

OUR VISION

**Together with caregivers,
eliminate pressure ulcers/injuries.**



How can we give our caregivers more time to care?

According to Hippocrates' precept, care is a matter of time and opportunity.

A patient who develops a pressure ulcer needs on average 15.5 days of additional care⁽¹⁾ and pressure ulcers/injuries can take five months or more to heal⁽²⁾. So, the fact that a large proportion of these injuries are avoidable is an important opportunity.

We want to give our caregivers more time for caring. We want to shorten, or prevent altogether, the time a patient must spend in pain and discomfort


due to pressure ulcers/injuries. We want to use vital resources more effectively so that offering a good standard of care is economically sustainable.

If we put it all together, we can see a way to better meet the growing challenge of an ageing population.

Our vision is of a world without pressure ulcers/injuries. It turns out to be a world with a little more time to care.

(1) Hauck KD, WS, Vincent C, Smith PC. Healthy Life-Years Lost and Excess Bed-Days Due to 6 Patient Safety Incidents: Empirical Evidence From English Hospitals. *Medical Care*. 2017;125-30.

(2) Dealey, C., Posnett, J., & Walker, A. (2012). The cost of pressure ulcers in the United Kingdom. *Journal of wound care*, 21(6), 261–266. <https://doi.org/10.12968/jowc.2012.21.6.261>



A holistic approach to pressure ulcers/injuries that came from daring to address the whole problem

Our understanding of pressure ulcers/injuries has deepened with time. Whereas ischemia was seen as the sole cause initially, with time research showed that there is a second important cause. If we relieve a risk zone by increasing the load on neighboring skin and tissue, we risk a rapid development of pressure ulcers/injuries due to cell deformation.

Even as technological solutions were introduced, caregivers faced a dilemma. Alternating mattresses, developed to

combat ischemia, could quickly lead to new pressure ulcers/injuries. Support surface that used Constant Low Pressure to instead envelop the user, did not remove the long, slow pressure build-up that causes ischemia in the first place. It seemed to be a problem that defied each human and technological intervention.

If only there was a way to combine the benefits of alternating pressure with those of Constant Low Pressure. If only the support surface itself could somehow sense when the pressure on an area of tissue was becoming dangerously high and calculate how to adjust the support provided by each cell.

Individualized Advance

CuroCell iA®

By embracing the real problem, a real solution

Gentle Alternating Low Pressure, or GALP, is a Care of Sweden innovation. It has been developed to enable a system to sense, learn and take action whenever the high pressure that can cause ulcers/injuries arises. It takes learnings from years of research and development and applies them to a support surface for widespread use in a range of care settings, such as home care.

By accepting that the problem is complex, our R&D team could also let go of the solution having to be simply one thing or the other. It would have to be autonomus. It would have to be ready to adjust itself to the patient's need of pressure relief, second by second.

With Gentle Alternating Low Pressure, the CuroCell iA® system makes the step from mechanical to digital, from manual to autonomus, and from on-off comfort valves to a fine tuning of total support that we've never been able to deliver before in this segment.

Like an extra pair of eyes

CuroCell iA® uses artificial intelligence to constantly monitor pressure across the patient's contact area and calculates its response. The system identifies the patient's weight and height and can detect changes, such as when the patient adopts a new position.

Like an extra pair of hands

The AI-based, CuroCell iA® control unit was developed with the aim to improve patient safety and allow professionals to provide a new level of person-centered care. Should a patient's new posture result in excessive pressure, CuroCell iA® will take action, managing individual cells to adjust the contact between the patient and the mattress. This can reduce the amount of manual handling or heavy lifting the care team must undertake.

Quietly and comfortably

Because the air inside the support surface is re-used, there is no need for the control unit to run continuously. The silent running of the control unit enable conditions for undisturbed sleep and recuperation. Our Air Flow Control™ system has been developed with the aim of saving energy and creating a more even temperature in the support surface itself.



Service-free
for the first
5 years

Service- and maintenance-free for the first five years

CuroCell iA® is not only developed for patients to be able to sleep better. The control units are quieter thanks to their use of magnetic valves. Because air in the support surface is recirculated with the aim to achieve patient comfort, the system doesn't need to be in constant operation. This reduces wear and tear of the system. With CuroCell iA®, we can offer a system which is maintenance- and service-free for the first five years.

CuroCell iA[®]

Features of the control unit



Gentle Alternating Low Pressure (GALP)
The airflow in the cells adapts to the patient's weight, height and position. The cells are never completely emptied or filled. This reduces movement in the cells, makes the system quieter, and enable a less intrusive experience for the individual who is lies the support surface.



Maximum pressure (Caring mode)
Maximum pressure fills the cells completely with air to provide a stable support surface and automatically returns to the previous settings after 20 minutes. "Caring mode" is developed to contribute to patient safety, improved working ergonomics.



Constant Low Pressure (CLP)
The principle of Constant Low Pressure is that pressure is constant and evenly distributed over the entire support surface. In this mode, the cells do not alternate but are filled with an equal amount of air all the time.



Information signals
Sensors in the system will detect if there is an error and provide audible and visual notifications. The system also provides an alert if an upcoming service is predicted.



Panel Lock
Our panel lock prevents the control unit from being inadvertently adjusted. The control unit locks itself automatically 30 seconds after a new setting is entered.



Soft friction hangers with soft tips

Each small detail of manufacture is considered and that includes the use of softened hangers with tips designed to avoid the risk of patient injury or discomfort.



CPR connection

By disconnecting the CPR connection from the control unit, the mattress quickly deflates. If CPR is needed, remove the CPR connection from the control unit and leave the lid open.



Low noise-and vibration levels⁽³⁾⁽⁴⁾

The system operates when needed and is designed to create no unnecessary noise.



Air Flow Control™

Developed with the aim of providing good user comfort, lower energy consumption and longer service intervals.



Technical specification control unit	
Pressure ulcer category	Up to and including category IV ⁽⁵⁾
Size (L x W x H)	11cm x 27cm x 15,5cm
Available control units	CuroCell iA [®] Automatic CuroCell iA [®] Manual
Technical life time	5 years based on active time in use
Material	PVC FREE
Sound level control unit	22dBA ⁽³⁾ , 35dBA ⁽⁴⁾
Voltage	External 12 DC power supply
Input voltage	AC100-240V/50-60Hz
Cleaning instruction	Wipe with cleaning agent and/or disinfectants
CE- marking	Control unit and support surface are registered and marked separatley in accordance with MDR (EU) 2017/745.
Compatible mattresses	CuroCell [®] Ci10 CuroCell [®] Ci17 CuroCell [®] Ci20

References

(3) EN ISO 11201 Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels", SP 2018.

(4) ISO 3746:2010 "Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane"

(5) European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline. Emily Haesler (Ed). EPUAP/NPIAP/PPPIA: 2019.



Always read the instructions for use prior to use.

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Individualized Advance

CuroCell® Ci

A modular system you can mix and match

Our system is modular, providing you with mix-and-match flexibility and freedom. We've made sure that the CuroCell iA® Automatic and CuroCell iA® Manual control units are compatible with several different support surfaces. The same control unit can adapt to several different care needs by being able to combine with multiple support surfaces.

There are two control units and three different support surfaces, a 10cm overlay mattress and two replacement mattresses of 17cm and 20cm.



Enables a lower total cost of ownership

Our watchwords are durability and flexibility. The CuroCell iA®'s interchangeable parts are developed with the aim to make it easy to use and own.

Moving a patient in order to replace a complete mattress system is arduous for staff and inconvenient and sometimes painful for the patient. With CuroCell iA®, just the support surface or the control unit can be swapped out when needed.

The result is fewer patient moves, less need to replace equipment sets, simpler inventory and reduced storage requirements. Overall, this flexibility makes operation simpler and enables a lower total cost of ownership.

A slim format for comfort and function that fits most hospital beds

In the CuroCell® Ci17 we offer a 17cm replacement mattress with air cells. This format is developed to reduce shear and friction forces during upright repositioning, and to provide for a more gentle patient experience of the support surface. The lower mattress height fits most hospital beds. This makes installation simple and the most common safety rails will be sufficient to maintain patient safety.

Suitable as a rental system

CuroCell® Ci support surfaces are easy to store and handle. Both the overlay- and safety mattress consist of air cells. The construction is developed to be light and easy to fold and pack down into its bag so that installing or collecting it is straightforward. Combine this with the low bed height of the 17 cm replacement mattresses, and you have a solution which can be rented and easily recovered for cleaning or full reconditioning.



A sustainable quality that endures

In line with our sustainability commitment to long product lifetime, the support surfaces are developed with durable and good quality material.

Comparison of main features	CuroCell® Ci10	CuroCell® Ci17	CuroCell® Ci20
Recommended user weight	Up to 170kg	Up to 200kg	Up to 230kg
Height	10cm	17cm	20cm
Sizes	80/85/90/100/105/120 × 200cm	80/85/90/100/105/120 × 200cm	80/85/90/100/105/120 × 200cm
Overlay mattress	✓		
Replacement mattress		✓	✓
Safety air mattress		✓	✓
Individually replaceable cells			
Replaceable cell sections	✓	✓	✓
Innercover in mesh fabric			
Carrying handles			
Integrated cable holder		✓	✓
Divisible cover			



Integrated heel function

The support surfaces are designed with an integrated heel function, aiming to reduce pressure on the heels.



Transport function

For additional flexibility, our CPR valves include a detachable lid. This means the support surface can be sealed and pressure maintained for at least 12 hours without being connected to an air supply.



In case of power failure

The valves in the control unit open automatically in the event of a power failure and equalize the pressure in the mattress to a Constant Low Pressure for at least 12 hours. There is no need to manually disconnect the support surface and close the lid if a power failure occurs.



Well-protected zipper

The zipper is protected to maintain the lifespan of the support surface, ensuring good hygiene over time designed with the aim to reduce the risk of patient infection.

Covers for reduced shear and hygiene

The support surface is supplied with a liquidproof hygiene cover for easy cleaning. The hygiene cover is manufactured in a four-way stretch⁽⁶⁾⁽⁷⁾ fabric to reduce the risk of shear forces, and is vapour-permeable⁽⁸⁾ to lower the risk of skin maceration. The hygiene cover also features a liquidproof zipper.

Available covers:



Stone:

- Welded seams
- Color: dark grey
- Material: 61% polyamide 39% polyurethane coating
- Withstands wiping with a 10% chlorine solution



Olivia

- Sewn seams
- Color: light grey
- Material: 55% polyester, 45% polyurethane coating
- Withstands wiping with a 1% chlorine solution



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Technical specification support surfaces	
Pressure ulcer category	Up to and including category IV ⁽⁵⁾
Material	PVC-free mattress with TPU coated nylon
Compatible control units	CuroCell iA® Automatic CuroCell iA® Manual
CE-marking	Control unit and support surface are registered and marked separately in accordance with MDR (EU) 2017/745
Cleaning instruction	Wipe with cleaning agent and/or disinfectants
Optional	Transport bag

References

- (3) EN ISO 11201 Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels”, SP 2018.
- (4) ISO 3746:2010 "Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane"
- (5) European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline. Emily Haesler (Ed). EPUAP/NPIAP/PPPIA: 2019.
- (6) CDC (2003), Guidelines for Environmental Infection Control in Health-Care facilities, updated 2019.
- (7) SS 876 00 20:2017, Healthcare textiles - Mattresses - Specifications and requirements.
- (8) SS-EN ISO 15496:2004, DIN 53122-1.

Care of Sweden is an innovative company in the medtech sector, devoted to the cause of eliminating pressure ulcers around the world.

Our product range covers mattresses, positioning pillows and seat cushions, used as an aid in the prevention as well as treatment of pressure ulcers. Our head office, R&D and production are located in Tranemo, western Sweden, and our products are used in care facilities across Sweden as well as in many other parts of the world.

 care of sweden

SUPPORTING LIFE