

medstrom aria[®] cushion



Air Immersion Low Profile Seat Cushion

medstrom⁺
Improved Patient Outcomes



A superior solution for effective
pressure area care

Mobilisation without
compromise

Ultra-portable for improved patient
and caregiver experience

Seating Matters

If a patient is clinically able, the advantages of sitting out of bed include¹:



Stimulation of mobility



Increased alertness



Improved nutrition

The adverse effects of bed rest versus the advantages of sitting patients out of bed are well known, supported by NHS Improvement's #Fit2Sit campaign². However, skin integrity is an important consideration when a patient is sat out.

A key study identified that only a small amount of pressure can lead to the development of pressure ulcers, in as quickly as one to two hours when patients are within a seated position³. This is due to the patient's entire body weight being redistributed to a small area, resulting in higher pressures⁴.

The installation of a therapeutic support surface for a patient in bed is well-documented and understood; yet, the provision of effective pressure area care devices whilst the patient is out of bed is often overlooked.



Current Limitations

Typical pressure redistributing cushions use foam or gel, both of which have drawbacks. An alternative choice that overcomes these challenges is a dynamic air cushion.

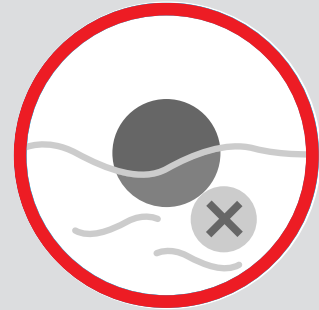
Many of this cushion type share the same air supply unit as a dynamic air mattress. If a patient is mobile and likes to sit out for long periods of time, they therefore require a dynamic mattress to be in situ in order to access the seat cushion.

This results in diminished caregiver convenience due to switching systems, plus over-utilisation of air mattresses and poor resource management. Additional disadvantages of sharing an air supply unit include:

- Products being set-up incorrectly
- Deflated mattresses whilst the cushion is in use, preventing true 24-hour pressure area care
- Challenging portability and storage as a mattress air supply unit is larger in nature



Common drawbacks of foam or gel cushions include:



Limited immersion capabilities



Reduced product life due to compression i.e. "bottoming out"



Low governance with infection prevention

Right product, right patient,
right time

ARIA FLEX SEMI-DYNAMIC



ARIA PRO DYNAMIC



ARIA DYNAMIC



Experience the benefits of air immersion technology with the Medstrom Aria range of pressure area care solutions. All designed to meet your clinical and operational needs whilst delivering improved patient outcomes.

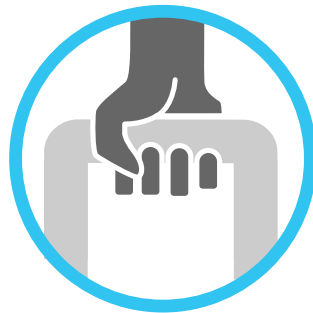
Introducing the Medstrom Aria Cushion

The Medstrom Aria® dynamic cushion is suitable for low to very high risk patients. Based on years of experience in pressure area care product development, the Medstrom Aria cushion utilises modern air immersion technology that has already proven successful via the introduction of the Medstrom Aria dynamic mattress range.

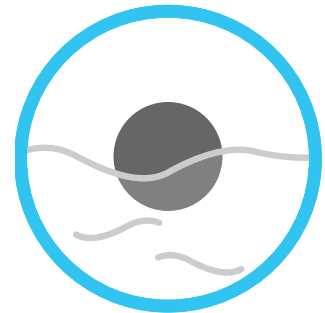
The Medstrom Aria cushion is designed to be ultra-portable and compact, with its own control unit accompanied by a 12-hour battery life to acknowledge the drawbacks with traditional systems. Equipped with an ultra-low profile of just 6.5cm and innovative cubed cells, the cushion ensures safe mobilisation to and from a chair without compromising on therapeutic benefits.



Low profile

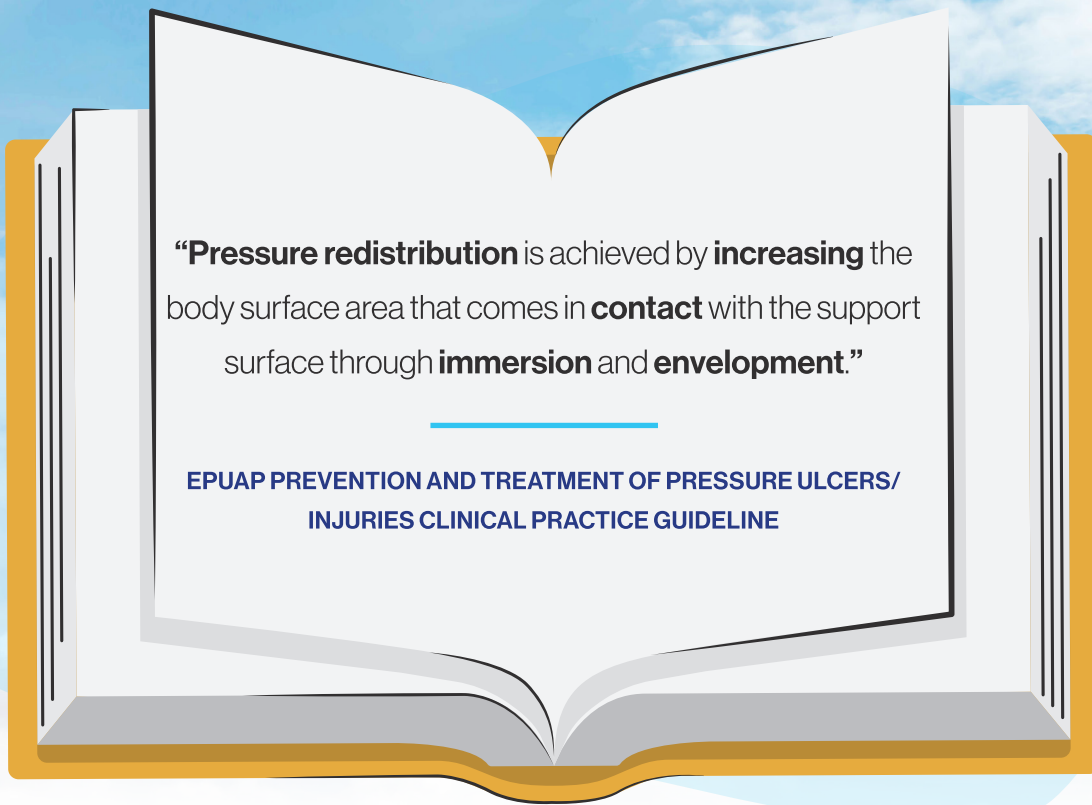


Ultra-portable



Effective immersion



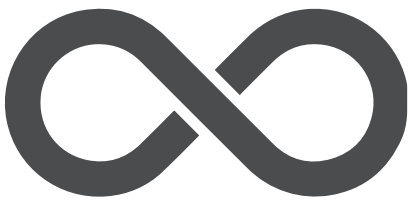


“**Pressure redistribution** is achieved by **increasing** the body surface area that comes in **contact** with the support surface through **immersion** and **envelopment**.”

**EPUAP PREVENTION AND TREATMENT OF PRESSURE ULCERS/
INJURIES CLINICAL PRACTICE GUIDELINE**

Air Immersion Technology

The air immersion technology in the Aria cushion focuses on immersion and envelopment and uniquely offers reactive and active features as defined by EPUAP⁵. Overall, giving clinicians a choice of therapy mode driven through the immersion logic board.



Constant Immersion

Defaulting to reactive constant immersion mode, the Medstrom Aria cushion automatically reacts and adapts each time the patient moves on the cushion, ensuring the contact area is maximised.

This provides accurate immersion at all times, thereby minimising tissue deformation.



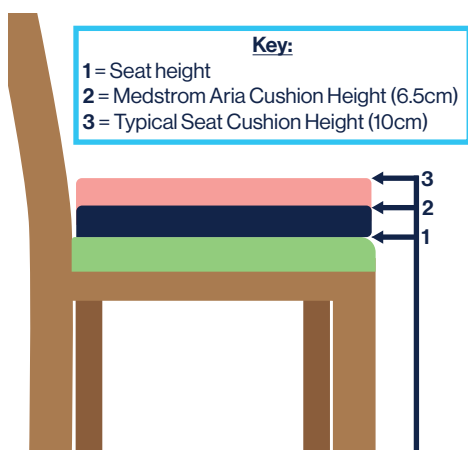
Active Therapy

The second therapy mode is active therapy, providing periodic off-loading benefits with a choice of time cycles that can be altered dependent on patient tolerance.

Mobilisation Without Compromise

Getting patients to place their feet flat on the floor is crucial to both mobility and tissue viability. Using popliteal height to get a patient into an optimum mobilisation position is well documented⁶ and even within the Society of Tissue Viability's seating guidelines, they advise⁷.

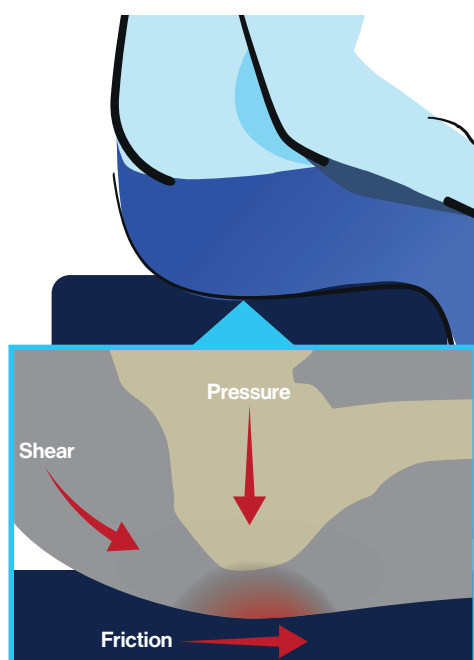
"If a seat is too high, the individual may slide down the seat in order to place their feet on the floor or footplates to support themselves. This could also lead to pressure damage to the skin around the tailbone area. To check the appropriateness of the height of the seat for an individual make sure they can comfortably place their feet on the floor."



Seat Height

Adding a seat cushion will affect the seat height and historically, many dynamic seat cushions are designed with a high height of around 10cm to 13cm to accommodate for immersion.

Through innovation, the Aria seat cushion addresses these mobilisation challenges and offers an ultra-low profile of just 6.5cm, whilst still providing an effective, immersive and supportive platform. The ultra-low height ensures safety is not compromised and patients can effectively mobilise, mitigating the risk of potential pressure damage from sliding on the chair.



Reducing Shear, Strain and Friction

When a patient is in a seated position, shear and frictional stress is at higher risk for various reasons:

- Small movements (i.e. to reach or repositioning) causing pelvic shifts
- Poor or asymmetric posture causing posterior pelvic tilt
- Transfers on and off the chair causing weight to shift

This activity results in tangential forces, therefore it is essential that the cushion is designed to absorb shear and frictional forces as much as possible.

The Aria seat cushion helps to prevent vertical shear forces as the patient is accurately immersed, therefore minimising cell deformation. Furthermore, the cushion is designed with a multi-stretch X-treme cover that moves with the patient during any movements, postural challenges or transfers, thus absorbing the forces and protecting the skin.



A Breath of Fresh Air...



1 Cubed cells: The cells in the Aria cushion are cubed and not circular like traditional dynamic cushions. A cubed cell creates wall-to-wall contact to increase surface area and immersion, whilst allowing stability to self-mobilise.

2 Ultra-portable: The Aria cushion boasts a 12-hour battery life as standard, allowing users and clinicians full flexibility. Hospital environments often have limited bed space, therefore an extended battery life avoids restrictions with finding power sources.

3 Whisper quiet: Modern manufacturing has enabled the decibel level within the Aria cushion to be incredibly low, ensuring minimal disruption when in use.

The Medstrom Aria Cushion offers an **improved patient and caregiver experience.**



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4 **Bespoke comfort:** Equipped with five comfort settings and the ability to customise the cycle times when in active mode, the Medstrom Aria cushion allows users to adapt the settings to accommodate their individual needs.

5 **Standardisation:** The user interface/experience across the entire Medstrom Aria portfolio has been standardised to drive easier training and utilisation of resources. The intuitive air supply unit facilitates simple operation, reducing the need for complex training.

6 **Durability and cleaning:** All parts within the Aria cushion are fully launderable and replaceable. This extends the product's life and avoids condemning if strike-through occurs. Medstrom's X-treme covers are also durable and adhere to all infection control governance.

Technical Specification:

Max patient weight:	200kg
Cushion dimensions:	43cm x 43cm x 6.5cm
Control unit dimensions:	25cm x 12.2cm x 5.7cm
Weight of cushion:	1.1kg
Weight of control unit:	1kg

References:

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3. Orsted, HL; Ohura, T et al. 2010. International review. Pressure ulcer prevention: pressure, shear, friction and microclimate in context. A consensus document. London. Wounds International.
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5. EPUAP. 15th November 2019. Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline 2019.
6. Martindale, D. Calculating bed height for hospital patients using popliteal measurement. Nursing Times [online] October 2021 / Vol 117 Issue 10
7. Bartley, C; Stephens, M. February 2018. Seating Guidelines – Understanding the association between pressure ulcers and sitting in adults what does it mean for me and my carers? Society of Tissue Viability [online].

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