



PRESSURE INJURY PREVENTION

# Prone positioning and Nimbus Professional

# This is Arjo

Founded:

**1957**

Headquarters:

**Malmö, Sweden**

Employees:

**>6,000**

Markets:

**>100**



## Solutions to healthcare challenges:



Work related  
injuries



Quality of care and  
quality of life



Healthcare Acquired  
Conditions



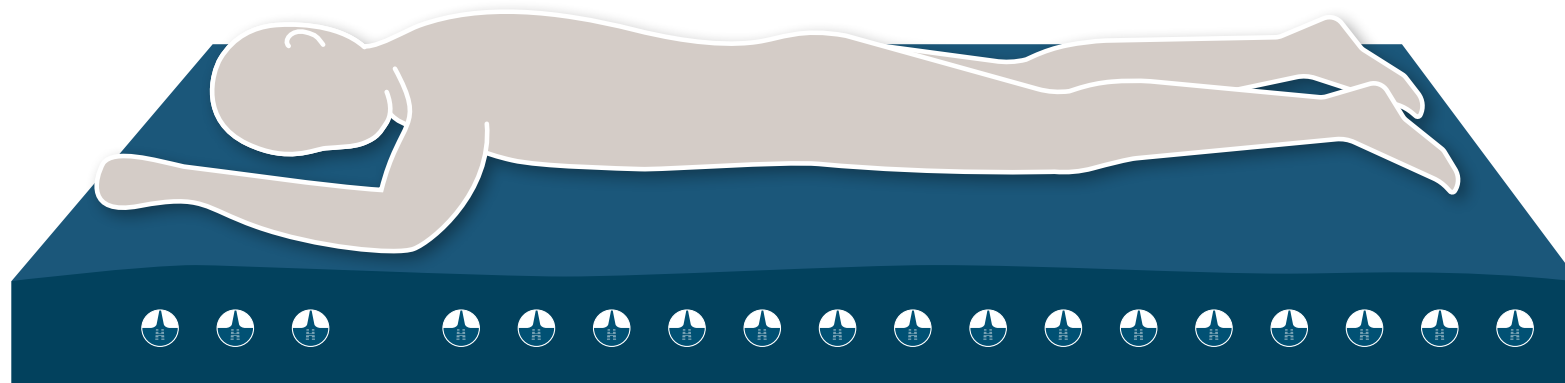
Costs and  
efficiencies

# Prone positioning and pressure injury complications

Lengthy prone positioning sessions in critical care, are associated with an increased frequency of pressure injury development.<sup>1</sup>

Such injuries can lead to a protracted hospital stay, patient suffering, possible surgical intervention, and increased costs of care.<sup>2</sup>

When utilised, patients often spend up to 16 hours out of every 24 hour period in the prone position.<sup>3</sup>



1. Girard R, Baboi L, et al The impact of patient positioning on pressure ulcers in patients with severe ARDS: results from a multicentre randomised controlled trial on prone positioning. *Intensive Care Med* (2014) 40:397-403

2. Bunker D, Thomson M, Chin Necrosis as a Consequence of Prone Positioning in the Intensive Care Unit Case Reports in *Medicine* Volume 2015, Article ID 762956, 3 pages

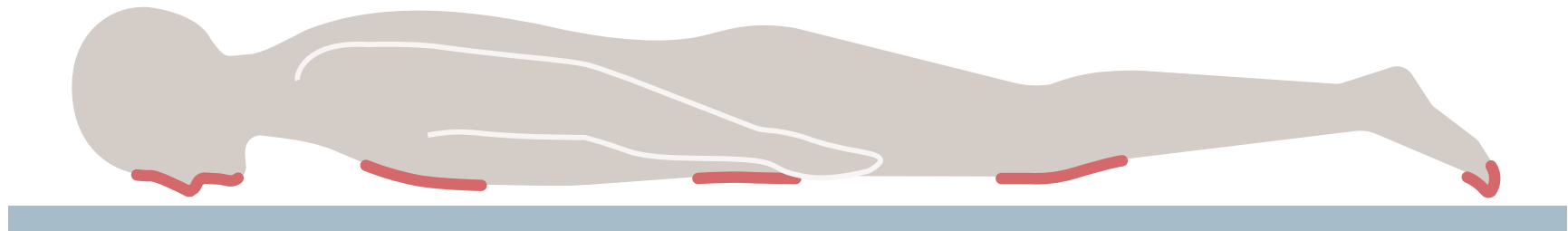
3. Guerin C, Reignier J, Richard JC, Beuret P, Gacouin A, Boulain T, Mercier E, Badet M, Mercat A, Baudin O, Clavel M, Chatellier D, Jaber S, Rosselli S, Mancebo J, Sirodot M, Hilbert G, Bengler C, Richecoeur J, Gannier M, Bayle F, Bourdin G, Leray V, Girard R, Baboi L, Ayzac L, Group PS (2013) Prone positioning in severe acute respiratory distress syndrome. *N Engl J Med* 368:2159-2168

# Caregivers challenged to prevent pressure injuries

Caregivers are challenged to prevent pressure injuries developing over body areas such as the face, breast region, genitals, knees and toes, not typically at risk when the patient is managed supine, but at high risk when patients are in the prone position.

Support surface selection, is an important component of the pressure injury prevention strategy to be deployed with this high risk patient population.

## Body areas at high risk of pressure injury



# Nimbus Professional alternating pressure system

## Pressure redistribution

The alternating pressure mode of the Nimbus Professional mattress ensures the pressure under the patient is frequently redistributed through the periodic inflation and deflation of alternate mattress cells over a ten minute cycle. Clinical studies on the Nimbus product range consistently demonstrates excellent outcomes for the most vulnerable patients or those with existing wounds.<sup>1-8</sup>

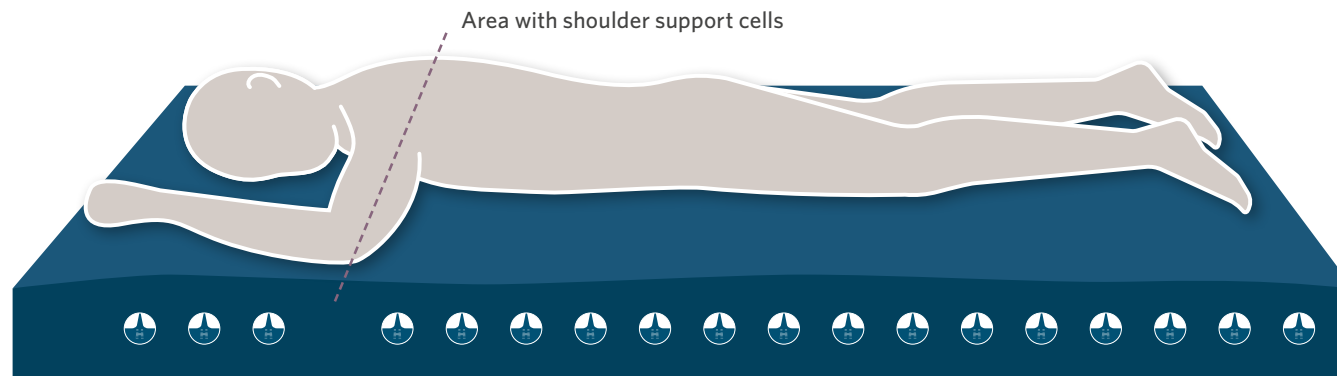


1. Ward C, Wubbels M, Schembri L (2012) Using Complete Pressure Off-loading and Advanced Wound Care to Treat a Complex Sacral Pressure Ulcer. Poster Presentation
2. Clancy J (2011) Winning the war against pressure ulcers. Poster presentation
3. Malbrain M, Hendriks B, Wijnands P et al (2010) A pilot randomised controlled trial comparing reactive air and active alternating pressure mattresses in the prevention and treatment of pressure ulcers among medical ICU patients. *Journal of Tissue Viability* 19(1):7-15
4. Finnegan MJ (2008). Comparing the effectiveness of a specialised alternating air pressure mattress replacement system and an air fluidised integrated bed in the management of post-operative flap patients. A randomised controlled study. *Journal of Tissue Viability* 17(1): February 2008
5. Russell L, Reynolds TM (2000) Randomised controlled trial of two pressure relieving systems. *Journal of Wound Care* 9(2):52-55
6. Evans D, Land L, Geary A (2000). A clinical evaluation of the Nimbus 3 alternating pressure mattress replacement system. *Journal of Wound Care* 9(4):181-186
7. Land L, Evans D, Geary A et al (2000) A clinical evaluation of an alternating pressure mattress replacement system in hospital and residential care settings. *Journal of Tissue Viability* 10(1): 6-11
8. Phillips L (2010) Nimbus range of pressure redistributing mattresses. *Wounds UK*, 2010, 6 (2): 116-122

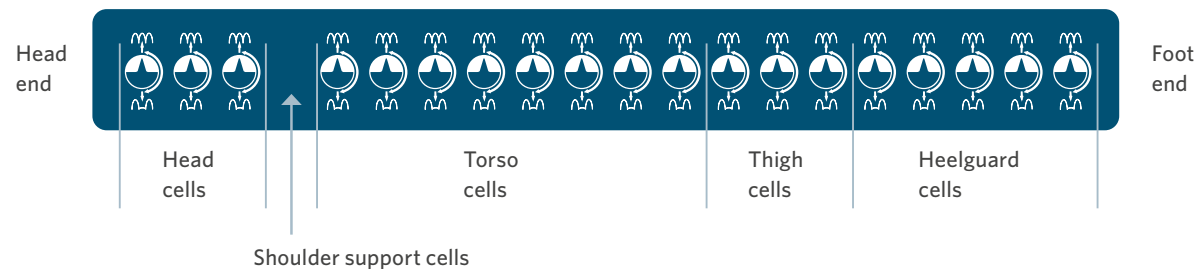
# Nimbus Professional alternating pressure system

## Zoned wound valve technology

Allows caregivers to completely deflate individual cells under the patient's body, providing an adaptable support surface for the management of highly vulnerable areas. Cell deflation can be targeted at body areas at particular risk.



**Nimbus Professional mattress – vent valves**



# Nimbus Professional alternating pressure system

## Cell off-loading

For prone positioning caregivers can off-load selected cells under the patient for longer periods, as follows:

- Deflate only one cell in the Head Section when the patient is in the supine position, or all three cells in the Head Section can be deflated if appropriate when the patient is in the Prone position.

Ensure the head, neck and airway are appropriately supported

- Deflate only one cell in the torso section.
- Deflate only one cell in the thigh/heel section.



# Nimbus Professional alternating pressure system

## Head section deflate

The 3 head cells can be deflated if required to remove pressure from beneath the head, or for providing access to the head and neck for specialist procedures (e.g. intubation, cannulation and hygiene).

The ability of the Nimbus Professional mattress to provide pressure redistribution with the option to off-load vulnerable body areas can provide an appropriate support surface solution when prone positioning is required.





# Nimbus Professional alternating pressure system

## Infection Control

The Nimbus Professional mattress also offers the additional benefit of a welded cover with Arjo's Premium Fabric (optional). Premium cover fabric is one of the toughest medical fabrics available.<sup>1</sup> It is an ideal choice for busy environments where fast, high volume turnaround and frequent cleaning is essential, especially where stronger cleaning agents are required.



1. The Impact of Cleaning Chemicals on Polyurethane Mattress Cover Materials and their Propensity for Physical Damage, Jo Milnes MA(Hons), MSc(Dist): Technical Manager, Dartex Coatings Limited, Acton Close, Long Eaton, Nottingham, NG10 1FZ. 2013

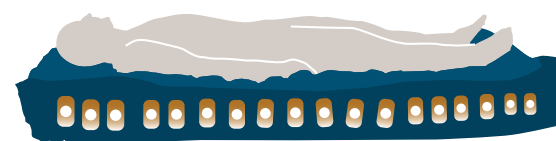
# Using the Nimbus Professional system during prone positioning

- Prone positioning procedures should only be carried out by staff trained in its use.
- Follow your hospital's protocol relating to prone positioning of critically ill patients.
- Bed safety rails should be used, where appropriate and according to your hospital policy.
- The following information is intended as a quick guide to use of the mattress when placing a patient in the prone position.

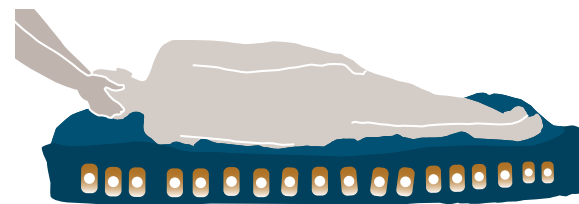
Please refer to product user manual for detailed instructions for use and other important information.

STEP

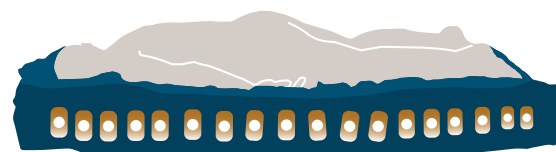
1



2



3



4



# Using the Nimbus Professional system during prone positioning

## MATTRESS CONTROLS

Place the patient in the supine position on the mattress.  
Position the patient so that the shoulders are in line with the 4th cell from the top of the mattress.

Press the Static button to place the pump into Static mode, so that the mattress cells remain constant with all cells equally inflated.



The mattress must be stable and not alternating while the patient is turned, so that the patient is correctly positioned on the mattress.

All Wound Valves should be closed and pointing upwards, which indicates that all cells in the mattress are inflated.

Wound Valves should only be opened when specific cells need to remain deflated for extended periods. Please refer to product user instructions for full details.



## PUMP SETTING

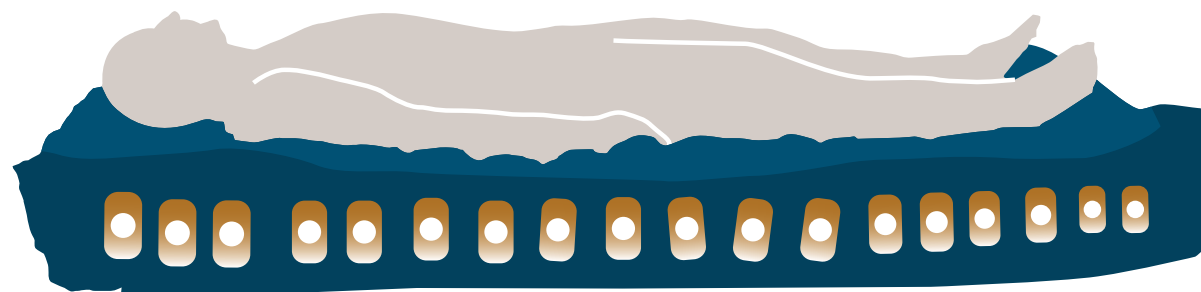
Select Static mode.  
In static mode the light will illuminate yellow.



Comfort Control set to Firm.



## PATIENT POSITIONING



# Using the Nimbus Professional system during prone positioning

STEP

2

## MATTRESS CONTROLS

If head section deflation is required open the Wound Valves on the three Head Section cells so that they are deflated.

With the person responsible for airway management and head positioning at the head of the bed to coordinate the turning procedure.

Move the patient to one side of the bed, as far as is safe and comfortable. Turn the patient into a lateral/sidelying position.

Open the Wound Valves on the three Head Section cells so that only the head cells deflate if head section deflate is required.

All other Wound Valves should remain closed at this time.



## PUMP SETTING

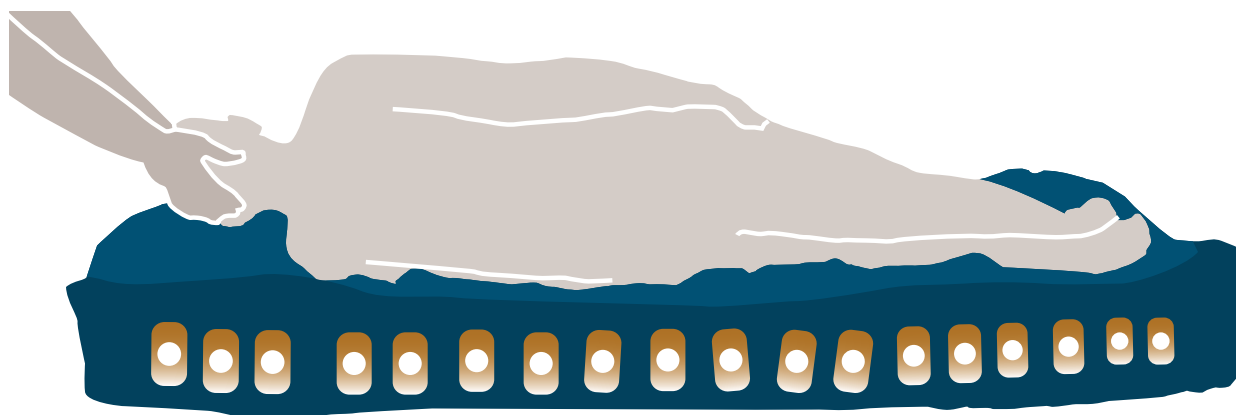
Keep on static mode.



Comfort control remains set on firm.



## PATIENT POSITIONING



# Using the Nimbus Professional system during prone positioning

STEP

3

## MATTRESS CONTROLS

Supporting the patient's head, slowly turn the patient over into the prone position.

The patient's shoulders should be positioned over the 4th cell from the head end of the mattress.

Ensure that lines and monitoring equipment do not become trapped underneath the patient's body.

Adjust the head position using pillows, foam or gel pads so that a comfortable posture is achieved without hyperextension.

All Wound Valves pointing up (all cells inflated) except for head section wound valves which should be open if head section deflate is required.



## PUMP SETTING

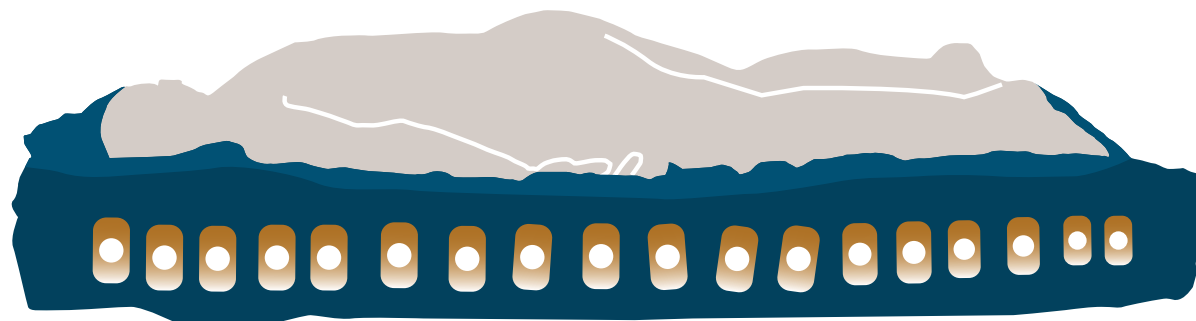
Remains on static mode.



Comfort control remains on firm.



## PATIENT POSITIONING



# Using the Nimbus Professional system during prone positioning

## MATTRESS CONTROLS

Select alternating pressure mode by pressing the static mode button. The yellow light will no longer be shown.



Position the patient's limbs and head as directed by your hospital's prone position protocol.

Utilizing Wound Valve Technology, specific air cells can be deflated to offload pressure from sensitive body areas, i.e. the cells under the toes and genital area. Please refer to product user manual for full instructions.

Regular checks should be made to ensure the patient is free from the build up of pressure especially on anatomically sensitive areas.

Adjust individual wound valves as required to achieve pressure offloading at specific anatomical points.

- Deflate only one cell in the torso section.
- Deflate only one cell in the calf/heel section.

Do not deflate any more cells in each area or it may affect the support of the patient during the normal alternating cycle.



## PUMP SETTING

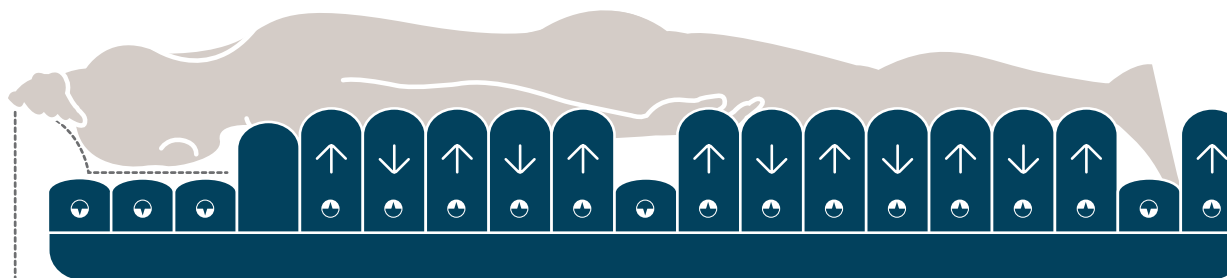
Select Alternating Mode by pressing the static button once. The yellow light will no longer be shown.



Comfort Control set as appropriate.



## PATIENT POSITIONING



# The Arjo Portfolio

## Products



Patient handling



Hygiene and wellness



Pressure injury prevention



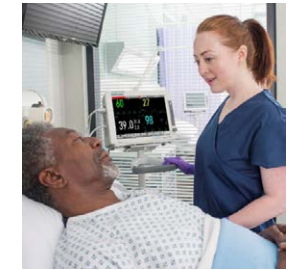
Medical beds



VTE prevention



Disinfection



Diagnostics

## Services



Clinical consulting



Arjo Care



Rental & financing



Early mobilisation



Elderly care & dementia



Bariatric care



Architects and planners

## Solutions

March 2020. Only Arjo designed parts, which are designed specifically for the purpose, should be used on the equipment and products supplied by Arjo. As our policy is one of continuous development we reserve the right to modify designs and specifications without prior notice. ® and ™ are trademarks belonging to the Arjo group of companies.  
© Arjo, 2020

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.

Arjo AB · Hans Michelsengatan 10 · 211 20 Malmö · Sweden · +46 10 335 4500

[www.arjo.com](http://www.arjo.com)