

LINET

LATERAL TILT: A PROMISING APPROACH IN THE BATTLE AGAINST MSDS IN ACUTE AND LONG-TERM CARE



BACKGROUND

The prevalence of musculoskeletal disorders (MSDs) seems to be higher for healthcare professionals rather than for other occupational groups (BLS, 2021). A variety of factors have been pinpointed for this reality: the worldwide shortage of nurses, the higher nurse-to-patient ratio, the number of immobile patients hospitalized and the ageing population including caregivers, are just some examples (Apple B, 2021).

Manual moving and handling of patients in bed, patient transfers, and transportation, amongst other boosting activities are more common and frequent than ever in the challenging daily work performed by caregivers and may have a profound impact on their well-being. In fact, these activities can exceed 20% of nursing time (Aljohani WA, 2019). From physical strain and injury risks to emotional stress and increased workloads, the challenges faced by caregivers should not be overlooked.

The white paper you are reading sheds light on the various ways moving and handling activities can affect both patients and caregivers whilst bringing Essenza 300 lateral tilt as part of the solution to the challenges faced across Acute and Long-term Care departments.

CONCLUSION

Essenza 300 lateral tilt is a valuable solution and enables effective reduction on caregiver's physical strain that can address the challenges originated by patient moving and handling.

The primary advantage when comparing a bed with lateral tilt against a standard hospital bed, is the establishment of a safer environment for both caregivers and patients. On one hand, caregivers benefit from a significant reduced risk of work-related musculoskeletal injuries. From the patient's perspective they experience less manual handling reducing the potential for injuries to be sustained. Additionally, the bed's tilt function aids in preventing pressure area-related issues and helps optimal patient positioning.

Through the implementation of proper training, resources, and support systems, healthcare institutions can ease the burden on caregivers and ensure they are given the right tools to provide high-quality care whilst supporting their own health and well-being. A complete approach that prioritizes caregiver support is vital to improve the overall healthcare experience not only for patients, but also for those who care for them.

The Dual Impact: How Patient Moving and Handling Impacts Both Patients and Caregivers

Patient moving and handling activities have become more common and frequent than ever across Acute and Long-Term Care departments. Therefore, it is no wonder several recommendations and tools were written over the years because of the profound impact that non-compliant procedures may have both for patients and caregivers' well-being. A deep look around this subject has become necessary to analyse not only the reasons behind non-compliant practices, but also potential consequences and prevention solutions.

STAFFING IN HEALTH CARE INSTITUTIONS

The worldwide nursing shortage is not a new topic. Although there are 28 million nurses around the globe who make up over half of the world's healthcare professionals, there is still a significantly shortage of 5.9 million (ICN, 2020). Furthermore, this number is expected to increase even more, as 17% of nurses are projected to retire by 2030 and there is an insufficient number of new incoming nurses to fill the gap. (ICN, 2020) This is happening not only in low-income countries, but even high-income countries report missing registered nurses and other health care assistants. In Canada, for example, 52% inadequate nurse staffing was reported which may lead to inappropriate or insufficient patient care (Buchan J, 2022).

The necessary staffing levels to be able to provide quality nursing care and avoid compromising patient safety was analysed by several organizations already. The Royal Colleague of Nursing has briefly demonstrated in their policy that if patient ratio per Registered Nurse (RN) increases to 8 patients per 1 RN (1:8), it can compromise patient safety every week. Furthermore, if it rises even more to 11 patients per 1 RN (1:11), it can even increase the risk per shift (RCN, 2012). Although staffing levels can vary depending on the type of ward and day shifts, some disparities may be found across the globe even when we compare the same department. For example, Acute Care departments may have a RN-to-patient ratio of 1:4 - 7 in the USA, 1:4 - 6 in the UK (United Kingdom), and in some countries it can even reach 1:11.

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(Buchan J, 2022)

CAREGIVERS' PHYSICAL WELLBEING

The job of a nurse is extremely demanding not only mentally and emotionally, but also physically. In fact, nurses are one of the largest professional groups suffering from work related MSDs and the data shows us this unfortunate reality: 56% of nurses reported MSDs and 38% of nurses needed to take time off because of that (Fragala G, 2016).

Manual moving and handling of patients in bed, patient transfers, and transportation, amongst other boosting activities are more common and frequent than ever into the challenging daily work performed by caregivers and their own health may fall by the wayside (Aljohani WA, 2019).

Caregivers are exposed to significant physical strain when supporting patients. Daily tasks incur a physical load on caregivers who need high ergonomic skills and knowledge to perform them safely and to support their well-being and health at work. The most frequent patient-handling task in an acute care hospital was found to be repositioning the patient up in bed (Callison MC, 2012). However, any activity including lifting, transferring, and repositioning patients can put immense pressure on caregivers' backs, necks, and joints, leading to potential musculoskeletal injuries.

Chronic pain, sprains, strains, and herniated discs (Schröder C, 2020) are common problems faced by caregivers. The physical toll can affect their ability to provide consistent care and may lead to extended periods of absence from work due to injury or chronic pain, worsening even more the shortness of staff. On top of that, other factors may also impact the ability to perform moving and handling activities and therefore their role must be taken in consideration as the caregivers' age, for example, especially if we consider that the median age of the USA nurses in 2020 was of 52 (Smiley RA, 2021).

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TIME CONSTRAINTS AND WORKLOAD

Caregivers often find themselves under pressure to manage multiple tasks simultaneously, such as administering medications, documenting patient information, and to comply with manual and handling recommendations. The increased workload and time constraints can lead to heightened stress levels and compromise the quality of care provided. The Sustain and Retain in 2022 and Beyond Report (2022), shows that 62% of the UK nurses have reported that they are too busy to provide the level of care they would like to (Buchan J, 2022). The increase of insufficient of time was also reported on a European survey in 2019, where 41% of nurses reported lack of time or staff against 29% reported in 2014. This increase represents the highest rise in comparison with other industry sectors (EU-OSHA, 2020).

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LACK OF TRAINING AND RESOURCES

Insufficient training and lack of proper resources add on to the challenges already faced by caregivers during patient moving and handling. The lack of accessible equipment and adjustable beds can further strain caregivers' physical and emotional well-being. Staffing, distance, and time are the main reasons for limited use of assistive devices (Noble N, 2017). Another study supports this exact information by demonstrating that assistive devices were used only in 3% of patient repositioning activities (Wilson TP, 2015).

On the other hand, inadequate knowledge of safe patient moving and handling techniques and equipment usage can also increase the risk of injury. However, technical training in using assistive devices by itself is not enough to change safety culture. Instead, a multifactorial approach build on risk assessment programs are more successful in learning to use assistive devices to reduce MSDs (Hignett, 2003).

IMPLICATIONS OF MISSING SUPPORT FOR QUALITY NURSING CARE

Caring for individuals with mobility challenges can also take a toll on caregivers' emotional well-being. Witnessing the pain and discomfort experienced by patients can lead to emotional exhaustion. The responsibility of ensuring patient safety during transfers and repositioning can also create anxiety and stress, as caregivers fear accidental falls or injuries. Caregivers may develop compassion fatigue, leading to emotional burnout and reduced job satisfaction.

Burnout affected nurses around the world: 60% in Belgium and 63% in the US are just a couple of examples. In Oman, 75,6% of nurses have reported stress, 38% said they were depressed and 73% had trouble sleeping. Fifty-seven percent of UK nurses planned to leave their jobs in 2021, up from 36% in 2020. Sixty-one percent of nurses in Ireland did not want to be nurses anymore and 60% of nurses in the USA said they were more likely to leave since the pandemic due to insufficient staffing, workload, and emotional distress (Buchan J, 2022).

In summary, recognizing the impact of patient movement and handling on both patients and caregivers is crucial for creating a supportive environment. Investing in comprehensive training programs and ensuring the availability of ergonomic equipment are essential to improve safety in the healthcare setting. Furthermore, supporting non-clinical healthcare professionals and promoting open communication can help alleviate the emotional and psychological stress associated with this challenging aspect of caregiving. Nurses and other caregivers are key roles to provide quality care for patients. With sufficient time, training, and equipment, they can support patients while minimizing the risk of adverse events and work-related injuries. This enables them to continue doing the work they love and provide essential care to patients.

Essenza 300 lateral tilt solution

In LINET, we refer to the solution which allows the bed frame to tilt as lateral tilt. This solution has been used in LINET beds for several years now and was firstly introduced with Latera in 2007. Along time, as a 15° lateral tilt has proven to be a beneficial solution by assisting caregivers in mobilizing immobile patients (Lebeda, 2021), it was also introduced to the ICU segment with the Multicare bed in 2010, followed by Eleganza 5 in 2017 and Multicare X in 2021. In the ICU environment, it is frequent to care for patients who have limited mobility or are completely immobile and whom condition does not allow for extensive manual mobilization to be performed. Lateral tilt has proven itself even more due to the additional benefits outcoming from increased tilting angles above 15°, providing an effective sequential postural recruitment manoeuvre (SPRM) that improves respiratory mechanics and gas exchange. Furthermore, an increased angle of lateral tilt reduces end-expiratory lung impedance variation (EELI) from ventral to dorsal lung areas and minimizes consolidation (Roldán R, 2022).

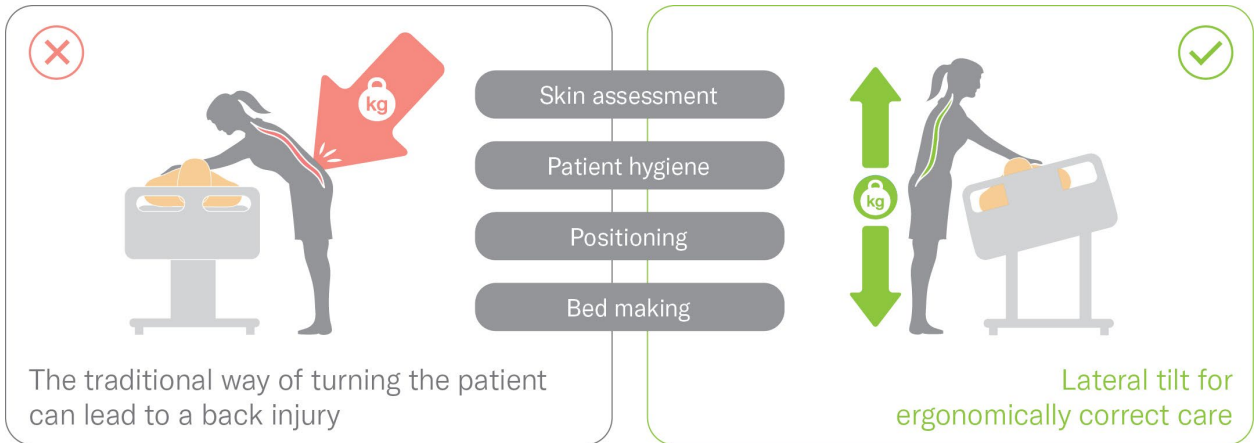
The new Essenza 300 LT by LINET, is an evolution of the most successful beds across LINET's portfolio. Its universal bed platform enables endless combination of solutions and to tailor the bed based on specific patient needs from acute to long-term departments.

Essenza 300 LT bed can be for example equipped with a 15° lateral tilt operated by foot controls. Lateral tilt up to 15° is safe for patients and enables ergonomic patient handling with reduced physical force requirements. Higher degrees of lateral tilt have not been proven necessary for acute and long-term care needs.



LATERAL TILT: BRINGING PATIENT MOVING AND HANDLING TO A NEW LEVEL OF ERGONOMICS AND SAFETY

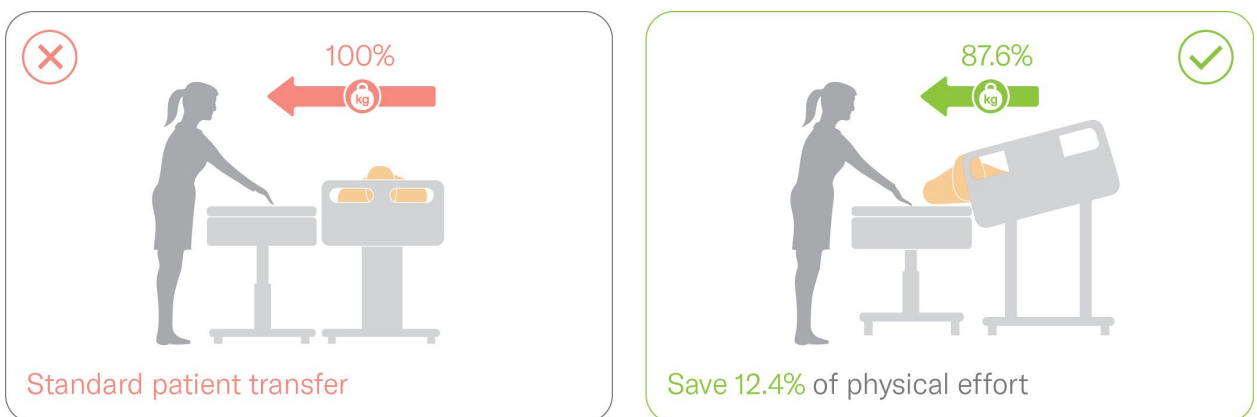
There is significant evidence indicating that beds with lateral tilt reduce the force needed for patient turns, thus potentially lowering the risk of musculoskeletal disorders. This feedback is supported by previous physical measurements and published reports, which have demonstrated that lateral tilt reduces the force required to turn a patient by 67% and lumbar spine load by 20% (Lebeda, 2021).



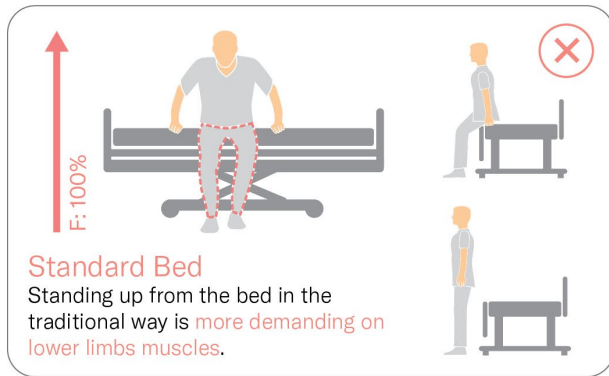
OTHER APPLICATIONS OF LATERAL TILT IN THE HEALTHCARE SETTING

This white paper has established already the valuable contribution that lateral tilt may bring to maintain caregivers' wellbeing and patient care, but lateral tilt can bring you so much more. Routinely activities such as patient transfers, early mobilization support and easier access to the bed undercarriage for cleaning and disinfection are just some examples where lateral tilt have demonstrated to be a useful tool.

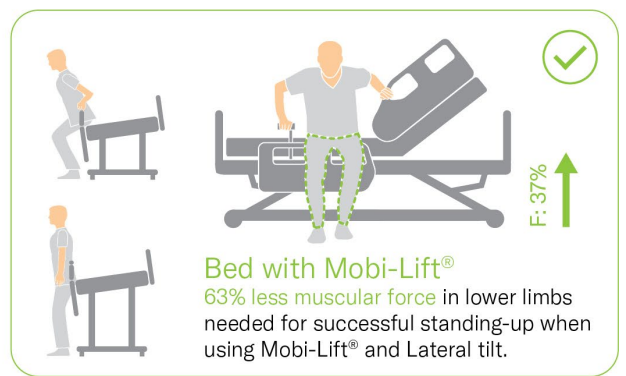
Internal tests in LINET lab have shown that the force needed for lateral patient transfer is reduced in average by 12.4% when using a bed with lateral tilt instead of a standard bed (White paper will be available at the end of 2023).



Another measurement was performed to understand the role of lateral tilt when combined with other LINET solutions to promote active and early patient mobilization. This measurement has proven that this combination reduces the necessary force on an individual limb during the standing-up procedure. This enables not only to build up the patient's strength and core gradually, but also promotes patient autonomy and motivation to continue to mobilize. On top of that, once again, caregivers will be able to support patients whilst standing up without the physical exertion that would be required without these solutions.



Standard Bed
Standing up from the bed in the traditional way is more demanding on lower limbs muscles.



Bed with Mobi-Lift®
63% less muscular force in lower limbs needed for successful standing-up when using Mobi-Lift® and Lateral tilt.

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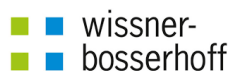
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