze University has only recently set up a Master's training program in physical therapy. In the future, it will be possible to have more exchange students at the Master's level to conduct research at both institutions.

As mentioned earlier, we are trying to collaborate with our societal partners, the Dutch Olympic Committee, the Dutch Society for Physically Disabled Athletes, and also with many other departments in our hospital, in order to work on the theme 'sports and disability.' This will also be implemented in collaboration with the Board of the University Medical Center Groningen under the umbrella 'healthy aging.'

Ever since January 1, 2009, there has been a lot of discussion between the department of Rehabilitation Medicine (and the Center for Rehabilitation) and nursing homes and educators for specialists in nursing home medicine and elderly medicine. The aim of this dialogue is to develop an on-going relationship that will further our understanding, as well as to implement research in this field. Again, this will be established under the umbrella of 'healthy aging.' One of our PhD scholarship students will be focusing on the elderly amputee. One of the educators in elderly medicine has agreed to participate in this PhD project.

SWOT analysis

Strengths

Internal

- Very good support for research (epidemiological and theoretical knowledge)
- Gaitlab available
- Strong cooperation with other (medical) departments in the University of Groningen and the UMCG
- Both outpatients and inpatients are available for research

External

- Good national and international network. There is cooperation with the University of Wuppertal, the Katholieke Universiteit Leuven, the University of Münster, Radboud University Nijmegen Medical Center, the University of Twente, etcetera

Weakness / Threats

Internal

- The policy plans of research, patient care and education are not integrated enough as yet; we are working on this. In the autumn of 2009 we will develop a strategic plan regarding research in the future. Plans regarding translational research depend on just a handful of people. This makes it quite vulnerable

External

- Rehabilitation is not 'sexy' and therefore it is very hard to get external funding (large grants)

10 Next generation

With the start of the new leadership we will establish a more solid base of the leading scientific staff with the full support of the Executive Board of the University Medical Center Groningen. In 2009 a new professor (PU Dijkstra) was appointed. We expect to have three new professors appointed in the course of 2010, which will give us more scientific profile in the UMCG but also nationally and internationally. In the same time these appointments will give us a good PR and make our research program even more attractive for young scientists to come to Groningen.

The number of international PhD students in our department has increased significantly from one in the previous evaluation period to four at present. In december this year we will appoint another three.

In our resident training program in Rehabilitation Medicine, all residents have to prepare at least one article ready for submission for publication at the end of their four-year course. We, in Groningen, are the only program in the Netherlands to have this requirement, and with success. This is how we try to stimulate young rehabilitation physicians to continue performing research after their graduation.

Refereed articles in ISI journals**2003**

- * Brouwer S, Reneman MF, Dijkstra PU, Groothoff JW, Schellekens JMH, Göeken LNH. Test-retest reliability of the Isernhagen Work Systems Functional Capacity Evaluation in patients with chronic back pain. *Journal of Occupational Rehabilitation* 2003; 13:207-218.

Bruins M, Geertzen JH, Groothoff JW, Schoppen T. Vocational reintegration after a lower limb amputation: a qualitative study. *Prosthetics and Orthotics International* 2003; 27:4-10.

Dekker R, van der Sluis CK, Groothoff JW, Eisma WH, Ten Duis HJ. Long-term outcome of sports injuries: results after inpatient treatment. *Clinical Rehabilitation* 2003; 17:480-487.
- * Dekker R, Groothoff JW, van der Sluis CK, Eisma WH, Ten Duis HJ. Long-term disabilities and handicaps following sports injuries: outcome after outpatient treatment. *Disability and Rehabilitation* 2003; 25:1153-1157.
- * Dijkstra PU, Groothoff JW, Ten Duis HJ, Geertzen JH. Incidence of complex regional pain syndrome type I after fractures of the distal radius. *European Journal of Pain* 2003; 7:457-462.

Dijkstra PU, van der Schans CP, Geertzen JH. Risk perception of developing complex regional pain syndrome I. *Clinical Rehabilitation* 2003; 17:454-456.
- ** Ellen DE, Stienstra Y, Teelken MA, Dijkstra PU, van der Graaf WT, van der Werf TS. Assessment of functional limitations caused by Mycobacterium ulcerans infection: towards a Buruli ulcer functional limitation score. *Tropical Medicine & International Health* 2003; 8:90-96.

Geertzen JH, Craig J. ISPO policy with regard to consumers as users of prostheses and orthoses. *Prosthetics and Orthotics International* 2003; 27:2-3.
- * Gokeler A, Paridon-Edauw GH, DeClercq S, Matthijs O, Dijkstra PU. Quantitative analysis of traction in the glenohumeral joint. In vivo radiographic measurements. *Manual Therapy* 2003; 8:97-102.

Güler-Uysal F, Basaran S, Geertzen JH, Goncu K. A 2 1/2-year-old girl with reflex sympathetic dystrophy syndrome (CRPS type I): case report. *Clinical Rehabilitation* 2003; 17:224-227.
- * Leferink VJ, Keizer HJE, Oosterhuis JK, van der Sluis CK, Ten Duis HJ. Functional outcome in patients with thoracolumbar burst fractures treated with dorsal instrumentation and transpedicular cancellous bone grafting. *European Spine Journal* 2003; 12:261-267.
- * Reneman MF, Jorritsma W, Dijkstra SJ, Dijkstra PU. Relationship between kinesiophobia and performance in a functional capacity evaluation. *Journal of Occupational Rehabilitation* 2003; 13:277-285.
- * Reneman MF, Dijkstra PU. Introduction to a special issue on functional capacity evaluations: from expert based to evidence based. Editorial. *Journal of Occupational Rehabilitation* 2003; 13:203-206.

Rietman HS, Postema K, Geertzen JH. Gait analysis in prosthetics: opinions, ideas and conclusions (letter). *Prosthetics and Orthotics International* 2003; 27:76-77.
- * Rietman JS, Dijkstra PU, Hoekstra HJ, Eisma WH, Szabo BG, Groothoff JW, Geertzen JH. Late morbidity after treatment of breast cancer in relation to daily activities and quality of life: a systematic review. *European Journal of Surgical Oncology* 2003; 29:229-238.
- * Rietman JS, Dijkstra PU, Geertzen JH, Baas P, de Vries J, Dolsma W, Groothoff JW, Eisma WH, Hoekstra HJ. Short-term morbidity of the upper limb after sentinel lymph node biopsy or axillary lymph node dissection for Stage I or II breast carcinoma. *Cancer* 2003; 98:690-696.
- * Schoppen T, Boonstra A, Groothoff JW, de Vries J, Göeken LN, Eisma WH. Physical, mental, and social predictors of functional outcome in unilateral lower-limb amputees. *Archives of Physical Medicine and Rehabilitation* 2003; 84:803-811.
- * Stokman MA, Spijkervet FK, Burlage FR, Dijkstra PU, Manson WL, de Vries EG, Roodenburg JL. Oral mucositis and selective elimination of oral flora in head and neck cancer patients receiving radiotherapy: a double-blind randomised clinical trial. *British Journal of Cancer* 2003; 88:1012-1016.
- * Sturms LM, van der Sluis CK, Groothoff JW, Ten Duis HJ, Eisma WH. Young traffic victims' long-term health-related quality of life: child self-reports and parental reports. *Archives of Physical Medicine and Rehabilitation* 2003; 84:431-436.
- ** top-10% article * top-30% article



van der Linde H, Geertzen JH, Hofstad CJ, van Limbeek J, Postema K. Prosthetic prescription in the Netherlands: an observational study. *Prosthetics and Orthotics International* 2003; 27:170-178.

van Wilgen CP, Dijkstra PU, Nauta JM, Vermey A, Roodenburg JL. Shoulder pain and disability in daily life, following supraomohyoid neck dissection: a pilot study. *Journal of Cranio-maxillofacial Surgery* 2003; 31:183-186.

van Wilgen CP, Akkerman L, Wieringa J, Dijkstra PU. Muscle strength in patients with chronic pain. *Clinical Rehabilitation* 2003; 17:885-889.

van Wilgen CP, Dijkstra PU, van der Laan BF, Plukker JT, Roodenburg JL. Shoulder complaints after neck dissection; is the spinal accessory nerve involved? *British Journal of Oral and Maxillofacial Surgery* 2003; 41:7-11.

- ** Versteegen GJ, Dijkstra PU, Jaspers JP, Meijler WJ, Ten Duis HJ, Klip EC. Sprain of the neck: quality of life and psychological functioning. A 4-year retrospective study. *Quality of Life Research* 2003; 12:335-343.

2004

- ** Bergman GJD, Winters JC, Groenier KH, Pool JJM, Meyboom-de Jong B, Postema K, van der Heijden GJMG. Manipulative therapy in addition to usual medical care for patients with shoulder dysfunction and pain - A randomized, controlled trial. *Annals of Internal Medicine* 2004; 141:432-439.

- * Borsje S, Bosmans JC, van der Schans CP, Geertzen JHB, Dijkstra PU. Phantom pain: A sensitivity analysis. *Disability and Rehabilitation* 2004; 26:905-910.

- * Brouwer S, Kuijer W, Dijkstra PU, Goeken LNH, Groothoff JW, Geertzen JHB. Reliability and stability of the Roland Morris Disability Questionnaire: intra class correlation and limits of agreement. *Disability and Rehabilitation* 2004; 26:162-165.

- ** Cheung J, Veldhuizen AG, Halbertsma JP, Maurits NM, Sluiter WJ, Cool JC, van Horn JR. The relation between electromyography and growth velocity of the spine in the evaluation of curve progression in idiopathic scoliosis. *Spine* 2004; 29:1011-1016.

- * Dekker R, van der Sluis CK, Kootstra J, Groothoff JW, Eisma WH, Duis HJ. Long-term outcome of equestrian injuries in children. *Disability and Rehabilitation* 2004; 26:91-96.

- * Dijkstra PU, Kalk WW, Roodenburg JL. Trismus in head and neck oncology: a systematic review. *Oral Oncology* 2004; 40:879-889.

Geertzen JHB, Emmelot K, Klinieken I, Dijkstra PU. Author's reply (to letter Woodburn et al. A randomised trial of rigid stump dressing following trans-tibial amputation for peripheral arterial insufficiency) (letter). *Prosthetics and Orthotics International* 2004; 28:192.

Gokeler A, Dijkstra PU. Author's reply (to letter J Schomacher regarding Gokeler A, van Paridon-Edauw GH, DeClercq S, Matthijs O, Dijkstra PU. Quantitative analysis of traction in the glenohumeral joint: in vivo radiographic measurements. *Manual Therapy* 2003, 8: 99-102). *Manual Therapy* 2004; 9:118.

Hijmans JM, Postema K, Geertzen JHB. Elbow orthoses: a review of the literature. *Prosthetics and Orthotics International* 2004; 28:263-272.

- * Huitema RB, Hof AL, Mulder T, Brouwer WH, Dekker R, Postema K. Functional recovery of gait and joint kinematics after right hemispheric stroke. *Archives of Physical Medicine and Rehabilitation* 2004; 85:1982-1988.

- ** Kuijer W, Gerrits EH, Reneman MF. Measuring physical performance via self-report in healthy young adults. *Journal of Occupational Rehabilitation* 2004; 14:77-87.

Meijer RS, Rietman JS, Geertzen JH, Bosmans JC, Dijkstra PU. Validity and intra- and interobserver reliability of an indirect volume measurements in patients with upper extremity lymphedema. *Lymphology* 2004; 37:127-133.

- ** Reneman MF, Brouwer S, Meinema A, Dijkstra PU, Geertzen JHB, Groothoff JW. Test-retest reliability of the isernhagen work systems functional capacity evaluation in healthy adults. *Journal of Occupational Rehabilitation* 2004; 14:295-305.

- * Rietman J, Dijkstra P, Debreczeni R, Geertzen J, Robinson D, de Vries J. Impairments, disabilities and health related quality of life after treatment for breast cancer: a follow-up study 2.7 years after surgery. *Disability and Rehabilitation* 2004; 26:78-84.

- ** top-10% article * top-30% article

** Rietman JS, Dijkstra PU, Geertzen JH, Baas P, de Vries J, Dolsma W, Groothoff JW, Eisma WH, Hoekstra HJ. Treatment-related upper limb morbidity 1 year after sentinel lymph node biopsy or axillary lymph node dissection for stage I or II breast cancer. *Annals of Surgical Oncology* 2004; 11:1018-1024.

* Rietman JS, Geertzen JHB, de Vries J. Short-term morbidity of the upper limb after sentinel lymph node biopsy or axillary lymph node dissection for Stage I or II breast carcinoma - Reply. *Cancer* 2004; 101:2368-2369.

Rietman JS, Goudsmit J, Meulemans D, Halbertsma JPK, Geertzen JHB. An automatic hinge system for leg orthoses. *Prosthetics and Orthotics International* 2004; 28:64-68.

* Rietman JS, Geertzen JHB, de Vries J. Short-term morbidity of the upper limb after sentinel lymph node biopsy or axillary lymph node dissection for stage I or II breast carcinoma - Reply. *Cancer* 2004; 100:655-656.

Schönherr MC, Groothoff JW, Mulder GA, Schoppen T, Eisma WH. Vocational reintegration following spinal cord injury: expectations, participation and interventions. *Spinal Cord* 2004; 42:177-184.

** Stienstra Y, Dijkstra PU, Guedenon A, Johnson RC, Ampadu EO, Mensah T, Klutse EY, Etuafu S, Deepak S, van der Graaf WT, van der Werf TS. Development of a questionnaire assessing Buruli ulcer-induced functional limitation. *American Journal of Tropical Medicine and Hygiene* 2004; 70:318-322.

* van de Leur JP, van der Schans CP, Loef BG, Deelman BG, Geertzen JH, Zwaveling JH. Discomfort and factual recollection in intensive care unit patients. *Critical Care* 2004; 8:R467-R473.

van de Streek MD, van der Schans CP, de Greef MHG, Postema K. The effect of a forearm/hand splint compared with an elbow band as a treatment for lateral epicondylitis. *Prosthetics and Orthotics International* 2004; 28:183-189.

van der Linde H, Geertzen JHB, Hofstad CJ, van Limbeek J, Postema K. Prosthetic prescription in the Netherlands: an interview with clinical experts. *Prosthetics and Orthotics International* 2004; 28:98-104.

van der Linde H, Hofstad CJ, Geurts AC, Postema K, Geertzen JH, van Limbeek J. A systematic literature review of the effect of different prosthetic components on human functioning with a lower-limb prosthesis. *Journal of Rehabilitation Research and Development* 2004; 41:555-570.

van Weert E, Hoekstra-Weebers JEHM, Grol BMF, Otter R, Arendzen JH, Postema K, van der Schans CP. Physical functioning and quality of life after cancer rehabilitation. *International Journal of Rehabilitation Research* 2004; 27:27-35.

** van Wilgen CP, Dijkstra PU, van der Laan BF, Plukker JT, Roodenburg JL. Morbidity of the neck after head and neck cancer therapy. *Head and Neck* 2004; 26:785-791.

van Wilgen CP, Dijkstra PU, van der Laan BF, Plukker JT, Roodenburg JL. Shoulder complaints after nerve sparing neck dissections. *International Journal of Oral and Maxillofacial Surgery* 2004; 33:253-257.

** van Wilgen CP, Dijkstra PU, van der Laan BF, Plukker JT, Roodenburg JL. Shoulder and neck morbidity in quality of life after surgery for head and neck cancer. *Head and Neck* 2004; 26:839-844.

** Zahavi A, Geertzen JH, Middel B, Staal M, Rietman JS. Long term effect (more than five years) of intrathecal baclofen on impairment, disability, and quality of life in patients with severe spasticity of spinal origin. *Journal of Neurology Neurosurgery and Psychiatry* 2004; 75:1553-1557.

2005

Assink N, Bergman GJ, Knoester B, Winters JC, Dijkstra PU, Postema K. Interobserver reliability of neck-mobility measurement by means of the flock-of-birds electromagnetic tracking system. *Journal of Manipulative and Physiological Therapeutics* 2005; 28:408-413.

Baars EC, Geertzen JH. Literature review of the possible advantages of silicon liner socket use in trans-tibial prostheses. *Prosthetics and Orthotics International* 2005; 29:27-37.

** Bergman GJ, Knoester B, Assink N, Dijkstra PU, Winters JC. Variation in the cervical range of motion over time measured by the "flock of birds" electromagnetic tracking system. *Spine* 2005; 30:650-654.

Boonstra AM, Wijbrandi W, Spikman JM. Domiciliary therapy during inpatient rehabilitation treatment for patients with an acquired brain injury: a preliminary study. *International Journal of Rehabilitation Research* 2005; 28:211-218.

** top-10% article * top-30% article



Brouwer S, Dijkstra PU, Stewart R, Goeken LN, Groothoff JW, Geertzen JH. Comparing self-report, clinical examination and functional testing in the assessment of work-related limitations in patients with chronic low back pain. *Disability and Rehabilitation* 2005; 27:999-1005.

- * Cheung J, Halbertsma JP, Veldhuizen AG, Sluiter WJ, Maurits NM, Cool JC, van Horn JR. A preliminary study on electromyographic analysis of the paraspinal musculature in idiopathic scoliosis. *European Spine Journal* 2005; 14:130-137.
- * Dijkstra PU, Stegenga B, de Bont LG, Bos RR. Function impairment and pain after closed treatment of fractures of the mandibular condyle. *Journal of Trauma* 2005; 59:422-428.

Freire J, Schiappacasse C, Heredia A, Martina JD, Geertzen JH. Functional results after a Krukenberg amputation. *Prosthetics and Orthotics International* 2005; 29:87-92.

Geertzen JHB, Bosmans JC, van der Schans CP, Dijkstra PU. Claimed walking distance of lower limb amputees. *Disability and Rehabilitation* 2005; 27:101-104.
- * Groen SE, de Blécourt AC, Postema K, Hadders-Algra M. General movements in early infancy predict neuromotor development at 9 to 12 years of age. *Developmental Medicine and Child Neurology* 2005; 47:731-738.
- * Hof AL, Elzinga H, Grimmius W, Halbertsma JP. Detection of non-standard EMG profiles in walking. *Gait and Posture* 2005; 21:171-177.
- * Hospers IC, Wiersma IC, Dijkstra PU, Stienstra Y, Etuaful S, Ampadu EO, van der Graaf WT, van der Werf TS. Distribution of Buruli ulcer lesions over body surface area in a large case series in Ghana: uncovering clues for mode of transmission. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 2005; 99:196-201.
- * Huitema RB, Brouwer WH, Mulder T, Dekker R, Hof AL, Postema K. Effect of ageing on the ability to adapt to a visual distortion during walking. *Gait and Posture* 2005; 21:440-446.

Kuijer W, Brouwer S, Dijkstra PU, Jorritsma W, Groothoff JW, Geertzen JH. Responsiveness of the Roland-Morris Disability Questionnaire: consequences of using different external criteria. *Clinical Rehabilitation* 2005; 19:488-495.
- ** Lelieveld OT, Takken T, van der Net J, van Weert E. Validity of the 6-minute walking test in juvenile idiopathic arthritis. *Arthritis and Rheumatism* 2005; 53:304-307.

Maathuis KG, van der Schans CP, van Iperen A, Rietman HS, Geertzen JH. Gait in children with cerebral palsy: observer reliability of Physician Rating Scale and Edinburgh Visual Gait Analysis Interval Testing scale. *Journal of Pediatric Orthopedics* 2005; 25:268-272.

Oosterkamp BC, van Oort RP, Dijkstra PU, Stellingsma K, Bierman MW, de Bont LG. Effect of an intraoral retrusion plate on maxillary arch dimensions in complete bilateral cleft lip and palate patients. *Cleft Palate Craniofacial Journal* 2005; 42:239-244.
- ** Reneman MF, Fokkens AS, Dijkstra PU, Geertzen JHB, Groothoff JW. Testing lifting capacity: validity of determining effort level by means of observation. *Spine* 2005; 30:E40-E46.
- ** Reneman MF, Soer R, Gerrits E. Basis for an FCE methodology for patients with work-related upper limb disorders. *Journal of Occupational Rehabilitation* 2005; 15:353-363.
- * Rommers GM, Dijkstra PU. Classifying functional ambulation (letter). *Archives of Physical Medicine and Rehabilitation* 2005; 86:2226.

Schönherr MC, Groothoff JW, Mulder GA, Eisma WH. Participation and satisfaction after spinal cord injury: results of a vocational and leisure outcome study. *Spinal Cord* 2005; 43:241-248.

Schönherr MC, Groothoff JW, Mulder GA, Eisma WH. Vocational perspectives after spinal cord injury. *Clinical Rehabilitation* 2005; 19:200-208.
- ** Stienstra Y, Dijkstra PU, van Wezel MJ, van Roest MH, Beets M, Zijlstra I, Johnson RC, Ampadu EO, Gbovi J, Zinsou C, Etuaful S, Klutse EY, van der Graaf WT, van der Werf TS. Reliability and validity of the Buruli ulcer functional limitation score questionnaire. *American Journal of Tropical Medicine and Hygiene* 2005; 72:449-452.

- ** Stienstra Y, van Roest MH, van Wezel MJ, Wiersma IC, Hospers IC, Dijkstra PU, Johnson RC, Ampadu EO, Gbovi J, Zinsou C, Etuaful S, Klutse EY, van der Graaf WT, van der Werf TS. Factors associated with functional limitations and subsequent employment or schooling in Buruli ulcer patients. *Tropical Medicine and International Health* 2005; 10:1251-1257.

Stokman MA, Sonis ST, Dijkstra PU, Burgerhof JG, Spijkervet FK. Assessment of oral mucositis in clinical trials: Impact of training on evaluators in a multi-centre trial. *European Journal of Cancer* 2005; 41:1735-1738.

Sturms LM, van der Sluis CK, Stewart RE, Groothoff JW, Ten Duis HJ, Eisma WH. A prospective study on paediatric traffic injuries: health-related quality of life and post-traumatic stress. *Clinical Rehabilitation* 2005; 19:312-322.

Swinkels RA, Dijkstra PU, Bouter LM. Reliability, validity and responsiveness of instruments to assess disabilities in personal care in patients with rheumatic disorders. A systematic review. *Clinical and Experimental Rheumatology* 2005; 23:71-79.

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. *Journal of Rehabilitation Research and Development* 2005; 42:693-704.

- * van Weert E, Hoekstra-Weebers J, Grol B, Otter R, Arendzen HJ, Postema K, Sanderman R, van der Schans C. A multidimensional cancer rehabilitation program for cancer survivors Effectiveness on health-related quality of life. *Journal of Psychosomatic Research* 2005; 58:485-496.

Vestering MM, Schoppen T, Dekker R, Wempe J, Geertzen JH. Development of an exercise testing protocol for patients with a lower limb amputation: results of a pilot study. *International Journal of Rehabilitation Research* 2005; 28:237-244.

2006

- ** de Blok BMJ, de Greef MHG, ten Hacken NHT, Sprenger SR, Postema K, Wempe JB. The effects of a lifestyle physical activity counseling program with feedback of a pedometer during pulmonary rehabilitation in patients with COPD: a pilot study. *Patient Education and Counseling* 2006; 61:48-55.

- * Dijkstra PU. Re: Phantom limb pain - Response. *Journal of Pain and Symptom Management* 2006; 32:103.

Dijkstra PU, Huisman PM, Roodenburg JLN. Criteria for trismus in head and neck oncology. *International Journal of Oral and Maxillofacial Surgery* 2006; 35:337-342.

Emmelot CH, Geertzen JHB. Removable rigid dressings versus soft dressings (letter). *Prosthetics and Orthotics International* 2006; 30:102-103.

- * Geertzen JHB, van Wilgen CP, Schrier E, Dijkstra PU. Chronic pain in Rehabilitation Medicine. *Disability and Rehabilitation* 2006; 28:363-367.

Hijmans JM, Geertzen JHB. Development of clinical guidelines for the prescription of orthoses in patients with neurological disorders in The Netherlands. *Prosthetics and Orthotics International* 2006; 30:35-43.

- * Huitema RB, Brouwer WH, Hof AL, Dekker R, Mulder T, Postema K. Walking trajectory in neglect patients. *Gait & Posture* 2006; 23:200-205.

- * Kuijer W, Brouwer S, Schiphorst Preuper HR, Groothoff JW, Geertzen JHB, Dijkstra PU. Work status and chronic low back pain: exploring the International Classification of Functioning, Disability and Health. *Disability and Rehabilitation* 2006; 28:379-388.

- ** Kuijer W, Dijkstra PU, Brouwer S, Reneman MF, Groothoff JW, Geertzen JHB. Safe lifting in patients with chronic low back pain: Comparing FCE lifting task and NIOSH lifting guideline. *Journal of Occupational Rehabilitation* 2006; 16:579-589.

- ** Kuijer W, Brouwer S, Reneman MF, Dijkstra PU, Groothoff JW, Schellekens JMH, Geertzen JHB. Matching FCE activities and work demands: An explorative study. *Journal of Occupational Rehabilitation* 2006; 16:469-483.

- ** Kuijer W, Groothoff JW, Brouwer S, Geertzen JHB, Dijkstra PU. Prediction of sickness absence in patients with chronic low back pain: A systematic review. *Journal of Occupational Rehabilitation* 2006; 16:439-467.

- * Kuijer W, Brouwer S, Reneman MF. Determining responsiveness of FCEs, mission impossible? (letter). *Clinical Journal of Pain* 2006; 22:664-665.

- ** top-10% article * top-30% article



Lettinga AT, van Twillert S, Poels BJJ, Postema K. Distinguishing theories of dysfunction, treatment and care. Reflections on 'Describing rehabilitation interventions'. *Clinical Rehabilitation* 2006; 20:369-374.

- * Meulenbelt HEJ, Dijkstra PU, Jonkman MF, Geertzen JHB. Skin problems in lower limb amputees: A systematic review. *Disability and Rehabilitation* 2006; 28:603-608.

Meulenbelt HEJ, Geertzen JHB, Kardaun SH, Jonkman MF. A case of follicular keratosis with trichostasis on an amputated limb. *Clinical and Experimental Dermatology* 2006; 31:600-601.

Meurs M, Maathuis CGB, Lucas C, Hadders-Algra M, van der Sluis CK. Prescription of the first prosthesis and later use in children with congenital unilateral upper limb deficiency: A systematic review. *Prosthetics and Orthotics International* 2006; 30:165-173.

Oosterkamp BCM, van der Meer WJ, Rutenfrans M, Dijkstra PU. Reliability of linear measurements on a virtual bilateral cleft lip and palate model. *Cleft Palate-Craniofacial Journal* 2006; 43:519-523.

- * Poels BJJ, Brinkman-Zijlker HG, Dijkstra PU, Postema K. Malnutrition, eating difficulties and feeding dependence in a stroke rehabilitation centre. *Disability and Rehabilitation* 2006; 28:637-643.
- * Post RB, Keizer HJE, Leferink VJM, van der Sluis CK. Functional outcome 5 years after non-operative treatment of type A spinal fractures. *European Spine Journal* 2006; 15:472-478.
- * Post RB, van der Sluis CK, Ten Duis HJ. Return to work and quality of life in severely injured patients. *Disability and Rehabilitation* 2006; 28:1399-1404.
- * Reinsma GD, ten Hacken NHT, Grevink RG, van der Bij W, Koer GH, van Weert E. Limiting factors of exercise performance 1 year after lung transplantation. *Journal of Heart and Lung Transplantation* 2006; 25:1310-1316.
- * Reneman MF, Kool J, Oesch P, Geertzen JHB, Battie MC, Gross DP. Material handling performance of patients with chronic low back pain during Functional Capacity Evaluation: A comparison between three countries. *Disability and Rehabilitation* 2006; 28:1143-1149.
- ** Reneman MF, Kuijer W, Brouwer S, Schiphorst Preuper HR, Preuper HRS, Groothoff JW, Geertzen JHB, Dijkstra PU. Symptom increase following a functional capacity evaluation in patients with chronic low back pain: An explorative study of safety. *Journal of Occupational Rehabilitation* 2006; 16:197-205.
- * Reneman MF, Poels BJJ, Geertzen JHB, Dijkstra PU. Back pain and backpacks in children: Biomedical or biopsychosocial model? *Disability and Rehabilitation* 2006; 28:1293-1297.

Rietman JS, Geertzen JHB, Hoekstra HJ, Baas P, Dolsma WV, de Vries J, Groothoff JW, Eisma WH, Dijkstra PU. Long term treatment related upper limb morbidity and quality of life after sentinel lymph node biopsy for stage I or II breast cancer. *EJSO* 2006; 32:148-152.

Scheppers E, van Dongen E, Dekker J, Geertzen J, Dekker J. Potential barriers to the use of health services among ethnic minorities: a review. *Family Practice* 2006; 23:325-348.

Siebes RC, Ketelaar M, Wijnroks L, van Schie PE, Nijhuis BJG, Vermeer A, Gorter JW. Family-centred services in the Netherlands: validating a self-report measure for paediatric service providers. *Clinical Rehabilitation* 2006; 20:502-512.

- ** Soer R, Poels BJJ, Geertzen JHB, Reneman MF. A comparison of two lifting assessment approaches in patients with chronic low back pain. *Journal of Occupational Rehabilitation* 2006; 16:639-646.
- ** Stenekes MW, Hoogduin JM, Mulder T, Geertzen JHB, Leenders KL, Nicolai JPA, de Jong BM. Functional dominance of finger flexion over extension, expressed in left parietal activation. *Neuroimage* 2006; 32:676-683.

Stokman MA, Nijhuis CSMO, Spijkervet FKL, de Bont ESJM, Dijkstra PU, Daenen SMGJ, Gietema JA, van der Graaf WTA, Groen HJM, Vellenga E, Kamps WA. The role of oral mucositis in the systemic inflammation parameter IL-8 in febrile neutropenic cancer patients. *Cancer Investigation* 2006; 24:479-483.

Swinkels RAHM, Bouter LM, Oostendorp RAB, Swinkels-Meewisse IJCM, Dijkstra PU, De Vet HCW. Construct validity of instruments measuring impairments in body structures and function in rheumatic disorders: Which constructs are selected for validation? A systematic review. *Clinical and Experimental Rheumatology* 2006; 24:93-102.

- * van Weert E, Hoekstra-Weebers J, Otter R, Postema K, Sanderman R, van der Schans C. Cancer-related fatigue: Predictors and effects of rehabilitation. *Oncologist* 2006; 11:184-196.

van Wilgen CP, Dijkstra PU, Stewart RE, Ranchor AV, Roodenburg JLN. Measuring somatic symptoms with the CES-D to assess depression in cancer patients after treatment: Comparison among patients with oral/oropharyngeal, gynecological, colorectal, and breast cancer. *Psychosomatics* 2006; 47:465-470.

2007

Bosmans JC, Suurmeijer TPBM, Hulsink M, van der Schans CP, Geertzen JHB, Dijkstra PU. Amputation, phantom pain and subjective well-being: a qualitative study. *International Journal of Rehabilitation Research* 2007; 30:1-8.

- * Brugemann J, Poels BJJ, Oosterwijk MH, van der Schans CP, Postema K, van Veldhuisen DJ. A randomised controlled trial of cardiac rehabilitation after revascularisation. *International Journal of Cardiology* 2007; 119:59-64.
- de Bruijn I, Geertzen JH, Dijkstra PU. Functional outcome after peroneal nerve injury. *International Journal of Rehabilitation Research* 2007; 30:333-337.
- ** Dijkstra PU, Rietman JS, Geertzen JHB. Phantom breast sensations and phantom breast pain: A 2-year prospective study and a methodological analysis of literature. *European Journal of Pain* 2007; 11:99-108.
- ** Dijkstra PU, Sterken MW, Pater R, Spijkervet FKL, Roodenburg JLN. Exercise therapy for trismus in head and neck cancer. *Oral Oncology* 2007; 43:389-394.
- * Haga N, van der Heijden-Maessen HC, van Hoorn JF, Boonstra AM, Hadders-Algra M. Test-retest and inter- and intrareliability of the quality of the upper-extremity skills test in preschool-age children with cerebral palsy. *Archives of Physical Medicine and Rehabilitation* 2007; 88:1686-1689.
- * Herweijer H, Dijkstra PU, Nicolai JPA, van der Sluis CK. Postoperative hand therapy in Dupuytren's disease. *Disability and Rehabilitation* 2007; 29:1736-1741.
- * Hijmans JM, Geertzen JHB, Dijkstra PU, Postema K. A systematic review of the effects of shoes and other ankle or foot appliances on balance in older people and people with peripheral nervous system disorders. *Gait & Posture* 2007; 25:316-323.
- Hijmans JM, Geertzen JH, Schokker B, Postema K. Development of vibrating insoles. *International Journal of Rehabilitation Research* 2007; 30:343-345.
- * Hodselmans AP, Dijkstra PU, van der Schans C, Geertzen JHB. Test-retest reliability of psychophysical lift capacity in patients with non-specific chronic low back pain and healthy subjects. *Journal of Rehabilitation Medicine* 2007; 39:133-137.
- * Hof AL, van Bockel RM, Schoppen T, Postema K. Control of lateral balance in walking - Experimental findings in normal subjects and above-knee amputees. *Gait & Posture* 2007; 25:250-258.
- * Jager-Wittenaar H, Dijkstra PU, Vissink A, van der Laan BFAM, van Oort RP, Roodenburg JLN. Critical weight loss in head and neck cancer - prevalence and risk factors at diagnosis: an explorative study. *Supportive Care in Cancer* 2007; 15:1045-1050.
- ** Lelieveld OTHM, van Brussel M, Takken T, van Weert E, van Leeuwen MA, Armbrust W. Aerobic and anaerobic exercise capacity in adolescents with juvenile idiopathic arthritis. *Arthritis and Rheumatism* 2007; 57:898-904.
- Meulenbelt HE, Geertzen JHB. Comment on Salawu et al. *Prosthetics and Orthotics International* 2007; 31:207-208.
- Meulenbelt HEJ, Geertzen JHB, Dijkstra PU, Jonkman MF. Skin problems in lower limb amputees: an overview by case reports. *Journal of the European Academy of Dermatology and Venereology* 2007; 21:147-155.
- * Nijboer JMM, van der Sluis CK, van der Naalt J, Nijsten MWN, Ten Duis HJ. Two cohorts of severely injured trauma patients, nearly two decades apart: Unchanged mortality but improved quality of life despite higher age. *Journal of Trauma Injury Infection and Critical Care* 2007; 63:670-675.
- Nijhuis BJG, Reinders-Messelink HA, de Blécourt ACE, Olijve WG, Haga N, Groothoff JW, Nakken H, Postema K. Towards integrated paediatric services in the Netherlands: a survey of views and policies on collaboration in the care for children with cerebral palsy. *Child Care Health and Development* 2007; 33:593-603.



Nijhuis BJG, Reinders-Messelink HA, de Blécourt ACE, Hitters WMGC, Groothoff JW, Nakken H, Postema K. Family-centred care in family-specific teams. *Clinical Rehabilitation* 2007; 21:660-671.

Nijhuis BJG, Reinders-Messelink HA, de Blécourt ACE, Olijve WG, Groothoff JW, Nakken H, Postema K. A review of salient elements defining team collaboration in paediatric rehabilitation. *Clinical Rehabilitation* 2007; 21:195-211.

Oosterkamp BC, Dijkstra PU, Rimmelink HJ, van Oort RP, Goorhuis-Brouwer SM, Sandham A, de Bont LG. Satisfaction with treatment outcome in bilateral cleft lip and palate patients. *International Journal of Oral and Maxillofacial Surgery* 2007; 36:890-895.

Oosterkamp BCM, Rimmelink HJ, Pruijm GJ, Hoekema A, Dijkstra PU. Craniofacial, craniocervical, and pharyngeal morphology in bilateral cleft lip and palate and obstructive sleep apnea patients. *Cleft Palate-Craniofacial Journal* 2007; 44:1-7.

- ** Reesink DD, Jorritsma W, Reneman MF. Basis for a functional capacity evaluation methodology for patients with work-related neck disorders. *Journal of Occupational Rehabilitation* 2007; 17:436-449.
- ** Reneman MF, Schiphorst Preuper HR, Kleen M, Geertzen JHB, Dijkstra PU. Are pain intensity and pain related fear related to functional capacity evaluation performances of patients with chronic low back pain? *Journal of Occupational Rehabilitation* 2007; 17:247-258.
- ** Schiphorst Preuper HR, Reneman MF, Boonstra AM, Dijkstra PU, Versteegen GJ, Geertzen JH. The relationship between psychosocial distress and disability assessed by the Symptom Checklist-90-Revised and Roland Morris Disability Questionnaire in patients with chronic low back pain. *Spine Journal* 2007; 7:525-530.

ten Berge SR, Halbertsma JP, Maathuis PG, Verheij NP, Dijkstra PU, Maathuis KG. Reliability of popliteal angle measurement: a study in cerebral palsy patients and healthy controls. *Journal of Pediatric Orthopaedics* 2007; 27:648-652.

Tichelaar YIGV, Geertzen JHB, Keizer D, van Wilgen CP. Mirror box therapy added to cognitive behavioural therapy in three chronic complex regional pain syndrome type I patients: a pilot study. *International Journal of Rehabilitation Research* 2007; 30:181-188.

- * van der Linde H, Hofstad CJ, Geertzen JHB, Postema K, van Limbeek J. From satisfaction to expectation: The patient's perspective in lower limb prosthetic care. *Disability and Rehabilitation* 2007; 29:1049-1055.

van Geffen JA, Dijkstra PU, Hof AL, Halbertsma JPK, Postema K. Effect of flat insoles with different shore A values on posture stability in diabetic neuropathy. *Prosthetics and Orthotics International* 2007; 31:228-235.

- * Vrieling AH, van Keeken HG, Schoppen T, Otten E, Halbertsma JP, Hof AL, Postema K. Obstacle crossing in lower limb amputees. *Gait & Posture* 2007; 26:587-594.

2008

- * Assink N, Bergman GJ, Knoester B, Winters JC, Dijkstra PU. Assessment of the cervical range of motion over time, differences between results of the Flock of Birds and the EDI-320: A comparison between an electromagnetic tracking system and an electronic inclinometer. *Manual Therapy* 2008; 13:450-455.

Baars ECT, Geertzen JHB. A patient with donning-related stump wounds: A case report. *Prosthetics and Orthotics International* 2008; 32:219-222.

Baars ECT, Dijkstra PU, Geertzen JHB. Skin problems of the stump and hand function in lower limb amputees: A historic cohort study. *Prosthetics and Orthotics International* 2008; 32:179-185.

Boonstra AM, Schiphorst Preuper HR, Reneman MF, Posthumus JB, Stewart RE. Reliability and validity of the visual analogue scale for disability in patients with chronic musculoskeletal pain. *International Journal of Rehabilitation Research* 2008; 31:165-169.

Boonstra AM, Reneman MF, Posthumus JB, Stewart RE, Schiphorst Preuper HR. Reliability of the Life Satisfaction Questionnaire to assess patients with chronic musculoskeletal pain. *International Journal of Rehabilitation Research* 2008; 31:181-183.

- * Bouwsema H, van der Sluis CK, Bongers RM. The role of order of practice in learning to handle an upper-limb prosthesis. *Archives of Physical Medicine and Rehabilitation* 2008; 89:1759-1764.



- * de Blécourt A, Schiphorst Preuper H, van der Schans CP, Groothoff JW, Reneman MF. Preliminary evaluation of a multidisciplinary pain management program for children and adolescents with chronic musculoskeletal pain. *Disability and Rehabilitation* 2008; 30:13-20.
- ** Diercks RL, Halbertsma JP, Zee M. Letter to the editor (comment). *American Journal of Sports Medicine* 2008; 36:E2.
- Dvortsin DP, Sandham A, Pruijm GJ, Dijkstra PU. A comparison of the reproducibility of manual tracing and on-screen digitization for cephalometric profile variables. *European Journal of Orthodontics* 2008; 30:586-591.
- ** Flapper BC, Duiverman EJ, Gerritsen J, Postema K, van der Schans CP. Happiness to be gained in paediatric asthma care. *European Respiratory Journal* 2008; 32:1555-1562.
- Formsma SA, Maathuis CBG, Robinson PH, Jonkman ME. Postoperative hand treatment in children with recessive dystrophic epidermolysis bullosa. *Journal of Hand Therapy* 2008; 21:80-85.
- Geertzen JHB. Moving beyond disability. *Prosthetics and Orthotics International* 2008; 32:276-281.
- * Hijmans JM, Geertzen JH, Zijlstra W, Hof AL, Postema K. Effects of vibrating insoles on standing balance in diabetic neuropathy. *Journal of Rehabilitation Research and Development* 2008; 45:1441-1449.
- ** Hodselmans AP, Dijkstra PU, Geertzen JH, van der Schans CP. Exercise capacity in non-specific chronic low back pain patients: a lean body mass-based astrand bicycle test; reliability, validity and feasibility. *Journal of Occupational Rehabilitation* 2008; 18:282-289.
- ** Hoven-Gondrie ML, Thijssens KM, Geertzen JH, Pras E, van Ginkel RJ, Hoekstra HJ. Isolated limb perfusion and external beam radiotherapy for soft tissue sarcomas of the extremity: long-term effects on normal tissue according to the LENT-SOMA scoring system. *Annals of Surgical Oncology* 2008; 15:1502-1510.
- ** Kootstra J, Hoekstra-Weebers JE, Rietman H, de Vries J, Baas P, Geertzen JH, Hoekstra HJ. Quality of life after sentinel lymph node biopsy or axillary lymph node dissection in stage I/II breast cancer patients: a prospective longitudinal study. *Annals of Surgical Oncology* 2008; 15:2533-2541.
- ** Korstjens I, May AM, van Weert E, Mesters I, Tan F, Ros WJG, Hoekstra-Weebers JEHM, van der Schans CP, van den Borne B. Quality of life after self-management cancer rehabilitation: A Randomized controlled trial comparing physical and cognitive-behavioral training versus physical training. *Psychosomatic Medicine* 2008; 70:422-429.
- ** Krabbe CA, Dijkstra PU, Pruijm J, van der Laan BF, van der Wal JE, Gravendeel JP, Roodenburg JL. FDG PET in oral and oropharyngeal cancer. Value for confirmation of N0 neck and detection of occult metastases. *Oral Oncology* 2008; 44:31-36.
- ** Lelieveld OT, Armbrust W, van Leeuwen MA, Duppen N, Geertzen JH, Sauer PJ, van Weert E. Physical activity in adolescents with juvenile idiopathic arthritis. *Arthritis and Rheumatism* 2008; 59:1379-1384.
- Lie Sam Foek DJ, Ozcan M, Verkerke GJ, Sandham A, Dijkstra PU. Survival of flexible, braided, bonded stainless steel lingual retainers: a historic cohort study. *European Journal of Orthodontics* 2008; 30:199-204.
- ** May AM, Duivenvoorden HJ, Korstjens I, van Weert E, Hoekstra-Weebers JEHM, van den Borne B, Mesters I, van der Schans CP, Ros WJ. The effect of group cohesion on rehabilitation outcome in cancer survivors. *Psycho-Oncology* 2008; 17:917-925.
- May AM, van Weert E, Korstjens I, Hoekstra-Weebers JEHM, van der Schans CP, Zonderland ML, Mesters I, van den Borne B, Ros WD. Improved physical fitness of cancer survivors: a randomised controlled trial comparing physical training with physical and cognitive-behavioural training. *Acta Oncologica* 2008; 47:825-834.
- * Mulder T, Hochstenbach J, Geertzen JHB, Dijkstra PU. Don't bite my finger, look in the direction I am pointing. *Consciousness and Cognition* 2008; 17:1279-1280.
- * Mulder T, Hochstenbach J, Dijkstra PU, Geertzen JH. Born to adapt, but not in your dreams. *Consciousness and Cognition* 2008; 17:1266-1271.
- ** Nesse W, Abbas F, van der Ploeg I, Spijkervet FK, Dijkstra PU, Vissink A. Periodontal inflamed surface area: quantifying inflammatory burdens. *Journal of Clinical Periodontology* 2008; 35:668-673.

Nijhuis BJ, Reinders-Messelink HA, de Blécourt AC, Boonstra AM, Calame EH, Groothoff JW, Nakken H, Postema K. Goal setting in Dutch paediatric rehabilitation. Are the needs and principal problems of children with cerebral palsy integrated into their rehabilitation goals? *Clinical Rehabilitation* 2008; 22:348-363.

- * Nijhuis BJG, Reinders-Messelink HA, de Blecourt ACE, Ties JG, Boonstra AM, Groothoff JW, Nakken H, Postema K. Needs, problems and rehabilitation goals of young children with cerebral palsy as formulated in the rehabilitation activities profile for children. *Journal of Rehabilitation Medicine* 2008; 40:347-354.

Peters LHJ, Maathuis KGB, Kouw E, Hamming M, Hadders-Algra M. Test-retest, inter-assessor and intra-assessor reliability of the modified Touwen examination. *European Journal of Paediatric Neurology* 2008; 12:328-333.

- ** Reneman MF, Geertzen JH, Groothoff JW, Brouwer S. General and specific self-efficacy reports of patients with chronic low back pain: are they related to performances in a functional capacity evaluation? *Journal of Occupational Rehabilitation* 2008; 18:183-189.

Riemersma M, Dijkstra PU, van Veldhuisen DJ, Muskiet FA, van den Dungen JA, Geertzen JH. Mortality and preoperative cardiac function in vascular amputees: an N-terminal pro-brain natriuretic peptide (NT-proBNP) pilot study. *Clinical Rehabilitation* 2008; 22:56-59.

- * Rómmers GM, Ryall NH, Kap A, de Laat F, van der Linde H. The mobility scale for lower limb amputees: The SIGAM/WAP mobility scale. *Disability and Rehabilitation* 2008; 30:1106-1115.

- ** Roze E, Kerstjens JM, Maathuis CGB, ter Horst HJ, Bos AF. Risk factors for adverse outcome in preterm infants with periventricular hemorrhagic infarction. *Pediatrics* 2008; 122:E46-E52.

- * Schiphorst Preuper HR, Reneman MF, Boonstra AM, Dijkstra PU, Versteegen GJ, Geertzen JH, Brouwer S. Relationship between psychological factors and performance-based and self-reported disability in chronic low back pain. *European Spine Journal* 2008; 17:1448-1456.

Schoemaker MM, Flapper BCT, Reinders-Messelink HA, de Kloet A. Validity of the motor observation questionnaire for teachers as a screening instrument for children at risk for developmental coordination disorder. *Human Movement Science* 2008; 27:190-199.

Siebes RC, Nijhuis BJG, Boonstra AM, Ketelaar M, Wijnroks L, Reinders-Messelink HA, Postema K, Vermeer A. A family-specific use of the Measure of Processes of Care for Service Providers (MPOC-SP). *Clinical Rehabilitation* 2008; 22:242-251.

- * Siemonsma PC, Schroder CD, Dekker JH, Lettinga AT. The benefits of theory for clinical practice: cognitive treatment for chronic low back pain patients as an illustrative example. *Disability and Rehabilitation* 2008; 30:1309-1317.

- ** Soer R, van der Schans CP, Groothoff JW, Geertzen JHB, Reneman MF. Towards consensus in operational definitions in functional capacity evaluation: a Delphi survey. *Journal of Occupational Rehabilitation* 2008; 18:389-400.

- ** Soer R, Groothoff JW, Geertzen JHB, van der Schans CP, Reesink DD, Reneman MF. Pain response of healthy workers following a Functional Capacity Evaluation and implications for clinical interpretation. *Journal of Occupational Rehabilitation* 2008; 18:290-298.

- * Stenekes MW, Nicolai JP, Geertzen JH, Mulder T. Kinematic analysis of hand movements after tendon repair surgery: a new assessment using drawing movements. *American Journal of Physical Medicine and Rehabilitation* 2008; 87:169-176.

Stenekes MW, van der Sluis CK, Nicolai JP, Geertzen JH, Mulder T. Changes in speed of information processing in the brain following tendon repair. *Journal of Hand Surgery European Volume* 2008; 33:764.

Stuiver MM, van Wilgen CP, de Boer EM, de Goede CJ, Koolstra M, van Opzeeland A, Venema P, Sterken MW, Vincent A, Dijkstra PU. Impact of shoulder complaints after neck dissection on shoulder disability and quality of life. *Otolaryngology - Head and Neck Surgery* 2008; 139:32-39.

van Keeken HG, Vrieling AH, Hof AL, Halbertsma JP, Schoppen T, Postema K, Otten B. Controlling propulsive forces in gait initiation in transfemoral amputees. *Journal of Biomechanical Engineering* 2008; 130:art. nr. 011002.

van Scheppingen C, Lettinga AT, Duipmans JC, Maathuis KG, Jonkman MF. The main problems of parents of a child with epidermolysis bullosa. *Qualitative Health Research* 2008; 18:545-556.

- * van Scheppingen C, Lettinga AT, Duipmans JC, Maathuis CGB, Jonkman MF. Main problems experienced by children with epidermolysis bullosa: A qualitative study with semi-structured interviews. *Acta Dermato-Venereologica* 2008; 88:143-150.
- ** van Weert E, Hoekstra-Weebers JE, May AM, Korstjens I, Ros WJ, van der Schans CP. The development of an evidence-based physical self-management rehabilitation programme for cancer survivors. *Patient Education and Counseling* 2008; 71:169-190.
- * Vrieling AH, van Keeken HG, Schoppen T, Otten E, Halbertsma JP, Hof AL, Postema K. Gait termination in lower limb amputees. *Gait & Posture* 2008; 27:82-90.
- * Vrieling AH, van Keeken HG, Schoppen T, Otten E, Halbertsma JP, Hof AL, Postema K. Gait initiation in lower limb amputees. *Gait & Posture* 2008; 27:423-430.
- * Vrieling AH, van Keeken HG, Schoppen T, Otten E, Halbertsma JP, Hof AL, Postema K. Uphill and downhill walking in unilateral lower limb amputees. *Gait & Posture* 2008; 28:235-242.
- * Vrieling AH, van Keeken HG, Schoppen T, Otten E, Hof AL, Halbertsma JP, Postema K. Balance control on a moving platform in unilateral lower limb amputees. *Gait & Posture* 2008; 28:222-228.

Yari P, Dijkstra PU, Geertzen JHB. Functional outcome of hip disarticulation and hemipelvectomy: a cross-sectional national descriptive study in the Netherlands. *Clinical Rehabilitation* 2008; 22:1127-1133.

Refereed articles in non-ISI journals

2003

Brouwer S, Dijkstra PU, Gerrits EHJ, Schellekens JMH, Groothoff JW, Geertzen JHB, Göeken LNH. Onderzoek: Intra- en interbeoordelaarsbetrouwbaarheid 'FIS-Belastbaarheidspatroon' en 'Functionele mogelijkhedenlijst'. *Tijdschrift voor Bedrijfs- en Verzekeringsgeneeskunde* 2003; 11:360-367.

Dekker R, Groothoff JW, Eisma WH, Ten Duis HJ. Klinisch behandelde paardrijlessen in Groningen, 1990-1998: ernstige langetermijngevolgen. *Nederlands Tijdschrift voor Geneeskunde* 2003; 147:204-208.

Kruizinga CP, Boonstra A, Groothoff JW, Elzinga A, Göeken LNH. Characteristics of patients supplied with foot orthoses from orthopaedic workshops in The Netherlands. *The Foot: International Journal of Clinical Foot Science* 2003; 13:39-45.

ter Schegget-Slaterus MJ, Groothoff JW, Stewart R, Eisma WH. De gezondheidsbeleving van jongvolwassen patiënten met een terminale nierinsufficiëntie sinds de kinderleeftijd is slechts gedeeltelijk gestoord. *Tijdschrift voor Kindergeneeskunde* 2003; 71:102-108.

van de Leur JP, Smit P, Broekema AA, van der Mark TW, van der Schans CP. Are clinical observations of breathing and pulmonary function related in patients after abdominal surgery? *Physiotherapy Theory & Practice* 2003; 19:45-52.

2004

Brügemann J, Postema K, van Gelder IC, Oosterwijk MH, van Veldhuisen DJ. Hartrevalidatie bij patiënten met een aangeboren hartafwijking, een implanteerbare defibrillator of chronisch hartfalen. *Nederlands Tijdschrift voor Geneeskunde* 2004; 148:1809-1815.

Hofstad C, van der Linde H, van Limbeek J, Postema K. Prescription of prosthetic ankle-foot mechanisms after lower limb amputation. *Cochrane Database of Systematic Reviews* 2004;1-27.

2005

Bergman GJD, Winters JC, Groenier KH, Pool JJM, Meyboom-de Jong B, Postema K, van der Heijden GJMG. Aanvullende manuele therapie bij patiënten met schouderklachten. *Huisarts en Wetenschap* 2005; 48:438-443.

2006

Brouwer S, Dijkstra PU, Schiphorst Preuper HR, Göeken LNH, Groothoff JW, Geertzen JHB. ONDERZOEK : Test-hertestbetrouwbaarheid van de 'Functionele mogelijkhedenlijst' en de 'Werk & Handicap Vragenlijst' ingevuld door de patiënt. *Tijdschrift Bedrijfs- en Verzekeringsgeneeskunde* 2006; 14:217-223.

Reneman MF, Kuijer W, Brouwer S. Item validity of the physical demands from the Dictionary of Occupational Titles for FCE of clients with chronic back pain (comment, letter). *Work* 2006; 26:229.



Soer R, Gerrits EH, Reneman MF. Test-retest reliability of a WRULD functional capacity evaluation in healthy adults. *Work* 2006; 26:273-280.

2007

Baars ECT, Emmelot CH, Geertzen JHB, Rommers GM. Onderbeenamputatie wegens kritieke ischemie: morbiditeit, sterfte en mogelijkheden tot revalidatie (letter). *Nederlands Tijdschrift voor Geneeskunde* 2007; 151:2751.

Bieleman HJ, van Ittersum MW, Groothoff JW, Reneman MF, van der Schans CP, Oosterveld FGJ. Arbeidsbelastbaarheid van mensen met beginnende heup- en knieklachten, een verkennend onderzoek in het CHECK-artrosecohort. *Nederlands Tijdschrift voor Fysiotherapie* 2007; 117:225-232.

Eissens MH, Schut SM, van der Sluis CK. Early active wrist mobilization in extensor tendon injuries in zones 5, 6, or 7. *Journal of Hand Therapy* 2007; 20:89-91.

Jenks KM, de Moor J, van Lieshout ECDM, Maathuis KGB, Keus I, Gorter JW. The effect of cerebral palsy on arithmetic accuracy is mediated by working memory, intelligence, early numeracy, and instruction time. *Developmental Neuropsychology* 2007; 32:861-879.

Meek MF, van den Dool HJW, Robinson PH, Leeman JFWJ, Geertzen JHB. An uncommon cause of unilateral hand and forearm oedema. *European Journal of Plastic Surgery* 2007; 29:245-247.

Perez RSGM, Zollinger PE, Dijkstra PU, Thomassen-Hilgersom IL, Zuurmond WWA, Rosenbrand CJGM, Geertzen JHB. Richtlijn 'Complex regionaal pijnsyndroom type I'. *Nederlands Tijdschrift voor Geneeskunde* 2007; 151:1674-1679.

Reneman MF, Edelaar MJA, Jorritsma W, Jungbauer EHW. Uit de kliniek: Vroege Interventie: een landelijk netwerk voor arbeidsrevalidatie. *Tijdschrift voor Bedrijfs- en Verzekeringsgeneeskunde* 2007; 15:202-205.

Rietman JS, Geertzen JHB. Efficacy of intrathecal baclofen delivery in the management of severe spasticity in upper motor neuron syndrome. *Acta Neurochirurgica Suppl* 2007; 97:205-211.

Scholtes VA, Dallmeijer AJ, Knol DL, Speth LA, Maathuis CG, Jongerius PH, Becher JG. Effect of multilevel botulinum toxin A and comprehensive rehabilitation on gait in cerebral palsy. *Pediatric Neurology* 2007; 36:30-39.

Stegenga B, Dijkstra PU. Principes van evidence-based medicine toegepast in de tandheelkunde. *Nederlands Tijdschrift Voor Tandheelkunde* 2007; 114:155-160.

2008

Formsma SA, van der Sluis CK, Dijkstra PU. Effectiveness of a MP-blocking splint and therapy in rheumatoid arthritis: a descriptive pilot study. *Journal of Hand Therapy* 2008; 21:347-353.

Book chapters

2003

de Blécourt ACE, Schiphorst Preuper HR, Breedveld RJ. Chronisch pijnsyndroom in het houdings- en bewegingsapparaat. In: Meihuizen MJ, de Moor JMH, Mulders AHM (eds). *Kinderrevalidatie*. Assen, Van Gorcum, 2003: pp. 434-449.

Lettinga AT. Wetenschappelijke rationaliteit versus fysiotherapeutische willekeur; over de kracht en zwakte van het argumenteren in globale tegenstellingen. In: Hullegerie W, Lettinga AT, Verhagen AP (eds). *Fysiotherapie & Wetenschap; over de gespannen verhouding tussen theorie, onderzoek en praktijk*. Maarssen, Elsevier, 2003: pp. 125-146.

Luijk WHJ, van Leeuwen MA, de Blécourt ACE. Juveniele idiopathische artritis. In: Meihuizen MJ, de Moor JMH, Mulders AHM (eds). *Kinderrevalidatie*. Assen, Van Gorcum, 2003: pp. 434-449.

Reinsma GD, Douma KW, Sterken MW, Boorsma PG, van Weert E, Dijkstra PU. Fysiotherapie in de pre- en postoperatieve fase van longtransplantatie. In: Scholten-Peters GGM, Dijkstra PU, Vaes P, Verhagen AP (eds). *Jaarboek Fysiotherapie 2004*. Houten, Bohn Stafleu Van Loghum, 2003: pp. 61-75.

van Weert E, van der Schans CP. Kwaliteit van leven: relevantie voor de fysiotherapeut. In: Scholten-Peters GGM, Dijkstra PU, Vaes P, Verhagen AP (eds). *Jaarboek Fysiotherapie 2004*. Houten, Bohn Stafleu Van Loghum, 2003: pp. 151-162.

2004

Breedveld FC, Dautzenberg PLJ, Duursman SA, van der Linden S, Postema K, Roos RAC. Het bewegen: gaan, staan en doen wat men wil. In: Eulderink F, Heeren TJ, Knook DL, Ligthart GJ (eds). *Inleiding gerontologie en geriatrie*. Houten, Bohn Stafleu Van Loghum, 2004: pp. 101-137.

Dijkstra PU. Richtlijn mondholte orofarynxcarcinoom. In: Nederlandse Werkgroep Hoofd- Halstumoren (ed). *Fysiotherapie: trismus en schouderklachten na halsklierdissectie*. Nieuwegein, Van Zuiden CBO Communications, 2004: pp. 173-178.

2005

Geertzen JHB, Harden N. Physical and occupational therapies in Complex Regional Pain Syndrome type 1. In: Wilson PR, Stanton-Hicks M, Harden RN (eds). *CRPS: current diagnosis and therapy. Progress in pain research and management*. Seattle, IASP Press, 2005.

Sluiter JK, Reneman MF, Frings-Dresen MHW. Aandoeningen van het bewegingsapparaat van de bovenste extremiteit. In: Willems JHBH, Croon NHT, Koten JW (eds). *Handboek arbeid en belastbaarheid*. Houten, Bohn Stafleu Van Loghum, 2005: pp. epub.

2006

Marinus J, Dijkstra PU. Observationale onderzoeksdesigns. In: van Wilgen CP, Geraets JJXR, Marinus J, Nieuwboer A, Nijs J (eds). *Jaarboek Fysiotherapie Kinesitherapie 2007*. Houten, Bohn Stafleu Van Loghum, 2006: pp. 230-240.

Mulders AHM, Sturms LM, Maathuis CBG, van der Sluis CK, Gorter JW. Kinderrevalidatie. In: Kramer WLM, Ten Duis HJ, Ekkelkamp S, Kimpen JLL, Leenen LPH, Patka P (eds). *Handboek kindertraumatologie*. Utrecht, Tijdstroom, 2006: pp. 223-236.

Reneman MF. Vaststellen van arbeidsbelastbaarheid van mensen met chronische lage rugklachten. In: Marinus J, Dijkstra PU, Nijs J (eds). *Jaarboek Fysiotherapie Kinesitherapie, 2006*. Houten, Bohn Stafleu Van Loghum, 2006: pp. 225-234.

2007

Hijmans JM, Postema K. Active supplements in orthopaedic footwear, Fiction or reality? In: Geertzen JHB, Falkenström CH (eds). *Back to the future. Samenvatting lezingen. Gaan en staan waar je wilt. Toekomstige ontwikkelingen rondom orthopedische voorzieningen*. Assen, OIM Orthopedie, 2007: pp. 39-43.

2008

Dekker R. Prothesen en adaptaties voor sportbeoefening. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 485-495.

Dekker R. Het preoperative beeld bij de te amputeren patiënt. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 135-141.

Geertzen JHB, Dijkstra PU. Fantoompijn. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 283-299.

Geertzen JHB, Rietman JS. Seksualiteit. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 501-507.

Geertzen JHB, Rietman JS. Amputatie. In: Gianotten WL, Meihuizen-de Regt MJ, Son-Schoones N (eds). *Seksualiteit bij ziekte en lichamelijke beperking*. Assen, Van Gorcum, 2008: pp. 262-270.

Geertzen JHB. Aspecifieke lage rugpijn. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 45-48.

Meulenbelt HEJ, Geertzen JHB. Interface tussen stomp en prothese. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 273-283.

Rietman JS, Schiphorst Preuper H. De prothesevoet. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 321-339.

Rietman JS, Nederhand M, Postema K, Geertzen JHB. Instrumentele ganganalyse en de prothesiologie. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 435-451.



Rietman JS, Geertzen JHB. Postoperatieve behandeling van de geamputeerde patiënt. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 141-147.

Rietman JS, Geertzen JHB. Nieuwe en toekomstige ontwikkelingen in de amputatie en prothesiologie. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 507-513.

Rommers GM. Prothesegebruik bij ouderen. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 495-501.

Rommers GM. Amputatieniveaus. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 57-69.

Rommers GM. Epidemiologie van amputaties aan de onderste extremiteit. In: Geertzen JHB, Rietman JS (eds). *Amputatie en prothesiologie van de onderste extremiteit*. Den Haag, Lemma, 2008: pp. 49-57.

Books

2003

Geertzen JHB. *First public lecture. Vleugellam de verlenging in. (Broken-winged into extra time)*. Groningen, Centrum voor Revalidatie, Academisch Ziekenhuis Groningen, 2003.

Goeken LNH. *Farewell public lecture. Belastbaarheid bij chronische aspecifieke pijn. (Starin and capacity in chronic aspecific pain)*. Groningen, Centrum voor Revalidatie, Academisch Ziekenhuis Groningen, 2003.

Hullegie W, Lettinga A, Verhagen A, (red). *Fysiotherapie & wetenschap; over de gespannen verhouding tussen theorie, onderzoek en praktijk*. Maarssen, Elsevier, 2003.

Scholten-Peters GGM, Dijkstra PU, Vaes P, (red). *Jaarboek fysiotherapie/kinesitherapie 2004*. Houten, Bohn Stafleu Van Loghum, 2003.

2006

Dekker R, Postema K, Rommers GM, (red). *De orthopedische schoen*. Groningen, Centrum voor Revalidatie/ Instituut Wenckebach UMCG, 2006.

Geertzen JHB, Perez RSGM, Dijkstra PU, Kemler MA, Rosenbrand CJGM, (eds). *Richtlijn Complex Regionaal Pijn Syndroom (Evidence-Based Guidelines for Multidisciplinary Treatment and Diagnosis of Complex Regional Pain Syndrome Type I)*. Alphen a/d Rijn, Van Zuiden Communications BV, 2006.

2007

Geertzen JHB, Falkenström CH. *Back to the future : samenvatting lezingen : gaan en staan waar je wilt in de toekomst : toekomstige ontwikkelingen rondom orthopedische voorzieningen, 30 maart 2007, Congres Centrum The Harbour, Zeewolde*. Assen, OIM Orthopedie, 2007.

2008

Emmelot CH, Geertzen JHB, red. *Handletsels en CRPS-I*. Nijmegen, PAOG Heyendal, UMC Radboud, 2008.

Geertzen JHB, Rietman JS, (eds). *Amputatie en prothesiologie van de onderste extremiteit (Amputation and prosthetics of the lower limb)*. Den Haag, Lemma, 2008.

Zahavi BAA, Martina JD, Geertzen JHB, red. *Postgraduate Course Revalidatiegeneeskunde*. Curaçao, Nederlandse Antillen, NASKHO, Stichting Revalidatiecentrum Curaçao, 2008.

PhD theses (co)supervised

2003

- Schönherr MC. *Functional outcome after Spinal Cord Injury: activities and participation*. Supervisors: prof WH Eisma, prof JW Groothoff
- Sturms LM. *Pediatric traffic injuries; consequences for the child and the parents*. Supervisors: prof WH Eisma, prof HJ ten Duis, prof JW Groothoff
Co-supervisor: dr CK van der Sluis
- SHARE thesis (All theses: University Medical Center Groningen, University of Groningen, unless otherwise stated)

2004

- Brouwer S. *Disability in chronic low back pain; psychometric properties of ADL- and work-related instruments.*
Supervisors: prof JHB Geertzen, prof JW Groothoff, prof LNH Göeken
Co-supervisors: dr PU Dijkstra
- Dekker R. *Long-term outcome of sports injuries .*
Supervisors: prof HJ ten Duis, profs WH Eisma, prof JW Groothoff
- Huitema RB. *Functional recovery of gait after stroke.*
Supervisors: prof K Postema, prof WH Brouwer, prof Th Mulder
Co-supervisor: dr AL Hof
- Reneman MF. *Functional capacity evaluation in patients with low back pain: reliability and validity.*
Supervisors: prof JW Groothoff, prof JHB Geertzen
Co-supervisor: dr PU Dijkstra
- ter Schegget-Slaterus MJ. *The quality of expert advice in relation to the act on facilities for the handicapped.*
Supervisors: prof JW Groothoff, prof WH Eisma

van der Linde H. *Prosthetic prescription in lower limb amputation; development of a clinical guideline in the Netherlands.*

Supervisors: prof K Postema, prof JHB Geertzen

van Wilgen CP. *Morbidity and neck dissection in head and neck cancer patients. A study describing shoulder and neck complaints, and quality of life.*

Supervisor: JLN Roodenburg

Co-supervisor: PU Dijkstra

2005

- Bergman GJD. *Manipulative therapy for shoulder complaints in general practice.*
Supervisors: prof B Meyboom-de Jong, prof K Postema
Co-supervisors: dr JC Winters, dr GJMG van der Heijden
- Rietman JS. *Treatment related morbidity in breast cancer patients; a comparative study between sentinel lymph node biopsy and axillary lymph node dissection.*
Supervisors: prof Wh Eisma, prof HJ Hoekstra, prof JHB Geertzen, prof JW Groothoff
Co-supervisor: dr PU Dijkstra
- van de Leur JP. *Clearance of bronchial secretions after major surgery.*
Supervisors: prof JH Zwaveling, prof JHB Geertzen
Co-supervisor: dr CP van der Schans

2006

- Kuijer W. *Measuring disability in patients with chronic low back pain; the usefulness of different instruments.*
Supervisors: prof JHB Geertzen, prof JW Groothoff
Co-supervisor: dr PU Dijkstra

Stienstra Y. *Mycobacterium ulcers disease in West Africa.*

Supervisor: prof TS van der Werf

Co-supervisors: dr PU Dijkstra, dr WTA van der Graaf

2007

- Nijhuis BGJ. *Team collaboration in Dutch paediatric rehabilitation - cooperation between parents, rehabilitation professionals and special education professionals in the care for children with cerebral palsy.*
Supervisors: prof K Postema, prof H Nakken, prof JW Groothoff
Co-supervisors: dr HA Reinders-Messelink, dr ACE de Blécourt
- van Weert E. *Cancer rehabilitation - effects and mechanisms.*
Supervisors: prof K Postema, prof R Sanderman
Co-supervisors: dr C van der Schans, dr JEHM Hoekstra-Weebers, dr R Otter

- SHARE thesis (All theses: University Medical Center Groningen, University of Groningen, unless otherwise stated)

