

# HFNL Toepassingsprijs / Pieter Rookmaaker Prijs

Uit het juryrapport: “In de zorg is het een groot probleem voor zorgverleners om mensen met een fysieke beperking te helpen aan- en uitkleden. Dit project heeft systematisch ‘best practices’ verzameld en middels een website met foto’s en video’s ontsloten voor zorgverleners. Voor een situatie waar nog geen goede oplossing voorhanden was, is een nieuw product ontwikkeld: de Handy Pants. In dit artikel wordt de totstandkoming van de ‘Handy Pants’ beschreven.

**Yvonne de Leeuw-van Zaanen en Ondine de Hullu**

### Improving quality of care for home care worker and client

The incidence of work-related musculo-skeletal complaints among workers in healthcare is high. Ergonomic interventions are primarily focused on moving and lifting patients. Static postures during care are stated to be an often unseen risk factor. Fokus Wonen, an organization that provides home care at about 100 locations with 2400 workers serving 1400 people with physical disabilities, wanted to know how they could reduce physical strain of their employees, especially regarding (un)dressing.



Figure 1. Prototype 1.

to questions about physical strain when dressing and undressing patients. The patient-centered questions from the teams were ergonomically approached by physiotherapists specializing in occupational health & ergonomics (PTOHE) to find organizational, technical and behavioral solutions. The physiotherapists also transferred knowledge and skills to move in a less demanding manner when helping clients, taking into account their illnesses and circumstances. In addition, preference was given to proposed solutions that also benefited the client. Clients, for example, must also experience less strain on the skin or on the legs while being helped. The problems and solutions

### Interactive Ergonomics & Patient-Centered Approach

Between April 2012 and December 2013, 220 interactive training sessions were given to around 2400 home care workers at Fokus Wonen with the aim of finding solutions

collected during these 220 sessions were systematically collected and shared among the physiotherapists so that other teams could benefit from these ideas.

Table 1. Development of Handy Pants by testing prototypes.

	Prototype description	Feedback received
1	Two layers of slide material covers the entire leg, from the toes up to the hip. The inner layer is open along the sides as is usual for compression stockings. The outer layer has a drawstring to remove Handy Pants.	Clients complain about strain and discomfort on the (first) toes while putting on trousers. It is not easy to apply the inner layer in the right way. Employees suggest to change the color of one layer in order to better distinguish the inner and outer layers. Figure 1.
2	Two layers of slide material in different colors covers the entire leg, not the foot. The inner layer is closed around the leg. Under-foot strips have been added to keep the Handy Pants in place while putting on trousers. The strip of the outer layer is used to remove Handy Pants.	Handy Pants works well for the legs but the hips are not covered. In the Handy Pants a balloon forms above the trousers when putting them on, inhibiting the sliding effect.
3	A hip piece has been added to prototype 2. Small openings in the upper end of the Handy Pants allow the air to flow out.	Handy Pants works well for the legs and hips. Figure 2.

## Handy Pants

One of the frequently mentioned daily problems was getting on trousers. This was especially the case for regular and tight trousers and wearing two layers (long underwear or tights) in wintertime. The benefits of adjusting the trousers were discussed from the point of view of both the home care worker as well as the client. Despite the benefits of custom clothing, the teams indicated that some clients prefer wearing normal clothing. No tool was available on the market that supports care givers and their clients in putting on trousers in a less demanding way. Therefore, the physiotherapists worked together with a producer of donning and doffing aids for compression stockings to develop the Handy Pants after several prototypes were tested (Table 1, Figure 1-3).



Figure 2. Finalized Handy Pants.

## Sharing is caring

Home care workers work independently with a client, so learning from colleagues is not as effective as in institutional care. Because we wanted to share the given solutions for dressing and undressing with a wider audience, the Amsterdam University of Applied Science was involved. Students from the Healthcare and Technology departments worked together to develop [www.zorgenkleden.nl](http://www.zorgenkleden.nl) in 2016. This webpage is structured by the way practical questions arise: by kind of clothing, client's posture and ability of the client to assist (mobility class). Organizational, technical and behavioral solutions are provided, as well as basic principles that optimize client assistance, prevent additional physical reactions from the client and reduce the physical strain on both employee and client. After testing among home care workers [www.zorgenkleden.nl](http://www.zorgenkleden.nl) was presented in workshops at the national day for 'Ergocoaches in healthcare' in 2017. All 50 participants would use the website and recommend it to others, although they suggested posting videos for a better understanding of the application of solutions and to tackle a foreign language or reading problem. In 2018 we were engaged in a funded project for making video instructions. By the end of 2018 7 video instructions were published and first promoted at the national day for 'Ergocoaches in healthcare' in October 2019. The Handy Pants video is most viewed, about 1700 views at the beginning of 2020. Recently plans are made to develop an E-learning.

## Lessons Learned

1. The Handy Pants are well appreciated by employees and clients.
2. [www.zorgenkleden.nl](http://www.zorgenkleden.nl) is recommended by Ergocoaches.

3. Video instructions are appreciated and viewed more than written instructions are read.
  4. Do not limit your ideas by the boundaries that you see. When developing the Handy Pants, it was expected that the hips could not be covered due to anticipated difficulty in removing the sliding material after putting on the trousers. After completion, the hip part is highly appreciated by users!
  5. Dare to ask - working together brought this project further and has also given great pleasure to work.
- It is a great honor to receive the human factors award for this project.

**With special thanks to:** Marie-Thérèse Hageman, Anita Zijdeveld physiotherapists working in occupational health & ergonomics (PTOHE) for their work in this project; Home care workers, clients & training department at Fokus Wonen; Inga Mol for sharing her haptic approach; Elco van Liere for the cooperation in the development and production of Handy Pants; Students and supervisors at Amsterdam University of Applied Science, minor Health & Technology for developing [www.zorgenkleden.nl](http://www.zorgenkleden.nl); Nico Knibbe for involving us in the making of videos funded by A+O VVT.



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