Beds and Mattresses

Clinical introduction

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Introduction to the **NordBed family**

The NordBed family continuously promotes independence and mobilisation. With the ErgoMove technology and auto-regression, pressure care is at the heart of the NordBed family.

Covering a range of clients needs, the family includes the basic NordBed Essential that features homely aesthetics, ensuring the perfect fit for nursing home environments, to our NordBed Optimo range, ideal beds for homecare environments. In three size offerings, the Optimo bed has been designed to suit a range of requirements. Completing the range is the more advanced NordBed Ultra, designed for nursing home environments for clients with a range of physical and cognitive needs, for example, dementia.

The NordBed range fits easily into nursing home or homecare environments ...

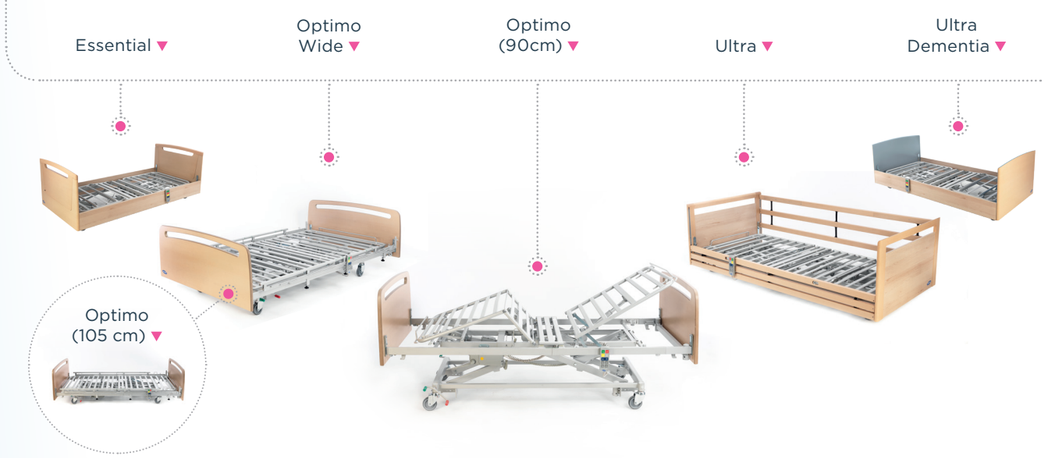
and can be personally configured to meet the client's aesthetics wishes, with a range of side panels, side rails and more.

1 Meet the family

From our basic NordBed Essential through to our advanced NordBed Ultra.

The NordBed family provides exceptional comfort...

and ease of use for clients and care staff.



KEY FEATURES *AT A GLANCE*

ErgoMove Technology

- Brings the client to a sitting position without being pushed down the bed
- Reduces shear, friction and maintains torso angle

Up-and-Out

- Supports ergonomic movements of the client
- Promotes safe and smooth transfers

Easy Handling

- Can easily be dismantled (without the use of tools)

Remember Me

- Programmable LCD handset
- ErgoMove and Up-and-Out can be adjusted to fit individual needs

ErgoMove technology

The ErgoMove technology has been specifically designed to bring the client from a lying position to an active sitting position comfortably, with a push of a button. The active position promotes client function, such as eating, drinking and reading.

The movement sequence ensures that the client stays in position and does not slide (migrate) down the bed, this reduces shear, friction and compression forces, which can lead to pressure ulcer development.

When the client is seated within the indicated section on the bed frame, this ensures that the pelvis is stabilised and correctly positioned in order to prevent sliding as the bed profiles. The pivot points on the bed frame match the body's own natural pivot points at the hip and knee. This combined with the built-in auto-regression, which moves and positions the backrest so that the mattress does not slide, allows for body compensation, this significantly reduces shear whilst bringing the client to a sitting position.

Supporting single handed care, this intuitive feature will avoid the need for care staff to reposition the client. The optimised length of mattress support sections are set according to anthropometric measurements, which allows the profiling sections to fit to and support most adults.

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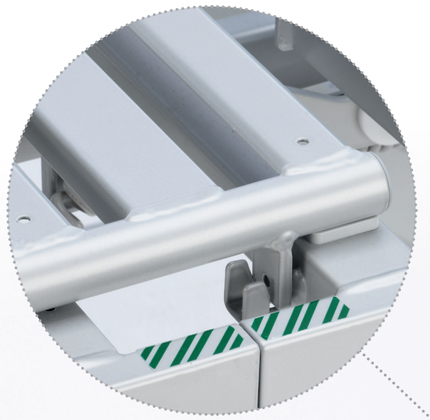
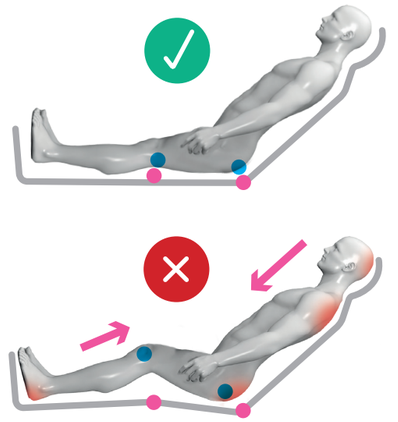


Clinical benefits:

- Pivot points on the bed frame allow for body compensation, reducing shear, friction and compression of the torso
- The buttocks of the clients remain in the same position, eliminating the risk of sliding or movement



What is shear?

Shear forces are parallel forces (forces acting in different directions to each other), sometimes described as stretching forces, caused by the effects of gravity. Static shear occurs when the pelvis has migrated down within the seat surface and is often associated with a posteriorly tilted position.

Dynamic shear can occur during short range reciprocal movements, such as leaning and reaching. In these cases, movement of the skeleton against the inner layers of the skin and tissue creates excessive strain, causing the upper layers of the skin to be pulled away from the deeper layers. This is the reason tissue damage is often greater internally than externally. Sacral skin breakdown is often related to shear issues.

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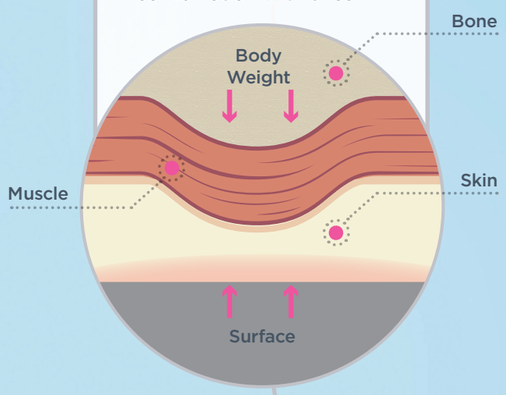
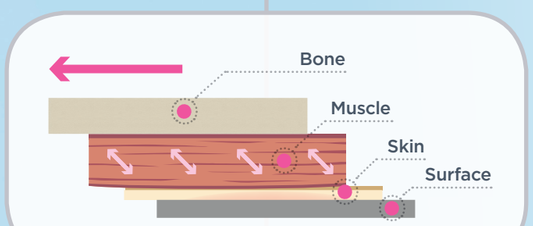
The importance in which the bed profiles

- When elevating the backrest, the knee break should be activated first to prevent sliding down the bed, a knee break provides a pivot point at the knee to allow the thigh and lower leg to articulate.
- This sliding action can cause shear forces and for those at risk of developing pressure ulcers (or bed sores) can contribute towards skin damage.
- The knee break can also be used to fully support the thigh and lower leg in a comfortable and stable position, which can help alleviate pressure on the heel area.

Pressure ulcers

A pressure ulcer is a localised injury to the skin and/or underlying, tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear*.





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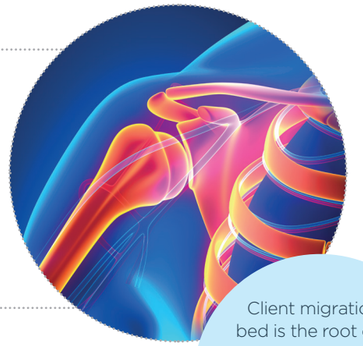
Auto-regression

Auto-regression is key for body length compensation. It allows the bed to cradle the client, accommodating for natural elongation of the body during bed articulation.

The lengthening of the head section on the NordBed range allows the bed and mattress to move as one, cradling the client whilst accommodating for natural elongation of the body during bed articulation, ensuring there is no loss of support. On the NordBed range the length of the mattress sections has been optimised to accommodate for average adult anthropometric body measurements, (back of pelvis to knee crease) allowing the profiling sections to fit to and support 95% of the average adult population, reducing friction, shear forces and a reduction in torso angle on the body as the bed articulates.

The hip and knee pivot points reduce migration of the client towards the foot of the bed during articulation by stabilising the pelvis and providing a small 'stop' for the thighs, which reduces shear and friction, not only on the vulnerable sacral region but also on the heels. Without the built-in auto-regression system, body length compensation would not occur, putting the client at risk of skin damaging forces, whilst leaving the heels unsupported. The toes, midfoot or heel may also end up firmly pressed against the foot of the bed, causing additional pressure buildup to occur.

Migration poses a high risk for clients due to the increased shear and friction between the client and the mattress, but it is also detrimental for caregivers and healthcare workers as it poses an increased risk for musculoskeletal injury, given the number of times a client may need to be repositioned in bed.



Client migration in bed is the root cause of musculoskeletal disorders in healthcare workers due to thenumber of times clients need to be repositioned.

Client migration in bed is due to two reasons:

a **Gravity over time**

b **Bed design**

Migration - increases shear and friction between the patient and the mattress. Reduces torso angle causing compression.

5 Benefits of an active sitting position

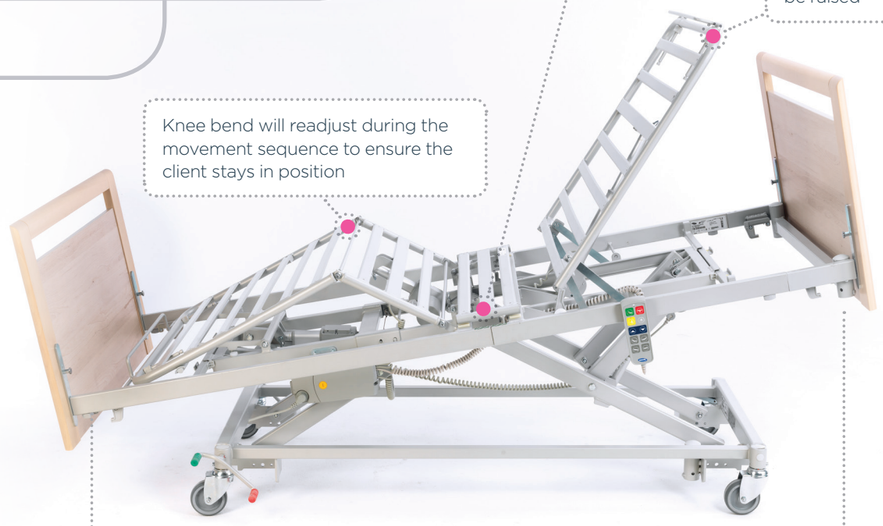
The clinical benefits of an active sitting position are promoting and optimising independence from the bed for: reaching, transferring, feeding, reading, social interaction, physiological system function (such as digestion and vision).

An active sitting position:

- Center Of Gravity (COG) easier to bring legs round and out
- Sitting on the Ischial Tuberosities (IT's) redistributes pressure more equally
- Reduces the amount of time for care staff to reposition

Green stickers indicate where the client needs to be

Backrest will be raised



Knee bend will readjust during the movement sequence to ensure the client stays in position

Bed will enter the anti-trendelenburg movement to ensure an active sitting position

Importance of mobility and independence with the Up-and-Out feature

The Up-and-Out function puts the bed into the most suitable position for the client for transferring in and out of the bed.

The bed adapts from any position into the ErgoMove sequence, with the backrest raised and the knee brake activated, to ensure the client is not pushed down the bed. Once at 39 cm height the knee brake will then go flat (this helps to maintain the position of the buttocks and prevent sliding)

6

If the client requires the bed in a higher or lower height, they will either need to press up or down, or the bed can be reprogrammed, with the Remember Me function on the handset, to the most appropriate height to suit them.

7 RememberMe functionality

The programmable LCD handset can be adjusted to fit the client's needs. Both the ErgoMove and the Up-and-Out feature can be set to the clients preferred position.

Programming the ErgoMove and/or Up-and-Out features will reduce the need to reposition the client as the buttocks are kept in position.

The NordBed programmable handset has been designed with easy recognisable colours for clients who are weak-sighted

8 Handset design

The handset has been designed with the most frequently used buttons in easily identifiable colours. These colours have been chosen in collaboration with with experts. To assist the client, all buttons will light up when any button is touched for easy recognition during the day or night.

To ensure easy selection, the most frequently used are positioned at the top of the handset. The adjustment features (such as: backrest angle) are placed below the up/down buttons. For the client's safety all handsets are lockable as standard.

A locking system has also been added to the handset to prevent unwanted tampering with the controls, helping ensure client safety.

9 Supporting those with dementia

For clients with dementia, creating familiar homely environment and surroundings, especially if the person can no longer be supported within their own home and can be an important process in helping to manage the disease. The NordBed range offers a vast selection of textures and colours to help replicate a client's bed at home.

Soft covers available on bed ends and side panels, gives the NordBed Ultra a homely, tranquil feel for the client.

The use of bed rails is not recommended for someone with dementia. Fall prevention can be managed if required by using the low height option of 25 cm. A light under the bedframe also increases client safety, especially during the night when exiting the bed or returning from the bathroom, for example.

Fall prevention

10 a

As the human population continues to grow and modern medicine produces longer life spans, the number of those at risk for injurious falls, due to age and disease, increases.

The human cost of falling includes distress, pain, injury, loss of confidence, loss of independence and increased morbidity and mortality. Falls are the second leading cause of accidental or unintentional injury deaths worldwide.

What causes falls:

Poor vision

Muscle weakness

Balance problems

Long term health conditions – heart disease, dementia, low blood pressure (hypotension) osteoporosis

Globally, each year an estimated **646,000*** individuals die from falling In England and Wales alone

There are **240,000*** reported falls in acute hospitals and mental health trusts every year (that is over 600 a day). Cost of falls for the NHS in older people as estimated by NICE 2015 is £2.3 billion

*World Health Organization

37.3 million** **falls are severe** enough to require medical attention occur each year

**Figure from WHO

b

Adults aged 65 years and over are most at risk, this is due to physical, sensory and cognitive changes. To support fall prevention, a safe environment needs to be ensured for clients, and environments need to continue to be adapted for an ageing population.

Low profile

Research has been conducted into the use of a low bed in preventing falls at the bedside. The recommendation is that when unsupervised a bed should be lowered as much as possible, especially for those who have been assessed as a falls risk.

Support handles

When working directly with a client, support handles can be fitted or used when the client is transferring in and out of the bed. The bed can be raised up to 39 cm to assist with bed transfers, higher bed heights have been shown to help with the inertia forces needed to initiate sit to walk, to further assist this process the NordBed range has an intuitive Up-and-Out feature, helping sit to stand transfers as a prerequisite to walking,

Underbed light

For further fall prevention, use of the underbed light is also highly recommended.

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Single handed care

The NordBed range promotes single handed care via a number of ways:

ErgoMove technology:

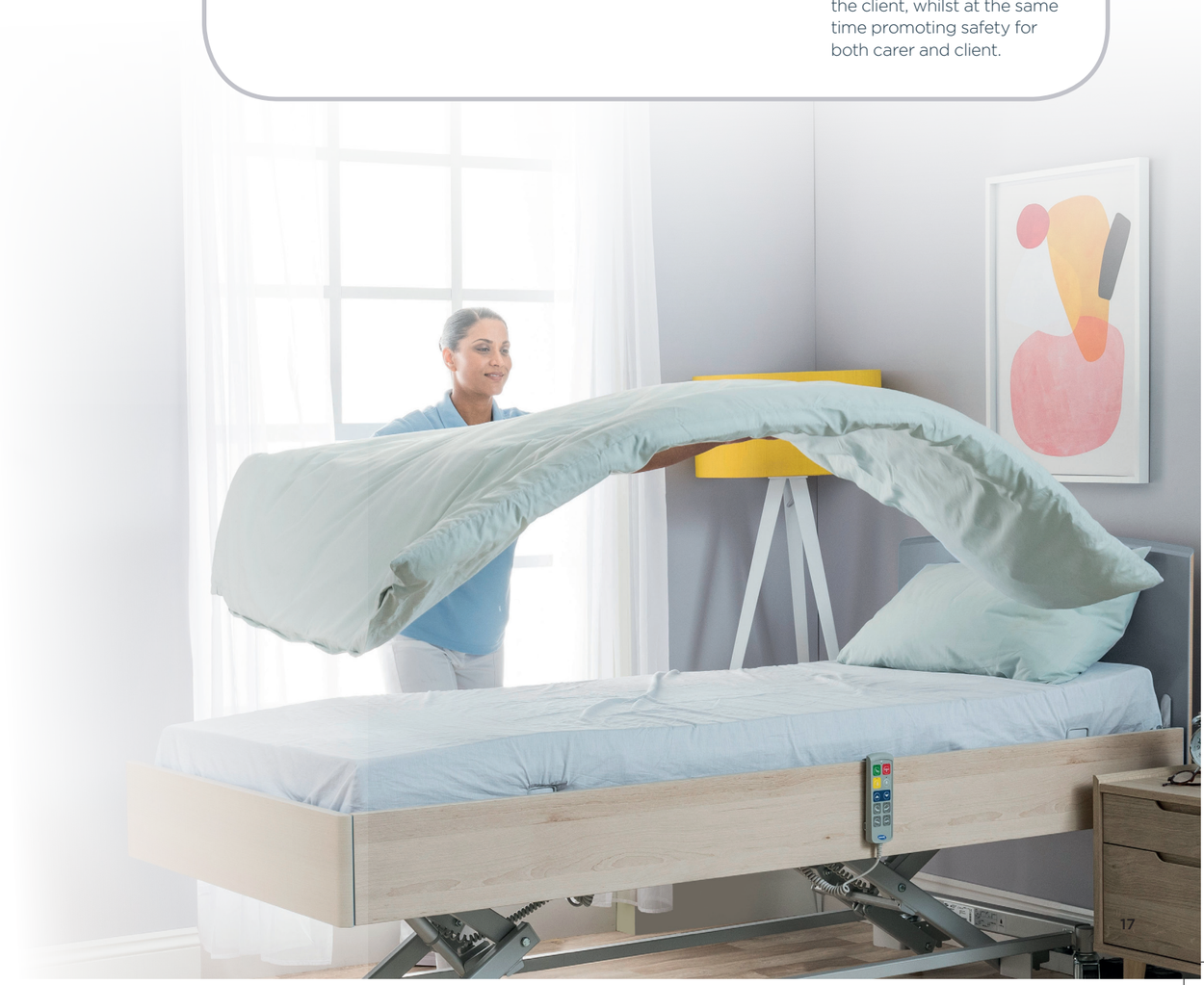
- Prevents sliding or migration in bed, therefore, reducing the number of times a client has to be repositioned, this in turn reduces the risk of musculoskeletal injury to the carer.

Up-and-Out:

- Supports a safe and smooth transfer which can be programmed and activated at the touch of a button, helping the client retain their independence. This makes it quick and effective for both the client and care giver.

Remember me:

- Allows both ErgoMove and Up-and-Out to be programmed specifically to each client and activated at the touch of a button, this design feature helps reduce time and fuss when working around the bed, ensuring comfort and relaxation for the client, whilst at the same time promoting safety for both carer and client.



Mattress provision

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Choosing the right support surface

When it comes to choosing a mattress, the choices available on the market are vast. It's the job of the professional to choose the right surface for a client, based on their individual needs and clinical requirements.

Providing an adequate support surface for each client or resident is an integral part of most pressure ulcer prevention protocols. Invacare offers a comprehensive portfolio of support surfaces to address the needs of every person.

Our range of mattresses are designed for individual needs in all care environments.

Invacare's support surfaces are designed to help you optimise results

When choosing the right support surface for your client you need to take an individual approach and constantly monitor as part of a comprehensive pressure ulcer protocol.

International guidelines state:

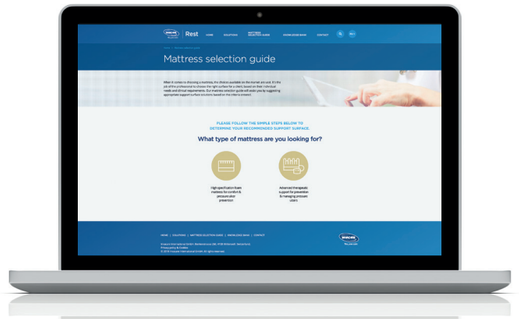
Consider the individual's need for pressure redistribution based on following factors:

- level of immobility and inactivity;
- need for microclimate control and shear reduction;
- size and weight of the individual;
- risk for development of new pressure ulcers; and
- number, severity, and location of existing pressure ulcer(s).

To be able to choose a support surface that is compatible with the care setting, the following needs to be considered: the weight of the bed, the structure of the building, the width of doors, the availability of uninterrupted electrical power, and safe location for the pump/motor, including its ventilation. Plans should be in place for the contingency of power failure.

Examine the appropriateness and functionality of the support surface on every encounter with the individual.

Based upon above criteria, it is possible to choose the right Invacare support surface for your client.



www.Invacarerest.com/europe-en/guides/matress-selection-guide

Invacare has developed an online mattress selection tool to guide you through the process.

A versatile range of support surfaces designed to address individual needs and offer a combination of comfort and pressure reduction.

Essential range

The Essential range has four models offering a range of pressure redistributing support surfaces to provide exceptional comfort, pressure reduction and value for money. The Essential range products feature a durable quality foam and a high quality multi stretch polyurethane fabric cover which helps to reduce shear and friction forces.

Dacapo range

The Decapo range is a broad range of mattresses designed to match customer's requirements within Invacare's homecare and hospital bed ranges. Selecting from high resilience, environmentally friendly, or high density visco-elastic foams within the Standard, Comfort and Preventive ranges, Dacapo has been developed to offer optimal cushioning and pressure relief without compromising on hygiene and client friendliness.

Softform range

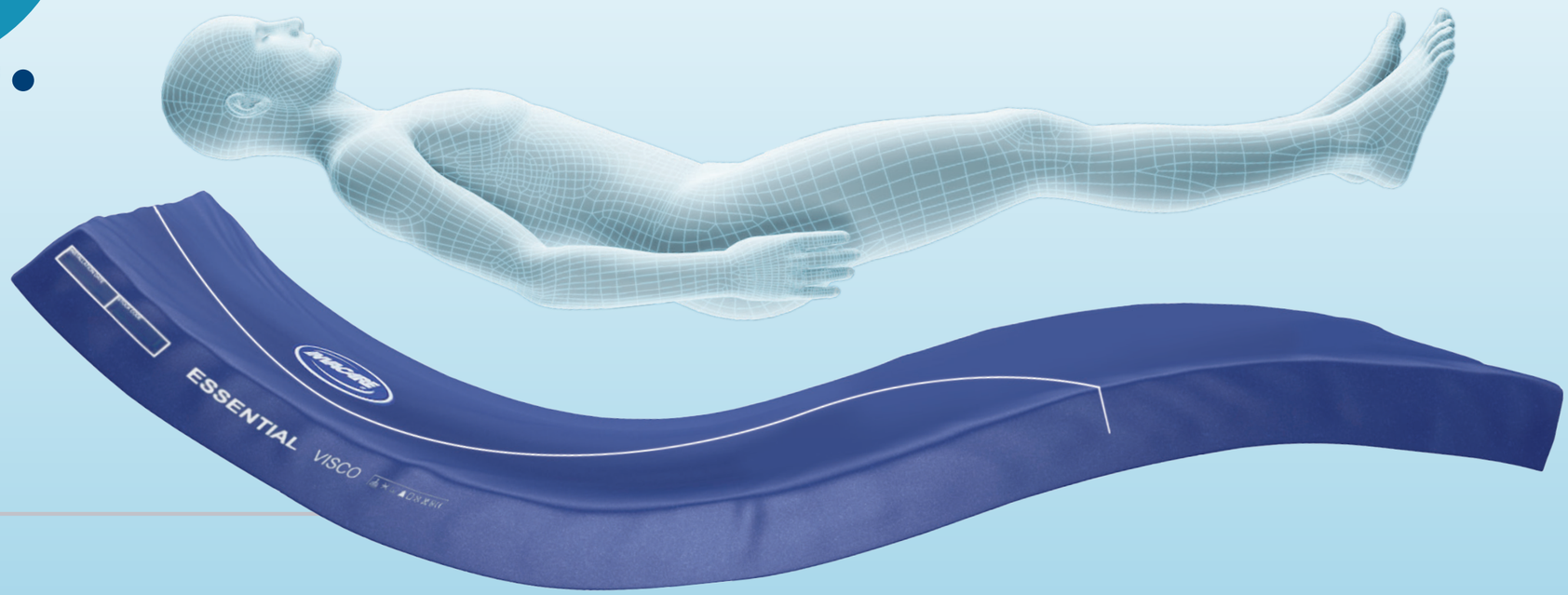
The Softform range is a high specification anti-decubitus mattress designed to meet the demands of the modern ward environment. Practical and durable, this range delivers exceptional levels of comfort and pressure reduction.

SoftCloud™ range

The SoftCloud™ mattresses and overlay are a range of high quality active support surfaces, designed for patients at 'Very High Risk' of developing pressure ulcers. The alternating pressure within Invacare's SoftCloud range has been designed to mimic the natural protective environment of regular spontaneous movement, by redistributing pressure several times each hour, even if the patient does not move.

Softform Premier Active 2 range

The Softform Premier Active 2 combines the pressure redistributing qualities of specially cut foam castellations at the patient interface, with air cells beneath which can be inflated as required to provide active therapy. This construction ensures the patient is always supported by enveloping supportive high specification foam, whether the control unit (powering the air cells) is switched on or off. The comfortable high specification foam provides effective pressure redistribution and ensures comfort is maintained at all times.



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Invacare International GmbH
Benkenstrasse 260
4108 Witterswil
Switzerland
Tel: +41 61 487 70 70
hqeurope@invacare.com
www.invacare.eu.com

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Yes, you can.®