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# Experience reports and case studies about the efficiency of Thevo-mobility beds for dementia patients

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Management and execution:

Ute Geitmann

Institute IGAP, functional management care division

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# Experience reports and case studies about the efficiency of Thevo-mobility beds for dementia patients

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## Foreward:

### Monitoring the results and efficiency of Thevo-mobility beds for people with dementia

*“One can say that with the use of mobility beds for dementia patients the sleep behavior is improved, the night’s sleep is more restorative, and as a result, participation in daytime activities increases. Also the social behavior and the amenability of the residents improved. The hours spent in bed in the daytime became less and Sun downing Syndrome behavior can be reduced. In some cases, autostimulative effects are reduced.”*

*Walter Manz, Director of Nursing, Elisabethstiftung (Elisabeth Foundation) Lauingen*

The residents participating in the experience reports lived in protected areas for dementia patients. The intervention concepts applied were validation, biography work, and memory maintenance. Participants were also given perception and movement support, and orientation training. It was considered that a direct interview of people with dementia provides limited information due to their condition. Therefore the observations made by the caregivers, who knew the residents for a long time, were given strong consideration.

Abilities of everyday life were monitored such as independent personal hygiene, dressing, use of the toilet without assistance, eating and food intake.

Further observations were made of the patient’s willingness to participate in household activities, and their interaction with other residents or nurses. Orientation into the daily routine and residential environment was observed. Affective behavior, such as agitation, impatience, fear, autostimulation, or depressive temper was monitored, as well as the behavior towards cohabitants or nurses. Many important and key questions raised in the experience report were regarding the day/night rhythm and sleep behavior.

## **Summary of results**

After using the Thevo mobility bed an improved quality of sleep was recognized. The participants who did not have a distinctive night activity slept longer and did not get up as often as before using the mobility bed.

### **Sleep**

With the mobility bed they went to bed on average 1 – 2 hours earlier. There they stayed, came to rest, and fell asleep in the course of the evening. Sleep habits during the day were maintained and even intensified in individual cases.

### **Activities**

The majority of the participants, showed a growing willingness to assist in the household and participate in activities with the group. They further displayed more open-mindedness towards the cohabitants. If the trait of impatience and even defiance towards the cohabitants or nurses was a dominating behavior, a certain kind of mental balance could be observed as the study progressed.

This balance was also noticeable during daily care. This was characterized (corresponding to the cognitive abilities) by assistance in personal hygiene and dressing or by tolerating the care of the nurses.

### **Pain**

Participants suffering from pain slept better. When asked they described a decrease in pain. In one case, the dose of sleeping pills could be reduced. The result was their daytime alertness improved and participation in daily events increased again.

## Summary of test series “ThevoVital prototype” - final report

Mrs. H., 80 – 85 year old dementia patient and resident of a protected living area. Mrs. H. has been living in this special environment for over 3 years. In the course of the years, her clinical profile had become worse.

At the beginning of the study Mrs. H. already had limited cognitive abilities and a nurse had to wash and dress her. At times she expressed the need to use the toilet, but at other times she needed to be reminded of it. She then used the toilet almost without any help. She only required help in dressing again afterwards.

Mrs. H. was friendly and open-minded towards the care staff, but reacted angrily on physical approach of cohabitants. This was characterized by defensive demeanor and the search for distance. She suffered from fear of loss, as a consequence of her family history.

If asked, she would sometimes take part in group activities, but showed no personal initiative to do so. She showed a considerable interest in household activities.

Her day/night rhythm was disturbed. Mrs. H. slept for several hours during the day, as well as in the night, and roamed through the living area searching for something to do.

After fitting her bed with the Thevo mobility system, her sleep behavior changed. She lay in her bed and slept for many hours during the day and at night. When she was awake she roamed a little, but was considerably calmer. From time to time she adjourned to her room to take a nap.

In the morning she had to be awakened, sometimes pretending to be asleep. The nurses reported that it seemed to them as if Mrs. H. needed recreation. After approximately 14 days of becoming accustomed to the system, the amount of sleep during the day decreased.

The night's sleep still lasted for several hours. During the day she sometimes took a nap. Her sleep was of a better quality. Her mental balance was remarkable.

Mrs. H. was still very reserved towards the other residents. She was more open for household activities and towards the cohabitants. She still had to be asked to carry out measures of the daily routine, but she didn't refuse them.

She favored household activities.

Mrs. H. still showed her roaming behavior, but was not as restless and determined as before. Until that point some of the nurses regarded the behavior changes noticed during the test period of the Thevo mobility bed as a coincidence and attributed them to changes in the course of disease.

The Thevo mobility bed was removed after 60 days. The exchange was made during the day so Mrs. H. would not realize it. The nurse in charge reported that Mrs. H. showed her dislike immediately when she went to bed for her afternoon nap. She was very unhappy and didn't stay in bed for long. Monitors observed a significant reduction in the quality of sleep. The day/night rhythm was disturbed once again.

**Wohnpark**

**„Sonnenhof“**

**Wohnpark “Sonnenhof”**

2008-09-30

**Kastanienstraße 29**

**39517 Dolle**

## **Summary of test series “ThevoVital prototype” - final report**

The aim of the test was to find any possible effects the active principle of “Micro-Stimulation” had on the quality of sleep and on the general condition of people with dementia.

The test ran over a period of 60 days with a total of 2 residents in our institution.

The residents participating in the test live in a residential group for dementia patients comprising a total of 20 residents.

### **Description of residents before, during, and after test period.**

Mrs. Kö. is between 70 and 80 years old. At the beginning of the test she lived in the residential group for 2 months. Mrs. K. lives in a single room. Before the test started, Mrs. K. did not participate in personal hygiene or in dressing. She had trouble settling in and suffered from a permanent state of restlessness. Her sleep behavior was irregular. In the daytime she roamed through the living area in an undetermined and uncontrolled way.

After sleeping on the prototype of ThevoVital for a period of time, she participates in personal hygiene and dressing, depending on her daytime attitude. She is less frequently restless.

Mrs. K. is between 80 and 85 years old and has been living in a single room for 2 years and 2 months. Before starting the test, Mrs. K. required assistance in personal hygiene and in dressing. She did not pursue household activities on her own but was willing to participate, if asked. She was restless, roamed, and had a disturbed day/night rhythm. After a certain period of familiarization with the prototype of ThevoVital, it became apparent that her night's sleep improved. She is more outgoing. Depending on her daytime attitude, she pursues more independent household activities.

Angelika Beyer  
WBL  
(residential park)

Annegret Hahn  
Director of the Wohnpark

**Elisabethenstiftung Lauingen (Donau)**

**(Elisabeth Foundation Lauingen)**

*Psychiatry- and Nursing Centre*

*including social-therapeutic residential home,*

*nursing home, short-term- and long-term care*

**Herzog-Georg-Straße 45**

Lauingen, 08-07-22

**89415 Lauingen a.d. Donau**

## **Final test report of the ThevoVital prototype, group “Andreas”, St. Elisabeth, Lauingen**

Description of group “Andreas”:

Group “Andreas” is a geriatric-psychiatric locked living unit with 10 residents. The unit is specially oriented towards people with dementia. The care model applied is the one of Nancy Roper.<sup>1)</sup> Therapeutic modalities are validation, biography work / memory maintenance, and milieu therapy.

### **Description of testing phase:**

ThevoVital prototypes from the Thomashilfen company were tested over a period of 60 days with a total of 4 residents. The aim of the test was to find any possible effects the active principle of “Micro-Stimulation” had on the quality of sleep and on the general condition of people with dementia. The first documentation was made before the use of the prototype of ThevoVital, then once a week during the 60 days of testing.

The condition of one resident worsened a lot before, during, and after the test, so that the following examination is laid out for 3 residents only. The changes in the condition of this one resident could not be implicated in the test of ThevoVital.

Description of residents before, during, and after testing the ThevoVital prototype:

Mrs. A. has been living in this institution for a  $\frac{3}{4}$  year; she is between 80 and 85 years of age.

### **Before using the prototype of ThevoVital:**

She sometimes requires prompting to carry out measures of daily living. She sometimes refuses them. She is restless, anxious, or depressive at times. She sleeps for several hours at night, and takes several naps in the daytime.



**During testing the prototype of ThevoVital:**

Occasionally there are days now, on which Mrs. A. can do her personal hygiene without external prodding. She shows a significantly reduced defensive demeanor at mutual activities, sleeps considerably less in the daytime, but longer and more continuous at night. This makes her day-/night rhythm considerably more stable.

**After completion of testing the prototype of ThevoVital:**

Often Mrs. A. must be asked to participate in activities. Her orientation in the daily routine and living environment is a bit worse but, it is obvious that since beginning of the test and also afterwards, Mrs. A. is much more open-minded towards caregiving staff and other residents.

**Mrs. B:**

Mrs. B. is aged between 80 and 85 years and has been living in the institution for approximately 15 years.

**Before using the prototype of ThevoVital:**

Mrs. B. requires prompting to carry out measures of daily living at times. She sometimes refuses activities, is oriented in daily routine and living environment at most times, but shows a distinctive roaming behavior. She sometimes has a Sun downing Syndrome and roams at night looking for occupation.

She sometimes sleeps for several hours in the daytime.

**During testing the prototype of ThevoVital:**

Mrs. B. is more amenable to other residents and refuses mutual activities less often. She is considerably calmer in the daytime, taking naps at times. Due to increased number of activities in the daytime she is considerably calmer at night, although her roaming behavior never stopped entirely.

**Mr. C:**

Mr. C. is aged between 70 and 80 years and has been living in the institution for approximately 2 years.

**Before using the prototype of ThevoVital:**

Mr. C. requires assistance in all activities of personal hygiene, respectively this has to be done completely by caregiving staff. He often needs prompting to complete these activities. He participates in daytime activities at times, sometimes needs to be encouraged, and refuses

participation at other times. Mr. C. is oriented in daily routine, never is aggressive, and restless at times. He tends to auto stimulation and sometimes rocks himself into sleep. He sometimes suffers from Sun downing Syndrome.

#### **During testing the prototype of ThevoVital:**

Mr. C washes himself occasionally without assistance and requires prodding to complete this activity. His auto stimulative behavior (rocking into sleep) is considerably reduced. He shows an increased willingness for daytime activities and is considerably more amenable. The Sun downing Syndrome is no longer noticed.

#### **Conclusions:**

One can say that with the use of mobility beds for dementia patients the sleep behavior is improved, the night's sleep is more restorative, and as a result, participation in daytime activities increases. Also the social behavior and the amenability of the residents improved. The hours spent in bed in the daytime became less and Sun downing Syndrome behavior can be reduced. In some cases, auto stimulative effects are reduced.

#### **Elisabethenstiftung**

#### **Lauingen/Donau**

#### **Walter Manz**

*Director of Nursing*

*MBA for hospitals*

<sup>11</sup>The Roper, Logan and Tierney model of nursing (originally published in 1980, and subsequently revised in 1985, 1990 and the latest edition in 1998) is a model of nursing care based upon activities of living(ALs). It is extremely prevalent in the United Kingdom, particularly in the public sector[citation needed]. The model is named after the authors - Nancy Roper, Winifred W. Logan and Alison J. Tierney

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mr. G.\*

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Mr. G. is resident of an inpatient care facility and suffers from dementia stadium II. Mr. G. is a quiet and well-balanced cohabitant, but is often restless at night, doing nightly “rounds” through his living area (“... he checks, if everybody is still there...”). If something courts his resentment or makes him nervous, this roaming sometimes disturbs his cohabitants.

An improved night’s sleep and reduction of Mr. G.’s roaming at night is expected. By improved recreation at night, also a better day’s form is expected.

The test begins on July 31, 2009 and is scheduled for duration of four weeks. After one week the “rounds” have become considerably less. Also the cohabitants are no longer being disturbed. After this short time period the caregiving staff does not yet dare to say whether this behavior change may endure.

After another three weeks the nightly roaming ceases completely. At night Mr. G. gets up only to use the toilet and lies down again afterwards. Mr. G. often sleeps until late morning. He is significantly more rested. The stress that his nightly roaming sometimes caused him has gone.

**Ute Geitmann**

*Director nursing care*

Bremervörde, September 18, 2009

*\* For reasons of data protection, the person’s name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital) Test person: Mr. M.\* from B.

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Mr. M., 68 year old patient with progressed dementia stadium III, lives at home with his wife, his caregiver.

He has contractures in the joints of his hands and feet and high muscle tone. The high tone shows especially when he is moved by another person and during nursing measures. His muscle tone can be reduced by stretching out arms and legs, as well as by calmly describing the nursing measures being taken. Re-positioning or diaper-changing makes his muscle tone increase again. This makes these measures quite difficult to take because of the high muscular defense. Moreover, these measures are always accompanied by bawling of Mr. M.

Mr. M. sleeps poorly and screams when awaking. He is immobile and therefore at risk to develop pressure sores. For pressure care, he has an alternating pressure air mattress in his bed. Drinking and eating is possible only if done very slowly. Mr. M. chokes often and has a strong cough.

His wife wants her husband to test the mobility bed ThevoVital, based on the principle of MiS Micro-Stimulation. This is not possible because of the existing pressure sore risk.

Therefore, the mobility bed ThevoautoActiv, used for prevention and treatment of pressure ulcers, is put to test.

On July 28, 2009 the alternating pressure air mattress is replaced by ThevoautoActiv. After just two nights improved sleep behavior can be noted. Mr. M. screams less when awakening. The follow-up after four weeks and after another two weeks shows that Mr. M. continues sleeping more calmly. He sleeps longer, as well. He seldom screams when awakening. This change is of particular importance at night, as this also allows his wife sleep better, and they are better rested in the daytime.

A completely new experience is to see, how Mr. M. calmly lies in his bed after awakening, listening to the music that is played regularly in his room. His facial features changed considerably. He smiles again and the laugh lines by his eyes are back. His facial features are relaxed.

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## Continuation International-Report

### Test person: Mr. M.\* from B.

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His wife reports that, when talking to him, she can see the whimsical smile and smirking, reminding her of the man he was before his illness. Nursing measures like washing, change of position or changing diapers are easier, since muscular defense is considerably reduced. Just like before, Mr. M. is described the measures before they are taken.

His wife cannot help but think that Mr. M. is concentrating to support movements and measures. Taking nursing measures is facilitated and, unlike before, Mr. M. does not bawl anymore.

Even visitors recognize the changes in Mr. M.'s behavior.

After completion of the test, the wife of Mr. M. consults the family doctor and initiates the purchase of ThevoautoActiv through their health insurance.

The changes described, and especially the facilitation of everyday care, gave sufficient reason for the health insurance company to approve the purchase, his wife reports.

**Ute Geitmann**

*Director nursing care*

Bremervörde, September 18, 2009

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mr. B.\*

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Mr. B. is resident of an inpatient care facility and suffers from dementia stadium II.

Mr. B. is very restless, has broken sleep patterns, and walks about a lot both during daytime and at night. He often is unbalanced, irritable and impatient toward cohabitants and caregiving staff. He expresses his displeasure by screaming. For quite some time Mr. B. has had hallucinations. He receives strong medication to counteract them.

He shall test ThevoVital, as an improvement of his quality of sleep and thus an improved daytime form and better balance is expected.

The test begins on July 8, 2009 and is scheduled for duration of 2 weeks. After just two nights caregiving staff reports an improved night's sleep. Remarkable is that he has a calmer sleep and that restlessness and determination at night have settled.

Mr. B. sleeps longer now. "Now, he goes for breakfast at the last moment", a nurse reports.

It is very noticeable that Mr. B. reacts calmly and is more accessible toward his environment. His restlessness and imbalance have reduced significantly.

His loud expressions of displeasure are heard less often.

Hallucinations have slightly decreased, making the demand for medications decline. Whether this is due to the development of his illness or to his improved overall condition, cannot be assessed with certainty. It is, however, obvious that the improved sleep supports his balance and that his restlessness and stress is significantly reduced.

"He seems to feel comfortable", the caregiving staff notices, and this is important to them.

The care facility has provided Mr. B. with ThevoVital permanently.

**Ute Geitmann**

*Director nursing care*

Bremervörde, September 18, 2009

*\* For reasons of data protection, the person's name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mrs. F.\*

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Mrs. F. is a resident of an inpatient care facility and suffers from dementia stadium II. Mrs. F sleeps poorly and is restless. The caregiving staff describes her as having internal tension.

There is strong muscular tension (particularly in her back muscles) and muscular defense reflex during dressing. Although she is mobile, she is quite reluctant to move around.

She sings a lot. Mrs. F. rarely joins group meals. One expects an improved and more restorative sleep in the course of testing ThevoVital, and thus an improved attitude during the day.

The test began on June 18, 2009 and scheduled for a 14 day duration. After one week, the caregivers report that Mrs. F. slept better and appears more relaxed. It is noticeable that Mrs. F. sings less and “at times she now joins group meals”. The summary after 14 days clearly shows that Mrs. F’s sleep improved and she feels happier. The muscular defense during dressing is significantly reduced and she moves easier.

It appears to the caregiving staff as if before the test she had pain when moving. This forced her to use a muscular defense relieving posture.

Because of the satisfying test results, ThevoVital is left with Mrs. F.

***Ute Geitmann***

*Director nursing care*

Bremervörde, September 18, 2009

*\* For reasons of data protection, the person’s name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mrs. A.\*

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Mrs. A. 77 years old, suffers from dementia stadium I and has been a resident of an inpatient care facility for three months. Prior to this she lived on her own, managing her own household. Then her family realized her behavior. Due to nightly roaming, she was brought home by police several times. She was disorientated in these situations, wearing only a nightdress. This roaming behavior made her children conclude that their mother could no longer live on her own at home. They decided to move her to a senior citizen residence.

Mrs. A. is a very communicative person and enjoys talking to co-residents and caregiving staff. She also is a very mistrustful person. She reacts angrily to situations or actions of others that she does not understand. This often leads to abusive language. She is very active in the daytime, on the go in the living area, and open for conversations. Her urge to “go home” can be kept under control by distractions and conversations.

Mrs. A. participates in group meals. At night, Mrs. A. becomes restless, has problems falling asleep, and her sleep is disturbed frequently. As a consequence, she roams through the living area in her nightdress, also entering rooms of her cohabitants. Then if she is approached, she does not know where she is. These moments trouble her very much. This then makes her feel very low. Such experiences intensify her mistrustfulness.

Because of short and disturbed nights, she lacks much needed rest, which affects her daytime attitude. Mrs. A. became increasingly unbalanced and mistrustful towards cohabitants and caregiving staff. The nursing staff decided to use ThevoVital with Mrs. A. to improve her night's sleep, thus minimizing nightly restlessness and roaming.

After using ThevoVital for two weeks, Mrs. A. completely stopped roaming at night. In the daytime, she is still very much on the go in the living area. She still often expresses the desire to go home. The caregivers do not consider this problematic. They escort her for a few meters and can then persuade her to turn back by distraction and conversations. Mrs. A. sleeps better at night. This makes her significantly better rested and balanced.

Her mistrustfulness is now minimal. The disputes and abusive language involved are somewhat reduced.

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# Continuation International-Report

## Test person: Mrs. A.\*

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The nurses notice that she sleeps better and her satisfaction with her environment has grown. Nightly irritations from encounters in strange rooms have stopped. This decreases the situations in which she becomes aware of her own deficits or makes her suspect fraud.

She still enjoys talking to cohabitants. She made a friend in her living area with whom she enjoys spending time, having long conversations. Sporadically, she participates in organized activities in the house.

**Ute Geitmann**

*Director nursing care*

Bremervörde, September 18, 2009

*\* For reasons of data protection, the person's name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mrs. C.\*

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Mrs. C. is 86 years old. She suffers from dementia stadium II and has been a resident of an inpatient care facility for three years.

Mrs. C. has significantly limited daily living skills. She is mobile with a walker. Using it, she is very much on the go in her living area. She seeks the company of cohabitants. When recognizing ill-feeling or conflict, she is easily unsettled and scared, since she tends to see herself being the cause. Such situations trouble her and make her unhappy. She participates in group meals but at times she requires assistance. Mrs. C. is provided regular eating training.

Mrs. C. has big problems falling asleep. At night, she often gets up to use the bathroom and then has trouble sleeping again, if at all. She then becomes restless and roams the living area. Initially, she was given medications, which should help her. Although they help her to fall asleep, Mrs. C. still can hardly ever get back to sleep after using the bathroom. In the daytime, her energy is significantly less than before she started taking medication.

Medication is discontinued. Caregiving staff is testing ThevoVital with her with the aim of helping her fall asleep and thus allowing her to sleep longer. It is expected that nightly roaming will be reduced. After using ThevoVital for two weeks Mrs. C. stopped roaming at night. She needs less time to fall asleep. Mrs. C. still gets up several times at night to use the bathroom, but now gets back to sleep quickly on a regular basis. In the daytime, she still is on the go in the living area with her walker. Caregivers notice that she concentrates better in eating training and that it has become easier for her.

**Ute Geitmann**

*Director nursing care*

Bremervörde, September 18, 2009

*\* For reasons of data protection, the person's name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mr. W.\*

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Mr. W. is 70 years old and suffers from advanced stage dementia. His wife cares for him at home. On weekdays, he is taken to daycare in the morning and brought back home in the evening. Over 10 years ago, Mr. W. became increasingly forgetful with a decreased ability to concentrate. For this intelligent man, always being mentally and physically active, the situation was unbearable.

After some time, he and his wife faced up to the situation and went to a Memory Clinic, to comprehend the problem. At the age of 61, the diagnosis of “Alzheimer’s” was determined. The illness progressed rapidly. His decreased mental ability continued to be unbearable for Mr. W. He was displeased with himself. If things did not want to come to mind, he struck against his head. He became verbally abusive towards his environment and felt betrayed. “He looked at me so filled with hate; I never knew my husband as such”, his wife states. “He used to have everything under control, spoke six languages, and then everything slipped away.”

To help with his condition, a neurologist stabilized him with medication. With the help of the medication, he actually became calmer and more composed. However, effects on his physical condition were serious. Mr. W. no longer had any recognition or recall. He sat in the armchair all day long. Physically, he was unable to get up or walk without help.

Saliva was running out of his mouth.

Mrs. W. could not see anymore that her husband had a life. Every kind of self-determination, even within his limited possibilities, was taken away from him. The day care staff began to worry that they would not be able to care for him at daycare, if things worsened. Against the advice of the neurologist, Mrs. W. discontinued her husband’s medication bit by bit. Physical abilities improved again, and he could stand up and walk without assistance. He no longer uses abusive language. Some of his self-confidence has returned.

He serenely accepts his growing need for help and the necessary assistance. Mr. W. is well-balanced and satisfied. He is the friendly person he used to be.

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# Continuation International-Report

## Test person: Mrs. W.\*

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The problem now is his growing restlessness at night. Mr. W. has difficulty falling asleep, wakes up very often, and must be brought back to bed by his wife almost every two hours and is not well rested in the daytime. Mrs. W. increasingly reaches her physical limits, too. This is why Mrs. W. wants her husband to try ThevoVital.

After just a few days, changes became apparent. Mr. W. still needs some time to fall asleep, approximately 20 minutes. This is a short time, comparatively. He no longer wakes up as often. If he does wake up, he does not get up, but remains in bed, falling back and sleeping until morning. Sometimes he needs to be awakened.

Even after several months, Mrs. W. reports happily about his improved sleep behavior and how positively this affects their everyday life.

The illness of her husband has further advanced. She, however, notices he is satisfied, well-balanced, and friendly person. He acknowledges his environment and accepts the assistance given to him with a smile.

**Ute Geitmann**

*Director nursing care*

Bremervörde, September 10, 2009

*\* For reasons of data protection, the person's name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mr. D.\*

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Mr. D. is 86 years old, suffers from dementia, and has been living in an inpatient care facility for a few months. He was almost bedridden at the time when he was moved to the care facility. By consequently activating and supporting his walking, he felt secure again. He now walks with a rollator walker without needing assistance.

He makes extensive use of this regained freedom and is a lot on the go in his living area. He participates in group meals and addresses his needs. Mr. D. is well-balanced and content.

At night he is restless and has problems falling asleep. To caregiving nurses he appears to lie in bed with a lot of tension. Mr. D. has a clearly visible scoliosis. He, however, does not express any pain caused by this, when asked. Neither a relieving posture nor any signs of pain in his mimics can be observed.

As consequence of his sleeplessness, Mr. D. gets up at night and walks around. He shows an urge to “go home”. Unlike at daytime, he is able to walk down stairs without assistance at night. With the goal of improving his sleep behavior, ThevoVital is tried with Mr. D. Caregiving staff also hopes to reduce possible pain by improved lying comfort to relieve him from his tensed position.

The follow-up after two weeks shows a better sleep of Mr. D. He falls asleep more easily and sleeps through longer. Caregiving staff observes that he has a more relaxed posture in bed.

When asked, he reports to lie comfortably, to feel good, and to sleep better.

Nightly restlessness has decreased considerably. It still happens that he gets up at night and walks around. He, however, does not show an urge to “go home” anymore.

His urge to go down stairs, causing big problems to caregiving nurses, cannot be noticed any longer.

**Ute Geitmann**

*Director nursing care*

Bremervörde, January 2010

*\* For reasons of data protection, the person's name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mr. H.\*

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Mr. H. is 59 years old and resident of a care facility. He suffers from Korsakoff's syndrome, caused by alcohol abuse. Besides a disturbed memory, Mr. H. has a distinctive motor restlessness. He has poly neuropathy, being the cause of gait insecurity pain, as well as depression.

Every evening he must be persuaded to go to bed. He often is found sleeping on the floor. Only persuading him every evening makes him finally going to bed. Once he is in bed, he falls asleep exhaustedly, but gets up again upon the first waking.

ThevoVital shall be tested with Mr. H., with the goal of reducing his aversion to going to bed. After just one night, Mr. H. slept longer than the previous nights.

In the following evenings, Mr. H. willingly goes to bed, when asked, and falls asleep quickly.

After 14 days the caregiving staff reports that Mr. H. no longer refuses to go to bed.

He instead goes to bed on his own. He has a good sleep and remains in bed, even when waking up at night.

Caregiving staff also notices that he sleeps longer in the morning.

He was no longer found sleeping on the floor. His pain seemed to decrease.

He no longer stands out by moaning and stretching his back. Due to the improved sleep quality and reduced pain, Mr. H. has a significantly better daytime attitude, which positively influences his general mood.

**Ute Geitmann**

*Director nursing care*

Bremervörde, December 7, 2009

*\* For reasons of data protection, the person's name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mrs. J.\*



Mrs. J. is 83-year-old resident of an inpatient care facility. She is in a moderate stage of dementia. Mrs. J. is mobile and frequently on the go in the living area. She joins group meals and enjoys being in company with others. She is friendly with an outgoing attitude toward her environment.

Mrs. J. is very restless at night. She often gets up when awaking, walks about, then reclines again. This hampers staying in bed for longer periods, and thus restorative sleep. This causes her to be sleepy in the daytime, further impairing her mental capability. Caregiving staff describes her as having an “inner restlessness”.

This restlessness has a negative impact on her well-being. Considering this situation, caregivers of the living area agreed to provide Mrs. J. the ThevoVital, to improve her quality of sleep.

After using ThevoVital for two weeks:

Mrs. J. continues having regular awake phases, but does not get out of bed as often as before and thus gets back to sleep quicker. The sleep quality of her nights improved significantly. She is better rested in the daytime and the “inner restlessness” has settled.

**Ute Geitmann**

*Director nursing care*

Bremervörde, January 2010

*\* For reasons of data protection, the person's name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital)

Test person: Mrs. F.\*

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Mrs. F., an 81 year old lady, suffers from moderate dementia. She has been living in an in-patient care community for four months. Mrs. F. needs the company of her fellow residents or caregiving staff. When on her own, she is restless, nervous and very anxious. She recognizes nursing measures taken or attention given to her fellow residents, and seeks attention in return. She lacks confidence and calls for assistance and attention although she definitely can handle tasks on her own. It is very important to her that caregivers praise her capabilities constantly to give her confidence. Her behavior suggests she may be afraid of being neglected by those in her environment.

At the beginning of her stay in the care community, Mrs. F. was very active at night. Upon completing dinner at approximately 17:30 (5:30 PM), she wanted to go to bed, immediately demanding the necessary assistance. Although caregiving staff tried to delay her bed time, she usually went to bed at 18:30 (6:30 PM) at the latest. She, however, did not stay there for long, getting up again and roaming through the living area. Nightly visits to rooms of her fellow residents often led to trouble and resentment. Only when she was very tired, was it possible to escort her to bed. She then fell asleep. But at her first awakening she got up again and roamed through the living area. To reduce her restlessness and facilitate her falling asleep, after one month Mrs. F. was provided with ThevoVital.

She still demanded to be brought to bed after dinner. After a few days, however, caregivers noticed that she remained in bed. Although she did not sleep, she lay in bed calmly and relaxed. She now only needs her psychotropic medication late in the evening. Mrs. F.'s sleep has now improved. She sometimes still roams through the living area at night, but she no longer enters the rooms of her fellow residents. After finishing her rounds, she goes to bed again falling asleep. Now, there are nights when she does not wake up at all. At 7:00 AM Mrs. F. gets up, starting her day. Due to calmer nights, Mrs. F. has become a bit more relaxed in the daytime and finally "arrived" at her new home, making contacts with fellow residents.

**Ute Geitmann**

*Director nursing care*

Bremervörde, January 2010

*\* For reasons of data protection, the person's name is not stated, but is known by the institute*

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital) Test person: Four Residents

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„This (e-mail) is a brief synopsis of the bed study we completed. Overall the results of the bed study were very positive.

In the first resident we saw a decrease in her OCD behavior. The resident has a history of waking at all hours of the night, wandering into the hall and dining room, asking for coffee and her respiratory inhaler. Those incidents decreased significantly 2 days after the bed was instituted. She is napping less frequently during the day as well, and has raved about the bed since she began using it.

The second resident has a history of whimpering and talking throughout the night, and occasionally rolling out of bed. The whimpering stopped by the second night, and I have heard no further reports of such while still using the bed. She did have one incident of rolling out of bed, with no injury. She appears to be more alert during the day, napping less often. Her husband reported to me she understood a statement he had made to her on one occasion which hasn't happened in quite a number of years. He held a very short conversation with her.

The last resident came into the study 2 days after starting because the original resident put on the study had an underlying condition that would have hampered the results.

The new resident was reported to have slept more soundly the first part of the study. His habit was to get up extremely early to wander around the facility and present with an angry affect. He initially began going to bed earlier, and sleeping later, however at about five days into the study, he began wandering at night and getting angry with re-direction again. The last day of the study he slept soundly all night. He usually gets agitated during the day quite often as well. Those incidents have decreased since the study. So with this resident it is my opinion there has also been some success.

We at Marine Courte are very pleased and proud to have been chosen to be a part of this study. My staff and I want to thank you for your consideration.

**Sincerely, Erin Sackman**  
*Bremerton, WA*  
*northwestcare.com*

Bremerton, WA, October 14, 2010



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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital) Test person: (Trial Resident 1) June

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## ExoMotion Mattress Trial Results at Somerset Memory Care

Prior to using the (ThevoVital) mattress June demonstrated the following:

- She would stay awake for anywhere from two to five days.
- She never lay in a bed. As a matter of fact, she never lay down at all.
- She had no specific sleep pattern because she rarely slept for more than twenty minutes.
- She was very anxious which manifested as pacing incessantly, panting with escalating verbalization and pulling on her clothing. This usually resulted in her undressing.
- If she sat down she would nap for just a few minutes then was up pacing again.
- She wouldn't allow anyone to touch her.
- She was exhausted all the time which contributed greatly to her anxiety.

**Initially she would not lie down on the mattress because her habit for the past few years was to pace and cat nap. It took the staff about four weeks to get her to lie down on the mattress. Once she started lying on the mattress they noticed the following amazing changes:**

- She now sleeps at least five hours a night and sometimes even six or seven. On a few occasions the care givers have had to wake her up in the morning.
- She sleeps in her bed.
- She will take naps in her bed.
- Her anxiety has decreased. She doesn't pace it's more of a purposeful walk.
- She doesn't pant when she speaks.
- She now allows touching.
- She does not attempt to remove her clothes.

### Dee McGinnis, RN, BSN

*Corporate Director of Clinical Programs,  
northwestcare.com*

### Deborah Watson

*LPN, Director of Nursing, Somerset  
Memory Care Community, Everett, WA*

Everett, WA, August, 2010



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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital) Test person: (Trial Resident 2) Norma

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## ExoMotion Mattress Trial Results at Somerset Memory Care

Prior to using the (ThevoVital) mattress Norma demonstrated the following:

- She slept only in a recliner at night. She refused to sleep in her bed.
- On a rare occasion she would lie on her bed to nap but it was only about an hour.
- When she came out of her room it was only to sit on a chair in the hall outside her door.
- She did not interact with staff and/or other residents and would only eat by herself.
- She was very resistive to care. She yelled at staff and refused their help.
- She was very negative and grumpy all the time.
- She had delusions about animals being present in her room and dogs under her bed.

**It took Norma approximately a week of sleeping on the mattress to show the following significant changes:**

- She sleeps in her bed anywhere from eight to twelve hours a night.  
Staff has to come and get her up for meals.
- She sleeps in her bed all night.
- She willingly lies down for naps throughout the day.
- She no longer uses the recliner.
- She is much more engaged in her environment.
- She comes out of her room to engage in activities and socializes with staff and other residents.
- She eats in the dining room with a table mate.
- Not only does she sleep longer but it is good quality sleep.

### Dee McGinnis, RN, BSN

*Corporate Director of Clinical Programs  
northwestcare.com*

### Deborah Watson

*LPN, Director of Nursing, Somerset  
Memory Care Community, Everett, WA*

Everett, WA, August, 2010



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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital) Resident No. 1:

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## Experience reports on the mobility bed ThevoVital used in our facility

The mobility bed ThevoVital for persons with dementia, made by Thomashilfen, was tested in our facility (care community “Bælum Ældrecenter”). The following results could be noticed during testing:

### Resident No. 1:

ThevoVital was used first with a woman with progressed stage of dementia. Prior to testing, her daily routine was dominated by conflicts she had with other residents or caregiving staff. At night, she slept very little. She was very restless, wanting to go back home to her husband and children. She often was very upset, accusing her siblings of stealing from her. She became physically violent and also verbally abusive towards others almost every day.

Being provided with the mobility bed ThevoVital, we noticed significant improvement in her sleep rhythm. She still woke up a few times at night, but after a short while she wanted to be brought back to bed without showing any aggressive behavior. Furthermore, we could clearly notice that conflicts with caregiving staff and other residents decreased in the daytime. She now often engaged with us, a smile in her face, telling us that she is doing fine and feeling comfortable. This had never happened before.

The woman has been sleeping on ThevoVital for half a year now and her sleep behavior improved even more. At times she sleeps through the night without waking up at all. Also her aggressive behavior decreased. This, of course, facilitates staff handling of her and is a great relief to them.

Prior to using ThevoVital, this lady required constant staff supervision throughout the day. These care efforts are considerably reduced. The time between physical and verbal conflict keeps growing. The result is an improved working climate amongst our caregiving staff.

**Jeanette Jakobsen**

*District Director*

*Rebild Commune*

*16. February 2011*

Bælum Ældrecenter, Møllevangen 1, 9574 Bælum

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# International-Report about the progress during testing a Micro-Stimulation system (ThevoVital) Resident No. 2:

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## **Resident No. 2:**

The second person provided with ThevoVital was a male resident (Mr. X) with a progressed stage of dementia. He was brought to us, when living at home was no longer possible. A MMSE test (Mini-Mental-State-Examination) showed that the mental state of Mr. X was equal to that of a baby. He was physically mobile and strong and had no other deficits. Coming to rest was very difficult for him, and the caregiving staff had extreme problems communicating and dealing with him. Mr. X was not a Danish citizen and dementia made him forget the Danish language. This circumstance made it even more difficult for the staff to communicate verbally with him. Mr. X also had hallucinations. He did not want to eat or drink accusing the staff of trying to poison him.

After using ThevoVital for 14 days, this resident slept through most of the nights. Although he still believed that the staff wanted to kill him, he accepted more care and assistance. His anxiety states disappeared almost completely. Mr. X began to eat and drink without assistance and often greeted us with a smile in his face. During the entire period of using ThevoVital staff observed a considerable improvement of Mr. X.

Half a year later, the state of this resident worsened substantially due to illness. So we decided to use the mobility bed, ThevoVital, with another patient.

***Jeanette Jakobsen***

*District Director*

*Rebild Commune*

*16. February 2011*

Bælum Ældrecenter, Møllevangen 1, 9574 Bælum