

Pulsating Mode™ - The story behind

A holistic approach to pressure ulcers/injuries.

Global trends shaping the world

Global trends are influencing the future of the world, and these transformations are significantly affecting the healthcare system worldwide. People who are aged 80 years or older is set to triple from 2020 to 2050⁽¹⁾, concurrently with a shortage of healthcare professionals⁽²⁾, and a rise in home-based care.

Solutions with multiple purposes

The global trends are crucial as they necessitate the multifaceted functionality of our solutions. Our primary purpose has always been the prevention of pressure ulcers/pressure injuries (PUs/PIs). Considering the rising demand within the future healthcare landscape, it is of utmost importance that we approach the issue of PUs/PIs from a holistic perspective.

New innovations for PU/PI prevention

During 2009, we embarked on a mission to improve the lives for individuals with high risk for PUs/PIs. At that time, there was a debate about the main cause, or 'etiology', of PUs/PIs.

Until then, it was widely believed that the sole reason of these injuries was ischemia, which, in simple terms, is the restriction or blockage of blood flow.

However, new research at that time revealed that there was another main reason for these injuries: direct cell deformation.

The story behind the Pulsating Mode™

This new knowledge made understanding of PUs/PIs even more complicated. Despite making progress in understanding why these injuries happen, the methods for preventing them haven't really changed much over time.

The lack of a method to distinguish between the now two primary causes, creates a lot of uncertainty and the risk of not getting the right treatment. That is why it's very important to change our focus and work on a complete solution that deals with both ischemia and cell deformation.

Our goal is to prevent and treat PUs/PIs, while enabling healthcare professionals to dedicate more time to patient care. We also aim to ensure a high level of patient safety for those receiving care at home.

This is the reason why we've developed the Pulsating Mode™, introducing an innovative approach to address the two primary causes of PUs/PIs.



Control units for our CuroCell® A4 and CuroCell® IQ systems, both equipped with the Pulsating Mode™.

The importance of research and clinical evidence

The Pulsating Mode™ underwent extensive clinical research, with a primary focus on ensuring patient safety and aiming to achieve clinical outcomes in the prevention of PUs/PIs. Together with researchers from Ghent University in Belgium, an observation multicentre cohort study was performed in a standard clinical environment.

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Pulsating Mode™ - Clinical evidence

The study involved 40 care recipients who were at a high risk of developing PUs/PIs, or who already had existing wounds. These individuals had the opportunity to utilize our systems equipped with the Pulsating Mode™.

Care recipients who are prescribed this type of mattress are fragile and typically unable to change their position in bed, often in the latter or terminal phase of life. The primary focus is on improving their quality of life, including avoiding pain and ensuring a good night's sleep.

Key take aways from the study



Healing after 30 days

The study demonstrated efficiency in healing of PUs/PIs after 30 days⁽³⁾.



Reduced feeling of pain

The majority of the individuals reported that they experienced reduction in pain intensity or complete pain resolution⁽³⁾.



More time for patient-centered care

The system required no supplementary time and effort from the caregivers⁽³⁾.



Contribution to better sleep

The control unit had a low noise production and was considered "quiet" by the participants⁽³⁾.

Healing of PUs/PIs after 30 days

Prioritizing preventative care is crucial, the Pulsating Mode™ also demonstrated efficacy as an aid in the actual treatment of PUs/PIs. Healing was followed up daily, and after 30 Days, all but one category III PU/PI had improved or healed completely⁽³⁾.

Compared to the fact that the expected healing time for a category III injury is 127 days, and a category IV injury has an expected healing time of 155 days⁽⁴⁾.

The time for the treatment of PUs/PIs has significant impact on health economics and contributes to freeing up resources that can be utilized more efficiently within the healthcare system⁽⁷⁾.

Reduced feeling of pain

To provide the best possible care for individuals at high risk of PUs/PIs, we must not only treat their medical conditions but also consider values that affect well-being and quality of life, such as reduced pain and improved comfort.

The study on the Pulsating Mode™ reported, from caregivers and family members, that residents complained less about pain and appeared less agitated. The reports of less pain were corroborated by the residents who reported pain reduction while lying on the mattress⁽³⁾.

More time for patient-centered care

Our goal is for healthcare professionals to focus on patient care and clinical decisions, instead of managing technical settings, with the aim to enhance patient safety.

The study showed that systems with the Pulsating Mode™ requires no supplementary time and effort from the caregivers, as the inner air cell pressure is automatically adjusted to the resident's weight, length and movements.

By incorporating AI-driven systems, technology not only becomes powerful but also easy to use. This is what we were aiming for when utilizing AI in our mattresses in conjunction with the Pulsating Mode™.

Contribution to better sleep and recovery

Sleep and a calm environment are key components for recovery and well-being, and it is during sleep that the cells in the body are built up⁽⁵⁾⁽⁶⁾.

The study reported that the control unit utilizing the Pulsating Mode™ almost did not produce any noise, and thus was considered "quiet" by the participants. This, in turn, may have contributed to better sleep reported by the residents.

When patients can sleep undisturbed, the need for frequent nighttime visits decreases. By providing patients with a more peaceful sleep environment, healthcare personnel can allocate their resources to other tasks and medical care.