

# Continuous protection

A support surface for safe patient handling and positioning



Mölnlycke® Tortoise® Turning and Positioning System

  
Mölnlycke®

# Continuous protection

Tortoise® is a unique turning and positioning system in that it promotes safe patient handling while also acting as a support surface. The system facilitates pressure redistribution by increasing the contact surface area.

- In the ICU, Tortoise may reduce the cost of support surfaces. In a quality improvement project, one facility used Tortoise to replace specialty beds and reported a 66% reduction in bed rental cost within one year<sup>1</sup>
- The system can also be used to protect patients earlier and on less forgiving surfaces such as in the ER and imaging departments. Tortoise is designed to stay with the patients throughout the continuum of care, providing continuous protection.



## Tortoise in use

- Safe for lateral transfer
- The Tortoise mat is safe for MRI, CT and X-ray
- The positioner is safe for MRI and CT

Mölnlycke Tortoise Turning and Positioning System – throughout the continuum of care:





## 'Significant reduction in tissue compressive deformations'

'Our recent internationally published MRI-based scientific study revealed a significant reduction in tissue compressive deformations when adding Tortoise® to a foam mattress, as the Tortoise further enhances the contact surface of the body through increased envelopment. The combination of preventative interventions such as a quality mattress, plus Mepilex® Border dressing and Tortoise provides the greatest reduction of tissue compressive deformations and should therefore lead to improved pressure ulcer/injury prevention outcomes.'

**Amit Gefen**, PhD, MSc, BSc

Professor in Biomedical Engineering at Tel Aviv University, Israel.

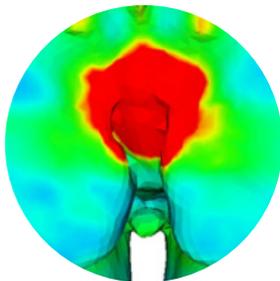
### Reduce tissue deformation

Deep Pressure Ulcers and deep tissue injuries are thought to be mainly due to deformation of deeper tissues resulting from pressure and shear. Utilising Finite Element modeling, we can examine how the addition of Tortoise to different surfaces can reduce the risk of tissue damage\*.

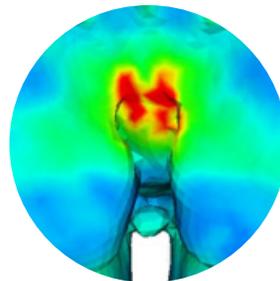
A scan of the muscle layer shows how placing Tortoise over different surfaces reduces stresses in the soft tissue under the sacrum. You can compare this with the small reduction in stresses achieved by instead adding a turning and positioning system that does not offer envelopment<sup>2</sup>.

#### Hard surface

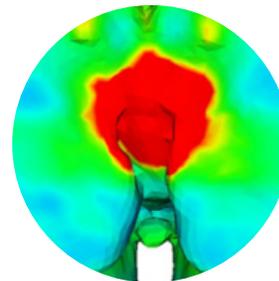
Hard surfaces include stretchers in the ED and the tables of MRI machines.



Hard surface only  
(Control)



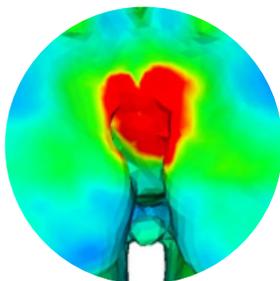
Hard surface and Tortoise  
(90-100% reduction)



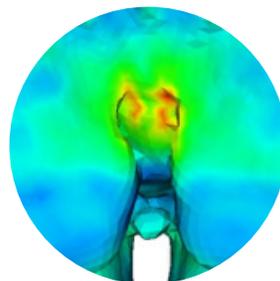
Hard surface and AirTap™™™  
(0-10% reduction)

#### Soft surface

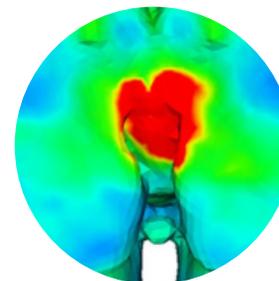
A mattress in the ICU or other departments could be an example of a soft surface.



Soft surface only  
(Control)



Soft surface and Tortoise  
(90-100% reduction)



Soft surface and AirTap™™™  
(0-10% reduction)

\*In one study with healthy volunteers. \*\*Prevalon AirTap is a trademark and brand of Sage Products, LLC.

# Mölnlycke® Tortoise® Turning and Positioning System

**Weight limit, max 400 kg (880 lbs)**

**Approved for imaging.**

The Tortoise® mat is safe for MRI, CT and X-ray. The positioner can be left in place for MRI and CT.

**Compatible with Low Air Loss mattresses<sup>3,4</sup>**

**Mölnlycke® Z-flo® Fluidized Positioner** Helps maintain the desired turn while providing continuous support.



**Color-coded handles**

Make it easier for caregivers to communicate safe patient handling cues during repositioning

**White handles**

Handles placed closer to the body facilitate boosting of the patient.



Mölnlycke®  
Tortoise® Turning & positioning system

**NEW!**

**Sacral image**

Helps you best position the patient to ensure envelopment. It also helps you align the patient and the mat with where the bed folds.

**NEW!**

**Easy infographic instructions** printed directly on the mat.

**Grey and black handles**  
For turning patients or making lateral transfers.

**NEW!**

**QR-code tutorials**  
Scan the QR code and go directly to the product page with instructional videos.

**Tuck the tail**

Helps create envelopment through positive air displacement. Also serves as a brake to maintain the patient's position. Marked in red as a reminder that it should be tucked in, i.e. not visible.



Mölnlycke® Z-Flo® Fluidized Positioner can be molded to conform to the patient's body and will keep them in the desired position over time. It can also be used for micro turns for hemodynamically unstable patients.

## 'The Tortoise® is the trifecta product'

**Chenel Trevellini, MSN, RN, CWOCN**  
Wound Ostomy Continence Nurse, Mount Sinai,  
New York, USA.

'This simple yet innovative product helped us to reduce our dependency on expensive support surface rentals by providing effective pressure redistribution, while supporting and protecting our nursing staff during the intervention of turning and positioning, which decreased our overall hospital acquired pressure injury rates. We enjoyed improvements in patient safety, staff safety, contributing greatly to the hospital's financial bottom line.'



Scan the QR code to go directly to our Tortoise resources. Here you will find further information and instructional videos showing just how easy Tortoise is to use.

# Benefits of safe patient handling

## Manual patient handling is unsafe

Over time the repeated strain of heavy lifting takes a toll on the caregiver's body, making it a leading cause of caregivers leaving their profession or even being forced into early retirement<sup>5</sup>.

Tortoise<sup>®</sup> aids in boosting patients and facilitates lateral transfers which can reduce the need for patient lifting. The new version has helpful information printed directly onto the mat, making it even easier to use and protecting patients and caregivers alike.

Tortoise reduces the risk of caregiver injury by enabling safe and ergonomic handling of patients – and by cutting down the number of times patients have to be handled each workday. This is because the system holds the patient in the desired position over time<sup>6</sup>.

## Health Economic Benefits

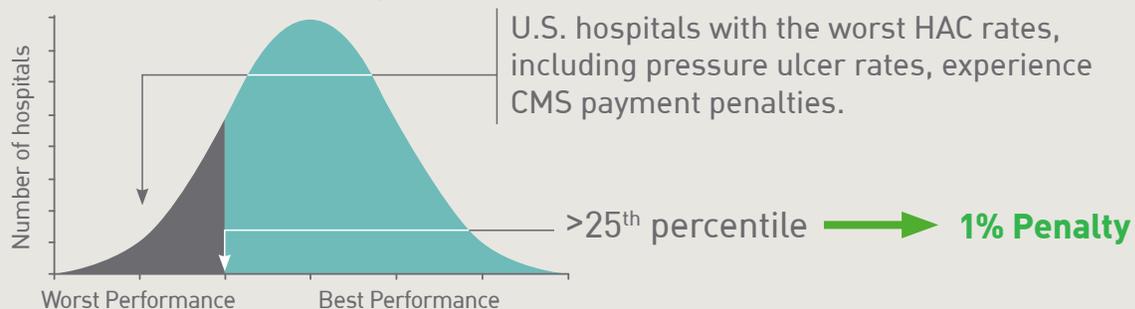
Approximately \$20 billion are spent annually on back injuries in the healthcare industry<sup>7</sup>. For more than 40 years nurses have had the highest job-related injury rates<sup>8</sup> of all healthcare personnel with manual lifting being the greatest risk factor. Tortoise has shown a reduction in caregiver injuries leading to a cost savings of \$108,948 at one Long Term care facility<sup>9</sup>.

In the US alone pressure ulcers affect 2.5 million people and cause approximately 60,000 deaths annually<sup>10</sup>. The estimated cost of treating pressure ulcers ranges from \$20,900 to \$151,700<sup>10</sup>. Thanks to the way Tortoise envelops and protects patients, the system can be used to enhance patient surfaces and have even in some cases replaced overlays and specialty mattresses<sup>11</sup>. In one facility Tortoise implementation led to cost avoidance of \$127,146 in specialty bed rentals<sup>11</sup>.

## Did you know?

Hospital Acquired Condition (HAC) rates can impact hospital penalties and reputation<sup>12</sup>.

### Poor HAC rates are costly



*HACRP penalties are public and often reported by media outlets*

# Top 3 reasons

## Why choose Mölnlycke® Tortoise® Turning and Positioning System

### #1

#### Pressure Ulcer Prevention\*

Tortoise is a support surface that facilitates pressure redistribution through envelopment. It also aids in turning patients and the Tortoise mat together with the Z-Flo® Fluidized Positioner will protect the patient by keeping them in the desired position over time<sup>6</sup>.

Tortoise is designed to stay with the patient throughout the continuum of care, providing sustained protection while also relieving the physical burden on caregivers.

### #2

#### Safe patient handling

Mölnlycke Tortoise Turning and Positioning System promotes safe patient handling and may reduce risk of caregiver injuries. The system could also reduce workload as patients remain in the desired position over time.

The possibility to use it for lateral transfers may reduce the need for lifting during patient transfers.

### #3

#### Reduced cost for specialty surfaces – and more

By enhancing the performance of existing support surfaces you could decrease expenditure for overlays and specialty beds. In a quality improvement project, one facility reported 66% reduction in bed rental cost within one year<sup>1</sup>.

Tortoise may also reduce costs of pressure ulcers treatment\* and for claims related to patient handling. In a quality improvement project, one facility reported 55% reduction in caregiver injuries within one year<sup>1</sup>.

\*When used for patient turning and repositioning as part of an overall pressure ulcer prevention program.

# Proving it every day

At Mölnlycke®, we deliver innovative solutions for managing wounds, improving surgical safety and efficiency and preventing pressure ulcers. Solutions that help achieve better outcomes and are backed by clinical and health-economic evidence.

In everything we do, we are guided by a single purpose: to help healthcare professionals perform at their best. And we're committed to proving it every day.

## Mölnlycke® Tortoise® Turning and Positioning System

Product Code	Description	Pcs/ case
1400800	Tortoise Turning and Positioning System: 1 positioning PAD (38" x 58"), 1 fluidized positioner (16" x 30") (PAD - Positive Air Displacement Offloading & Turning)	1
1400801	Tortoise Turning and Positioning System Bariatric: 1 positioning PAD (49" x 58"), 1 fluidized positioner (25" x 36") (PAD - Positive Air Displacement Offloading & Turning)	1

References: 1. C. Trevellini, Connecting the dots: Pressure Ulcer Prevention and Safe Patient Handling. Poster presentation at National Pressure Ulcer Advisory Panel Biennial Conference, Orland, Florida, United States of America, 2015. 2. Mölnlycke Health Care. FE modelling. Report no. 20180809-002. August 2018. Data on file. 3. Mölnlycke Health Care. Tortoise interface temperatures. 13 August 2018. Data on file. 4. Mölnlycke Health Care. Tortoise humidity at interface. 13 August 2018. Data on file. 5. ANA supports safe patient handling measures in Congress, American Nurse Today, Vol. 4, No. 7, 2009. 6. M. R. Brennan, D. Lacontti, R. Gilchrist, Using Conformational Positioning to Reduce Hospital-Acquired Pressure Ulcers, J Nurs Care Qual, 2013. 7. <https://www.osha.gov/SLTC/healthcarefacilities/safepatienthandling.html>. 8. Patient-handling injuries: Risk factors and risk-reduction strategies. American Nurse Today Volume 11, Number 5. 9. Kass, Jan, economic Impact of a Safe Patient Handling and Mobility (SPHM) system on Staff and Safety in a Long Term Subacute Care Unit, Poster Spring SAWC 2017. 10. AHRQ – Preventing Pressure Ulcers in Hospitals. <https://www.ahrq.gov/professionals/systems/hospital/pressureulcertoolkit/putool1.html>. 11. Elling, R., Use of Positive Air Displacement Safe Patient Handling System to Reduce Facility Acquired Pressure Ulcers, 2014. 12. 42 CFR Parts 412, 413, et al. Medicare Program: Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Policy Changes and Fiscal Year 2019 Rates; Quality Reporting Requirements for Specific Providers; Final Rule, August 17, 2018. Accessed at HYPERLINK <https://emea01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.gpo.gov%2Ffdsys%2Fpkg%2FFR-2018-08-17%2Fpdf%2F2018-16766.pdf&data=02%7C01%7C%7C4cf9780cf9a3446dd0da08d63b4db638%7C4d3f6608ec8c4b1f9484274a4b699efb%7C1%7C0%7C636761602281490291&sdata=rbbu%2BekZJNFU6b9%2FkwrIW0ls8wYox%2FiiGdHww%2BxGZw8%3D&reserved=0> <https://www.gpo.gov/fdsys/pkg/FR-2018-08-17/pdf/2018-16766.pdf>

## Find out more at [www.molnlycke.com](http://www.molnlycke.com)

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