

Edema Stocking

- For partners

The edema stocking is a new development product that can instantly monitor fluid retention and fluid reduction for patients suffering from edema caused by congestive heart failure, preeclampsia and other disorders where edema occurs.

For healthcare professionals and researchers the product can be utilized as an advanced tool, providing more intensive and individualized medical treatment; a paramount solution for improved and intelligent healthcare that is cost effective.

Edema Stocking

- Monitoring accumulation of excess fluid in the lower extremities

Content

| | |
|--------------------------------------|---|
| Introduction | 3 |
| Edema Stocking | 4 |
| Edema Stocking | 4 |
| Telecare..... | 4 |
| The Edema Stocking and Telecare..... | 4 |
| Benefits | 5 |
| Collaborative partners: | 5 |
| Clinical collaboration:..... | 5 |
| Status | 6 |
| History..... | 6 |
| Status..... | 6 |
| Contact..... | 6 |



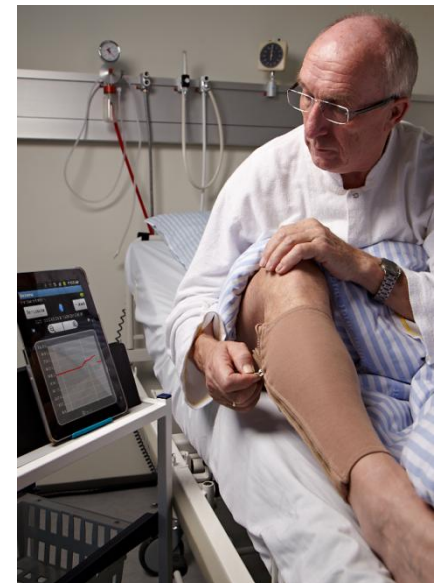
Introduction

Patients suffering from edema make frequent visits to the hospital or GP to avoid their condition from advancing and to adjust medication.

Today healthcare staff uses subjective assessments when controlling edema, however only a momentary illusion of the condition is shown. The issue is that the patient's condition is likely to fluctuate whereby stability is uncertain from one day to the next, for instance during the appointment the patient appears fine, however two days later the condition may have exacerbated.

Members of healthcare staff do not receive enough data about the condition; therefore there is no guarantee that the patient will receive correct and timely treatment.

There is currently no scientific or objective way to measure patient's edema of the legs, however there is a strong need for both health care staff and patients.



Edema Stocking

Product key features:

- The close-fitting, ergonomic design of the stocking ensures that the placement of sensors is kept at the same position, ensuring precise and reliable data
- Functions as a compression stocking
- Non-invasive, non-obtrusive and comfortable monitoring
- Android application for online monitoring of measurements

Edema Stocking

The Edema Stocking is a device that monitors and measures changes in leg volume for patients suffering from edema in the lower limbs.

The fabric of the stocking is especially designed and functions as a compression stocking. Strain gauges are embedded as a stretch sensor that measures every change in resistance.

The design makes it possible to adapt the size and circumference of the stocking, by being able to zip different sizes on to the electronic part - S, M, L and XL.

The measured data is wirelessly transferred to an advanced android application for the patient and relatives, which displays progressive changes in leg volume.

The data is automatically sent to the clinicians via real-time technique making monitoring more secure and reliable.

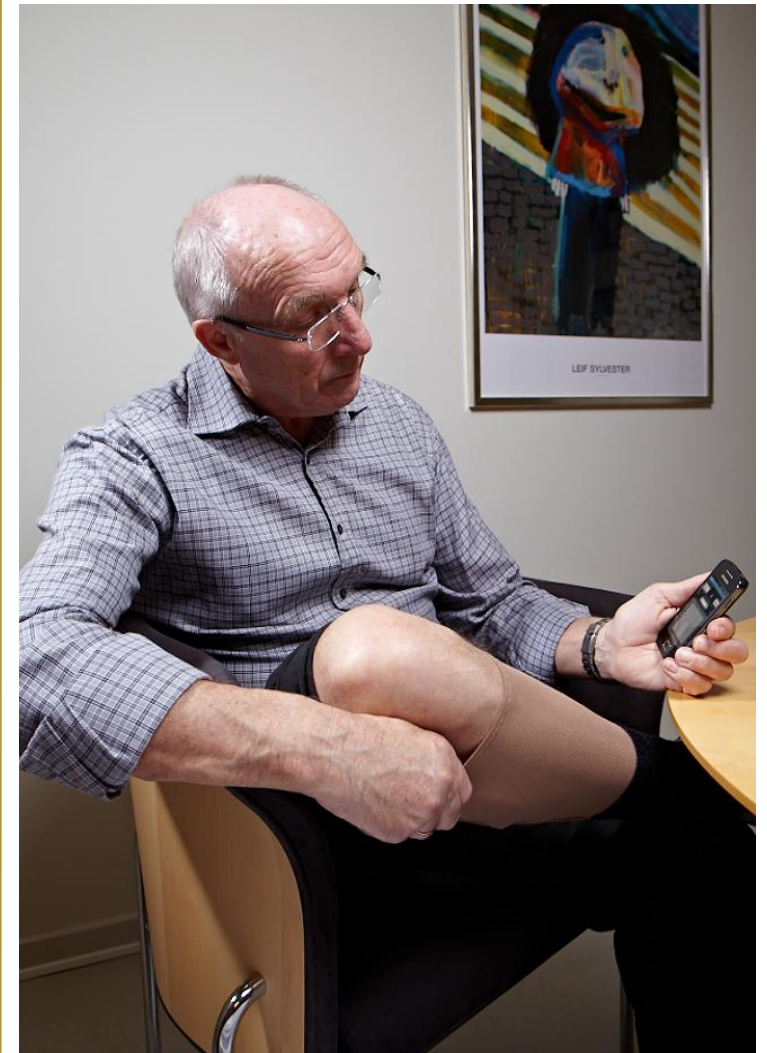
Telecare

Telecare is a technological concept that allows a modern approach for the treatment of diseases.

An advantage of telecare is that this concept allows for more intensive monitoring of the disease stages and therefore opens new options for early and timely interaction.

The Edema Stocking and Telecare

The Edema Stocking can be used as an integrated part of telecare by adapting and stabilizing medication. Patients suffering from heart failure, pre-eclampsia and other edema related prognosis can utilize the Edema Stocking as an integrated element in the telemedicine concept and thus open for a new possibility of patient tailored treatment of their disease condition.



Benefits

The Edema Stocking can be beneficial for a number of partners from various industries.

Collaborative partners:

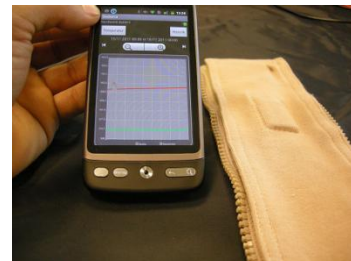
We can offer collaboration with technology companies for proprietary customization and application development in innovative health initiatives.

For the IT industry there is a unique opportunity to develop compatible applications supporting mobile phones, PC's and tablets for the product.

For compression manufactures, the product can be used for trials as it is designed to be compatible with compression stockings. It will be possible to measure the effect of the company's own brand of compression stockings

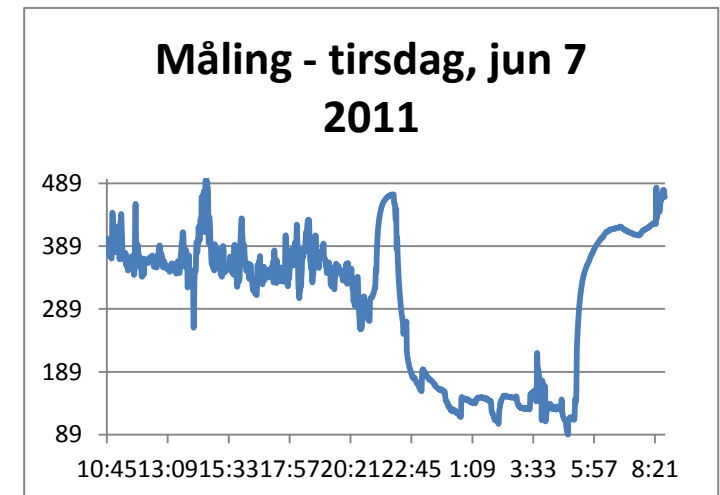
Clinical collaboration:

For medical staff using the product as an integrated part of the treatment against edema, it is possible to receive more intensive, individual and adjusted medical treatment. By using the Edema Stocking combined with the telecare application, makes it feasible to receive very precise records of small changes in leg volume. Furthermore it is possible to report these changes wirelessly to the hospital for observation so that early warning signs of patient deterioration can be detected



The Edema Stocking helps to improve on the quality of life for edema patients:

- More qualified and comprehensive level of online communication and forums are available
- Patients have the benefit of being involved in disease monitoring at a higher level
For home use the stocking has a similar compression rate as a normal compression stocking with the ability to constantly monitor leg volume, and can be used additionally as a pedagogical tool to monitor the effect of compression
- The stocking can be worn during exercise giving an immediate feed-back to the patient about the actual volume loss



Status

History

The Edema Stocking concept was originated by Prof. John Michael Hasenkam, where he wanted to find a simple, effective and reliable solution for patients and medical staff to measure significant changes in volume of the lower limbs, and the theory of using a stocking with an electronic strain gauge was created.

Ohmatex ApS is an intelligent textile company that was approached to explore the feasibility of the concept and is now developing the final stages of the Edema Stocking.

Status

The first version of the stocking has been designed and developed, and is able to send real-time data via a Bluetooth connection for mobile phones. Data can be stored on an excel file that is directly sent for clinical evaluation. It is also possible to store data on an SD card.

The edema monitoring concept has been through some technical development stages that have shown desirable and reliable results, whereby clinical evaluations have been initiated.

A new spin-off company, Edema ApS, has been launched with Ohmatex ApS and prof. Michael Hasenkam as owners, working exclusively with the development of medical and biological measuring equipment concerning edema.

Contact

For more information, questions, etc. contact;

Prof. J. Michael Hasenkam E-mail: michael@hasenkam.dk

Ohmatex ApS E-mail: chd@ohmatex.dk

