ADVANCED MICROCLIMATE MANAGEMENT

Skin IQ™ – Solution Guide

Providing the optimal environment for skin integrity

arjo
with people in mind

Pressure injuries are a global challenge for patients and caregivers

Pressure injuries present a global challenge to healthcare providers, causing unnecessary suffering to patients and creating a serious financial burden for healthcare facilities. Costs associated with pressure injuries exceed $11 billion every year in the US alone.[1]

Risk factors that can lead to pressure injuries include:[2]

Moisture

Excessive moisture on the surface of the skin reduces patient resilience to withstand pressure, shear and friction, some of the key risk factors that lead to the development of a pressure injury.[3]

Excessive moisture can be generated from multiple factors including:

- Perspiration due to elevated body temperature
- Fluids from incontinence
- Wound drainage
- Factors specific to a patient's clinical condition

By addressing and applying the appropriate solutions and protocols, pressure injuries in care environments can be successfully prevented and treated.

Source: Moore, Z. (2011). A randomized controlled clinical trial of repositioning, using the 360 tilt, for the prevention of pressure ulcers, Journal of Clinical Nursing

Skin IQ Microclimate Management for the prevention and treatment of pressure injuries*

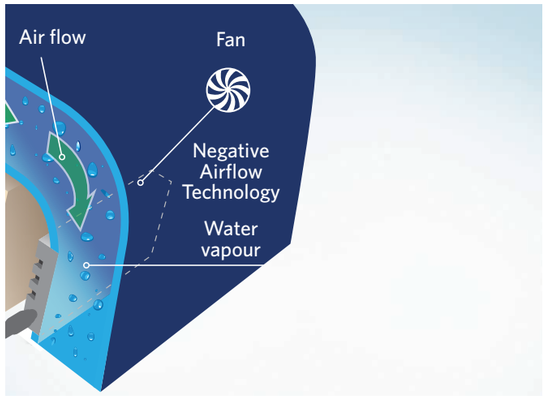
Skin IQ Microclimate Managment

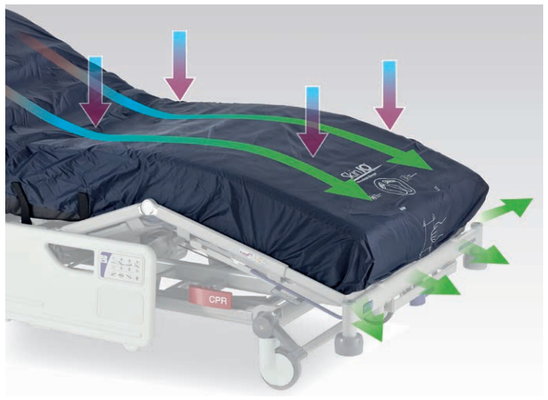
The Skin IQ Family of products are powered mattress covers that utilize state-of-the-art Negative Airflow Technology (NAT) to continually draw away excess moisture from the skin/surface interface, for superior microclimate management.

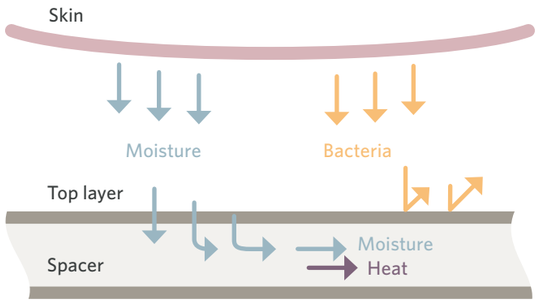
These products can be applied to most support surfaces for effective pressure injury prevention and treatment.

Managing moisture and temperature

Excess moisture is passed via an evaporative effect through the vapor permeable, antimicrobial containing top layer and into the middle layer spacer material. The top layer also serves as a barrier to fluid and bacteria.[4]







Negative Airflow Technology

NAT pulls moisture vapor that passes through the top layer into the middle layer's open construction spacer material with a vacuum effect.

Negative Airflow Technology provides:

- improved laminar airflow that eliminates surface billowing seen with standard air pumps
- increased air velocity beneath the patient for maximal moisture control.

*Skin IQ™ is indicated for use in conjunction with a pressure redistribution surface in order to aid in the prevention and treatment of skin breakdown and pressure injuries (stages I–IV) for patients who require microclimate management of the skin.

The Skin IQ family addresses your clinical & safety needs

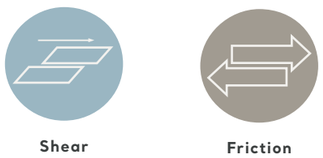
The National Pressure Ulcer Advisory Panel recommends that support surfaces be used as a part of a total program of prevention and treatment. Patients should be provided a support surface that is properly matched to their individual needs for pressure redistribution, sheer reduction, and microclimate control.[21]

The Arjo Skin IQ family of products are the only skin integrity solutions that utilize negative airflow technology to enable advanced microclimate management by better controlling excess moisture and heat at the patients' skin/surface interface, thereby optimizing pressure injuries management which can lead to improved clinical outcomes, risk mitigation and improved workflow.

Prevention and treatment of pressure injuries – a never event

Effective moisture and temperature control

Skin IQ reduces and regulates temperature at the skin/ mattress interface, reducing the risk of excess moisture and preventing tissue breakdown.



Reduced shear and friction

By managing interface temperature, Skin IQ reduces friction and shear for effective pressure injury prevention and treatment.

Increased patient safety

Low height profile supports fall prevention initiatives.

Increased patient comfort

With noise reduction technology and a height profile that does not affect pressure redistribution surface performance[5], Skin IQ improves patient comfort.

Adaptability

Skin IQ products are designed for compatibility with most pressure redistribution mattresses on the market today.

Improved workflow

Skin IQ is easy to attach and remove for an improved workflow.

Versatility

Skin IQ is available in multiple versions to fit your facilitie's needs: Disposable, Reusable or Bariatric.

Effective odor control

Skin IQ significantly reduces odor compared to the same surface without airflow[6].

Skin IQ – Family features

	Skin IQ MCM	Skin IQ 365	Skin IQ 1000
Vapor Permeable Top Layer facilitates removal of excess patient moisture, serves as a barrier to fluid and bacteria[4] and provides a smooth surface for reduction of friction and shear[7]	●	●	●
Negative Airflow Technology continuously draws moisture away from the skin surface and helps manage skin temperature	●	●	●
Excellent Moisture Vapor Transmission Rate (MVTR) that is significantly greater than the average 79.2 g/m²/hr of conventional powered air surfaces[8,9]	●	●	●
Purchasable, Single Patient Use coverlet to help address concerns with cross contamination	●		
Multiple Patient Use coverlet capable of being disinfected between patients via either laundry or wipedown		●	
Purchasable, Single Patient Use coverlet to help address concerns with cross contamination for use in patients weighing up to 1000 lbs (454 kg).			●

Skin IQ MCM, 365 and 1000

Electrical
All – Voltage 100 – 240 VAC
All – Frequency 50/60 Hz
Skin IQ MCM & 1000 – Ampere Rating 0.5A
Skin IQ 365 – Ampere Rating 0.3A

Max. Electrical Leakage
All – (100 uA at 115 VAC 60Hz) and (200 uA at 230 VAC 50Hz)
Skin IQ MCM & 1000 – Power Cord Length 6 M (19.69 ft)
Skin IQ 365 – Power Cord Length 6.1 M (20.0 ft)

Environmental Conditions
Operation
Skin IQ MCM & 1000 – Temperature Range 14°C (57.2°F) to 35°C (95°F)
Skin IQ 365 – Temperature Range 0°C (32°F) to 40°C (104°F)

Transport/Storage
Skin IQ MCM & 1000 – Temperature Range –29°C (20.2°F) to 60°C (140°F)
Skin IQ 365 – Temperature Range –29°C (–20.2°F) to 75°C (167°F)

Product information
Max. safe working load 227 kg (500 lbs).
Recommended duration of use for single patient is not more than 60 days for patients 172.37 kg (380 lbs).
Duration of use for patients weighing 172.37 kg (380 lbs) – 227 kg (500 lbs) is not to exceed more than 30 days.
Moisture Vapor Transfer Rate (MVTR) 130 (g/m²)/hr)[10].

Compatibility
The Skin IQ MCM is designed to fit on a pressure redistribution surface that is 203.2 cm – 213.4 cm (80 – 84″) long by 88.9 – 91.4 cm (35 – 36″) wide by 17.8 – 20.3 cm (7–8 in) high.

Consult product labeling for the pressure redistribution surface and / or bed frame for compatibility.

Additional weight limitations may apply.

Product information
Max. safe working load 227 kg (500 lbs).
Useful life of this product is one year or 35 laundry cycles, whichever comes first.
Moisture Vapor Transfer Rate (MVTR) 171 (g/m²)/hr)[11].

Compatibility
Skin IQ 365 is designed to fit on a pressure redistribution surface that is 203.2 cm – 213.4 cm (80 – 84″) long by 88.9 – 91.4 cm (35 - 36″) wide by 17.8 cm (7″) high.

Consult product labeling for the pressure redistribution surface and / or bed frame for compatibility.

Additional weight limitations may apply.

Product information
Max. safe working load 453.59 kg (1000 lb).
Recommended duration of use for single patient is not more than 60 days for patients 453.59 kg (1000 lb).
Moisture Vapor Transfer Rate (MVTR) 165 (g/m²)/hr)[12].

Compatibility
Skin IQ 1000 is designed to fit on a pressure redistribution surface that is 203.2 cm – 213.4 cm (80 – 84″) long by 121.9 cm (48 in) wide by 17.8 cm (7″) high.

Consult product labeling for the pressure redistribution surface and / or bed frame for compatibility.

Additional weight limitations may apply.

The clinically proven, standard of care

Outstanding Moisture Vapor Transmission Rate
Compared with currently available LAL surfaces, the Skin IQ Coverlet provides the highest MVTR and the most temperature reduction.[9*]

High Moisture Removal For Reduced Skin Maceration
Bench studies show that the Skin IQ Coverlet removes 3.8 times more moisture at the skin/mattress interface than the same mattress without the Skin IQ Coverlet[13], which may help reduce the incidence of periwound maceration.[14,15]

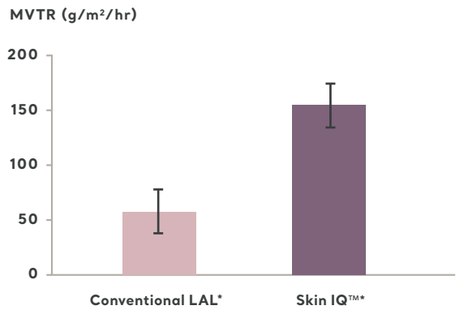
Reduces Temperature at Skin/Mattress Interface
Bench studies show that the Skin IQ Coverlet reduces temperature at the skin/mattress interface by more than 1°C in 45 minutes.[9] This translates to a 10% reduction in tissue metabolism rate.[16]

Reduces Shear and Friction
The Skin IQ Coverlet top layer material reduces shear and friction to help prevent and treat pressure injuries.[17]

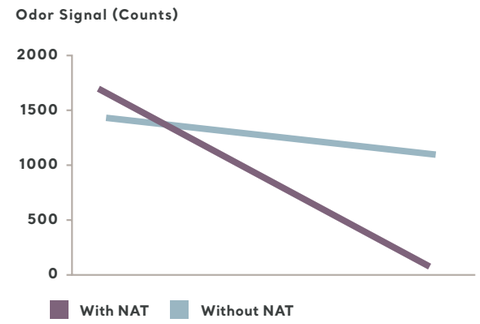
Helps Control Odor
Bench studies show that the Skin IQ Coverlet significantly reduces odor at the skin/mattress interface when compared to the same surface without airflow.[6]

Doesn't Diminish Pressure Redistribution Effectiveness
Pressure mapping testing shows that the Skin IQ Coverlet does not diminish the pressure redistribution properties of the underlying mattress.[5]

Moisture Vapour Transmission Rate



Odor Reduction at 30 days



> **The introduction of recent microclimate (MCM) technology into this facility has the potential to decrease rental costs while treating and preventing pressure ulcers and moisture-related breakdown.**

Jean deLeon, MD Director Wound Care Clinic Baylor Specialty Hospital, Dallas, TX, USA

> **...Skin IQ can simplify surface selections, expedite therapy (stored on each unit) while providing outstanding clinical results.**

Rose Raizman, CNS, Director Surgical Program, Ropuge Valley Health System, Toronto, Ontario, Canada

*Surfaces tested include: Encompass® AccuMax Quantum™, SenTech™ STAGE IV® 2000, Gaymar® SPRPlus® III, Stryker® Impression®, Hill-Rom® TotalCare® P500,Hill-Rom® Envision®, Hill-Rom® cuCair®, and Skin IQ™ MCM. A control plastic sheet was used on all surfaces.

Case study[18]*

Patient:
78-year-old male with head and neck cancer.

Diagnosis:
Patient suffered from dysphagia and incontinence resulting in skin breakdown and a high risk of pressure injury.

Initial skin breakdown

Initial treatment with Skin IQ:
The patient was placed on a Skin IQ Coverlet on a pressure redistribution mattress at admission and remained on the Skin IQ Coverlet for 27 days with follow-up at day 30.

Progress, discharge and follow-up:
Skin breakdown was resolved and patient was discharged.

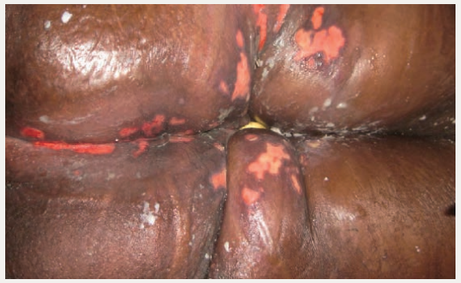
Follow-up at day 30

*All concomitant treatments remained constant before and after Skin IQ™ use

Case study[18]*

Patient:
A 54-year-old African - American female with human immunodeficiency virus (HIV) presented with a complaint of a clogged tracheostomy.

Diagnosis:
The patient had acute renal insufficiency along with Methicillin-sensitive Staphylococcus aureus (MSSA) pneumonia.



Initial skin breakdown

Initial treatment with Skin IQ:
The patient was placed on the Skin IQ Coverlet in conjunction with a pressure redistribution mattress and remained on the Skin IQ Coverlet for two weeks.

Progress, discharge and follow-up:
Skin breakdown resolved and patient was discharged to acute rehabilitation.

2 weeks post Skin IQ Coverlet

The cost efficient, environmentally friendly solution

Pressure injuries represent a major financial strain for healthcare providers. Pressure injury costs include extended patient stays, expensive treatment, and the draining of valuable caregiving resources.

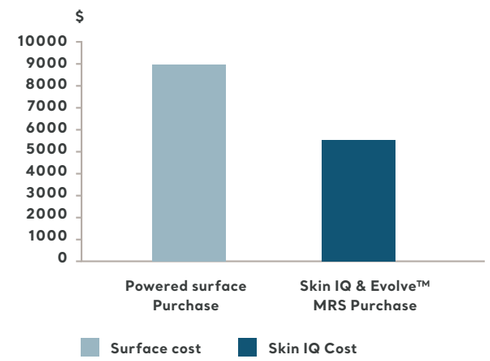
The introduction of Skin IQ to your facility can facilitate a reduction of needless cost associated with:
- Inceased length of patient stay
- Adverse events such as patient falls and entrapment
- Patient readmissions
- Treatment requirements

Skin IQ can offer a cost effective and comprehensive pressure injury prevention and treatment alternative particularly when compared with powered air surfaces.

Skin IQ use can also help reduce indirect costs for facilities.

Increase in indirect annual savings from reduced:
- Pressure injury incidence
- Patient infections
- Patient falls
- Patient length of stay
- Power consumption
- Labor costs
- Use of creams/emollients, dressings/pads
- Readmission rate

Surface Purchase Option



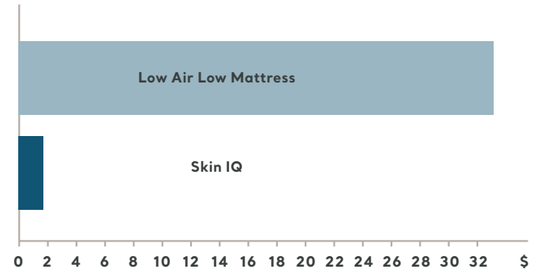
Based on average sales price and equitable life of product

Less energy

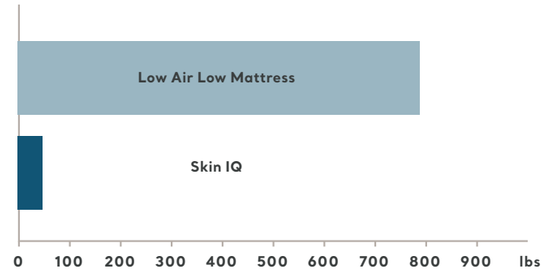
Skin IQ saves over $30 in electrical costs per hospital bed per year, consumes 83% less coal, and emits 83% less greenhouse gases from power generation.[19,20]

In addition to a low carbon footprint, Skin IQ is also:
- Latex free
- PVC free
- DEHP free
- Mercury free

Energy cost comparison[19]



CO_2 Gas emission comparison[20]



> **...Selection of an appropriate support surface should take into consideration factors such as the individual's level of mobility within the bed, his/her comfort, the need for microclimate control, and the place and circumstances of care provision.**
>
> The National Pressure Ulcer Advisory Pane & EPUAP Pressure Ulcer Prevention Quick Reference Guide

References
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3. Clark M, Romanelli M, Reger S, et al. London: Wounds International, 2010.3
4. ArjoHuntleigh data on file.
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16. Flam E and Raab L. European Pressure Ulcer Advisory Panel, Aberdeen, Scotland. May 5-7, 2005. Available at: http://www.epuap.org/aberdeen/page3.htm
17. ArjoHuntleigh data on file.
18. Case studies courtesy of Jean De Leon, MD, Medical Director, Baylor Specialty Hospital.
19. ArjoHuntleigh data on file.
20. Arjo data on file.
21. European Pressure Ulcer Advisory Panel, National Pressure Ulcer Advisory Panel. Prevention and treatment of pressure ulcers: quick reference guide. Washington, DC: National Pressure Ulcer Advisory Panel; 2000 Jan.

At Arjo, we are committed to improving the everyday lives of people affected by reduced mobility and age-related health challenges. With products and solutions that ensure ergonomic patient handling, personal hygiene, disinfection, diagnostics, and the effective prevention of pressure injury and venous thromboembolism, we help professionals across care environments to continually raise the standard of safe and dignified care. Everything we do, we do with people in mind.

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