

Optima Auto

Automating pressure relief delivery and improving pressure injury prevention for acute-care patients

Global pressure injury prevalence is 14.8% in acute hospitals. The sacrum, heel, and hips are primary injury sites, most frequently in Category/Stages I and II. Acute and surgical complications and improper skin microclimate management significantly increase pressure injury risks, hospitalization, workflow complexity, and resource consumption.¹⁻³

Clinical Guideline advises proper relief care and frequent repositioning to prevent pressure injuries; however, only 50% of inpatients have planned repositioning regimens and 20% use pressure relief equipment. Immobility and incontinence add significant risks to pressure injury severity, development, and caregiver workload.^{1,4-5}

Optima Auto automates mattress firmness, optimizing pressure injury prevention delivery, precision, and maintenance. Consistent airflow ventilation prevents moisture and heat buildup and improves skin microclimate control. Optima Auto streamlines caregivers' workflow while improving pressure injury prevention, comfort, and experience for patients.



Tailor immersion in 3 zones improves pressure relief

Torso is 40% of the total body weight and lacks tissues to protect bony prominences.⁶ Automating pressure relief to the head, torso, and lower leg in zones supports the Clinical Guideline's recommendation of improving full-body envelopment, pressure redistribution, and comfort.

Soft and conforming surfaces minimize tissue damage

Low air loss, stretchable PU covers, and TPU air cells deliver reliable skin microclimate management and comfort. It satisfies the Clinical Guideline's recommendation of minimizing friction and shear to reduce tissue deformation and pressure injury risks.

Additional sacral cushioning prevents bottom outs

Automating mattress firmness to support sitting combined with reinforced sacral cushioning aligns with the Clinical Guideline's recommendation of protecting patients from bottom outs and lower trunk pressure injury risks and improving patient comfort and safety.

Breathable covers optimize skin microclimate management

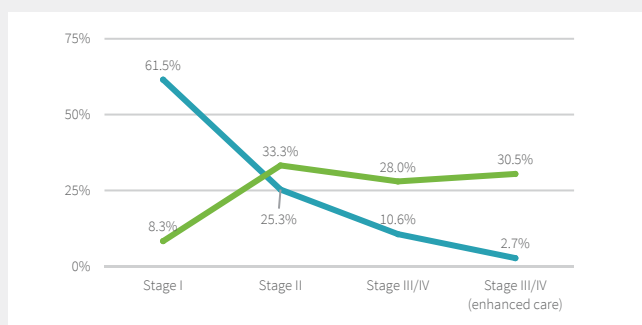
Proper airflow ventilation using high-performance cover – low friction and shear, water resistant, and vapour-permeable – meets the Clinical Guideline's recommendation of improving skin microclimate management, pressure injury prevention, and comfort.

Clinical Application

Category/Stage III and above hospital-acquired pressure injuries (HAPI) only account for 10% of all HAPI cases yet, 60% of all HAPI costs. HAPI extends hospitalization by up to 8 days and increases healthcare resource consumption and cost. Significantly more for surgical and critical care patients.^{1,7,8}



Sacrum and heel account for 44.8% and 24.2% of Category/Stage IV pressure injuries in intensive acute care.⁸ Immobility, poor health, and incontinence increase infections, moisture and heat buildup, and friction, leading to tissue breakdowns and pressure injuries.^{1,9}

The Clinical Guideline advises using specialized pressure redistribution support surfaces that can conform to patients' bodies, minimize tissue deformation, and provide proper skin microclimate management with low air loss to reduce pressure injury prevention and severity.¹



Proportion of costs accumulated by HAPI stage. Blue represents proportion of patients (%). Green represents percentage of incremental cost (%).⁷

- European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, & Pan Pacific Pressure Injury Alliance. (2019). Prevention and treatment of pressure ulcers/injuries : clinical practice guideline : the international guideline 2019. National Pressure Injury Advisory Panel. (Original work published 2022)
- Afzali Borojeny, L., Albatineh, A. N., Hasanpour Dehkordi, A., & Ghanei Gheshlagh, R. (2020). The Incidence of Pressure Ulcers and its Associations in Different Wards of the Hospital: A Systematic Review and Meta-Analysis. International journal of preventive medicine, 11, 171. https://doi.org/10.4103/ijpvm.IJPVM_182_19
- Chen, H. L., Chen, X. Y., & Wu, J. (2012). The incidence of pressure ulcers in surgical patients of the last 5 years: a systematic review. Wounds : a compendium of clinical research and practice, 24(9), 234-241.
- Stephenson, J., & Fletcher, J. (2020). NHS England/ Improvement National Pressure Ulcer Prevalence and Quality of Care Audit -Cohorts 1 and 2 National Stop the Pressure Programme Audit report. In National Wound Care Strategy Programme. NWCSPP. <https://www.nationalwoundcarestrategy.net/wp-content/uploads/2021/07/PU-audit-final.pdf>
- Stephenson, J., & Fletcher, J. (2020). NHS England/ Improvement National Pressure Ulcer Prevalence and Quality of Care Audit -Cohorts 1 and 2 National Stop the Pressure Programme Audit report. In National Wound Care Strategy Programme. NWCSPP. <https://www.nationalwoundcarestrategy.net/wp-content/uploads/2021/07/PU-audit-final.pdf>
- Jensen R. K. (1989). Changes in segment inertia proportions between 4 and 20 years. Journal of biomechanics, 22(6-7), 529-536. [https://doi.org/10.1016/0021-9290\(89\)90004-3](https://doi.org/10.1016/0021-9290(89)90004-3)
- Padula, W. V., & Delarmente, B. A. (2019). The national cost of hospital-acquired pressure injuries in the United States. International wound journal, 16(3), 634-640. <https://doi.org/10.1111/iwj.13071>
- Wood, J., Brown, B., Bartley, A., Margarida Batista Custodio Cavaco, A., Roberts, A. P., Santon, K., & Cook, S. (2019). Reducing pressure ulcers across multiple care settings using a collaborative approach. BMJ open quality, 8(3), e000409. <https://doi.org/10.1136/bmjopen-2018-000409>
- Therattil, P. J., Pastor, C., & Granick, M. S. (2013). Sacral pressure ulcer. Eplasty, 13, ic18.

Specifications	Optima Auto
Pump	
	Dimension 34.1 x 16.5 x 26.0 cm ; 13.4 x 6.5 x 10.2 in
	Weight 4.5 kg / 9.9 lbs ; 5 kg / 11 lbs (With battery)
	Case material Fire Retardant ABS
	Supply voltage 220 – 230 V / 50 Hz
	Operating cycle 10 / 15 / 20 / 25 minutes
Mattress	
	Mattress type 20 cm / 8 in replacement
	Dimension 200 x 80 / 85 / 90 x 20.3 cm ; 78.7 x 31.5 / 33.4 / 25.4 x 8 in
	Cell height 21 x 20 cm / 8 in cells
	Weight 9.2 kg / 20.2 lbs
	Top cover material 4-way stretch PU
	Cell material TPU
	Maximum patient weight 250 kg / 550 lbs
	Flame retardant standards EN597-1 ; EN597-2

Pump: water resistant standards (IP21); Mattress: flame retardant standards (EN597-1, EN597-2), RoHS, WEEE

