

**novis**<sup>®</sup>  
enabling independence



ProCair  
Pressure Care Surface Range



**enabling independence**

**Novis Healthcare is a specialist in the design, manufacture and supply of pressure care devices, patient handling, assistive technology solutions and clinical training. A strong focus on clinical outcomes including pressure injury prevention and patient handling ensures Novis provide healthcare products that exceed clinical and therapeutic expectations.**

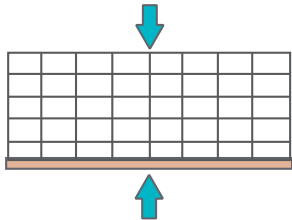
Novis utilises best practice, gold standard procedures and clinical evidence to ensure our research, innovation and design facilitate clinical excellence.

Novis maintains a strong focus on delivering successful patient outcomes in acute care, long term care, rehabilitation and in the community.



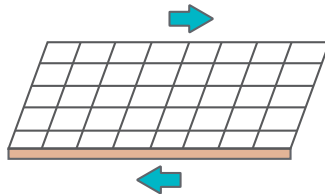
# Pressure Injury

A pressure injury is defined as “a localized damage to the skin and/or underlying tissue which occurs as a result of direct pressure, or a combination of pressure and shear forces”<sup>1</sup> Pressure and shear cause localised deformation to the cells in the tissue, which results in tissue breakdown<sup>2</sup>. Their damaging effects can be compounded by friction, heat and moisture.



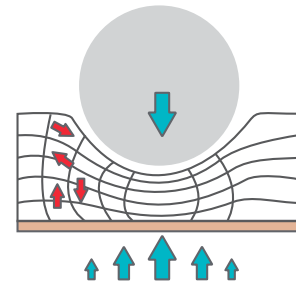
## Pressure

Pressure is a perpendicular force applied over a given area.



## Shear

Shear is a force that occurs parallel to the surface.



## Pressure in combination with shear

Complex, multidirectional strain on the tissue

An individual has a specific tissue tolerance in which they can be exposed to pressure and shear without tissue damage. This tolerance can be influenced by many factors including age, BMI, nutritional status, and presence of comorbidities. Factors contributing to an individual's inability to attend to natural repositioning to avoid pressure injury may include:

- Immobility
- Decreased activity levels
- Cognitive impairment
- Communication barriers
- Reduced sensation
- Reduced tissue tolerance

# Support Surfaces

A support surface is a surface on which the patient is placed to manage pressure, load, shear, friction and microclimate<sup>3</sup> with the goal of preventing and/or treating Pressure Injury.

Reactive support surfaces are designed to reduce interface pressure through increasing the body surface area, thus facilitating pressure reduction. In response to applied pressure, the support surface distributes interface pressure over a wider body area through immersing and enveloping the patient. They can also be referred to as pressure redistribution, static or constant low pressure support surfaces.

An active (alternating/dynamic) support surface is a powered support surface, with the capability to change its load distribution properties, with or without load<sup>3</sup>. Active support surfaces proactively remove the contact interface pressure between the body and the support surface. This process is referred to as 'off-loading' and is achieved by the use of air cells that are cyclically inflated and deflated using an external power source, such as an electronically controlled air pump.

The components of the individual active mattress will determine the degree in which it provides a therapeutic solution for Pressure Injury Prevention and Management. Active support surfaces vary by several objective parameters. NPUAP<sup>4</sup> published a list of performance criteria for all therapeutic support surfaces which considered that, alongside basic cell configuration, active surfaces have four clinically important, interdependent and measurable performance characteristics – cycle frequency, duration, amplitude and rate of change.



(1) European Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline. Emily Haesler (Ed.). EPUAP/NPIAP/PPPIA. 2019 (2) Gefen, A., Brienza, D., Cuddigan, J., Haesler, E. and Kottner, J. (2021). Our Contemporary Understanding of the Aetiology of Pressure Ulcers/Pressure Injuries. International Wound Journal. Vol 10. Issue 3. March 2022. (3) Australian Wound Management Association, Pan Pacific Guideline for the Prevention and Management of Pressure Injury. 2012 (4) NPUAP. Support Surfaces Standardization Initiative. 2007



### AutoCair

Automatic weight sensing technology that delivers fail safe patient comfort levels irrespective of their position. When a patient lays on the mattress, AutoCair will constantly measure the patient's weight and automatically adjust the settings to keep the mattress within safe pressure range for effective therapy. Manual adjustments can still be made for the individualised therapy or comfort.



### Alternation

Patients benefit from dynamic therapy and with increased stability of 1 in 3 or 1 in 4 alternation. These enhanced alternation cycles also reduce the sensation of movement while static head cells provide a stable pillow surface, irrespective of alternation cycle.



### HeelCair

Increased protection and therapy for vulnerable heels with an independent heel zone made up of narrower disconnectable cells. This will provide full offload to the heels and achilles tendon.



### SafetyCair

The ultimate protection from 'bottoming out', alternating air cells contain a lower 'safety cell' which remains fully inflated to provide greater surface stability and client safety.



ProCair Prime

ProCair Plus



### ClimateCair

Delivering the maximum warmth and comfort from your alternating pressure system, our ClimateCair cells are constructed from pure thermoplastic polyurethane (TPU) material. Not only softer to the touch, these TPU cells offer enhanced heat retention qualities, to maximise patient comfort and reduce concerns about temperature management.



### CairAlert

Be alerted when your patient leave the bed with our inbuilt CairAlert feature. A warning alarm that, when activated, will signal to indicate that patient is leaving or has left the mattress. May negate the need for an alternative bed exit alarm for patients with cognitive dysfunction. This inbuilt feature is optional and can be removed if it is required.



### FailSafe

An inbuilt Back Up Battery unit provides the re-assurance of emergency back up power in event of a power failure or accidental power disconnection. The pump will continue to operate using reserve battery power for continuous operation of alternation of up to 5 hours. Also ideal for alternating therapy during extended patient transportation periods.



### AcuteCair

Benefit from maximum infection control with a fully sealed base, designed to minimise risk of bacterial contamination and maximise patient care and safety. Welded seams and double-layered waterfall flaps across all models. The high quality cover allow disinfection and is also machine washable.



### EasyCair

All in one system with combined mattress and integrated pump with easy setup, and does not require a bed end to hang a separate pump. The pump is also protected from potential damage when accidentally bumped off a bed end. The all in one system can also be easily and quickly moved between beds.



### DuoCair

The mattress can be easily converted to a hybrid mattress by adjusting the position of a built-in foam layer. The hybrid mode provides even greater comfort for the patient. It can easily and quickly convert back into dynamic mode to step-up to complete pressure offloading if required.



### Additional Safety Features

**Static Side Bolsters** increase patient safety and stability, by reducing the risk of cell collapse at side edges when transferring out of the bed.

**Fowler Boost** mode adjusts mattress pressure to provide increased support under the sacral area when the backrest is raised preventing risk of 'bottoming out' under the increased load.

**Quick Release CPR** access, located at the head of the mattress, makes it easy to rapidly deflate the mattress for emergency CPR requirements.

**Multi-Mode Alarm** settings and indicators warn of a range of potential faults to alert carers and minimise patient risk

# ProCair Specifications



	Plus	Trio	Quad	Advanced	Prime
<b>Alternation</b>	1 in 2	1 in 3	1 in 4	1 in 2	1 in 2
<b>AutoCair</b> Auto weight sensing	✓ Real-time	✓ Real-time	✓ Real-time	✓ Real-time	✓ Cyclic
<b>HeelCair</b> Narrow heel zone	✓ Disconnectable	✓ Disconnectable	✓ Disconnectable	✓ Disconnectable	✓
<b>ClimateCair</b> TPU cells	✓	✓	✓		
<b>SafetyCair</b> Bottoming out protection	✓ Air Cell	✓ Air Cell	✓ Air Cell	✓ Air Cell	✓ Foam Insert
<b>CairAlert</b> Bed exit alarm	✓	✓	✓		
<b>AcuteCair</b> Sealed base	✓	✓	✓		
<b>EasyCair</b> Integrated pump				✓	✓
<b>DuoCair</b> Optional hybrid mode				✓	✓
<b>FailSafe</b> Back up battery	✓	✓	✓	✓	
<b>Side Bolsters</b>		✓	✓		
<b>CPR</b>	✓ Quick Twist	✓ Quick Twist	✓ Quick Twist	✓ Quick Twist	✓ Quick Twist
<b>Fowler Boost</b>	✓ Automatic	✓ Automatic	✓ Automatic	✓ Automatic	✓ Manual
<b>Service Indicator</b>	✓	✓	✓	✓	✓
<b>Weight Range</b>	40 - 220 kg	40 - 250 kg	40 - 250 kg	30 - 220 kg	30 - 200 kg
<b>Warranty</b>	3 Year	3 Year	3 Year	3 Year	3 Year
<b>Single Model</b>	2000 x 880 x 200mm	2000 x 880 x 200mm	2000 x 880 x 200mm	2000 x 900 x 200mm	2000 x 880 x 180mm
<b>King Single Model</b>	2000 x 1050 x 200mm	2000 x 1050 x 200mm	2000 x 1050 x 200mm	2000 x 1050 x 200mm	2000 x 1050 x 180mm

Speak with one of our Product Specialists, or refer to the Technical Data Sheet for each ProCair model for detailed specifications, measurements and full feature and functionality.

# ProCair Plus

The Novis ProCair Plus is a premium active alternating pressure care surface that harnesses the best of technical innovation and is designed to offer ideal support for the prevention and treatment of pressure injury.

This high featured, premium quality mattress meet the needs of community, aged care, acute care and hospital users. It provides optimal therapeutic and preventative features to maximise comfort, infection control and pressure care outcomes. The Novis ProCair Plus mattress replacement system offers the highest level of intervention, eliminating pressure, shear and friction due to the full pressure relief supplied by the alternating cells.

Specifically designed for pressure injury risk level up "very high risk" and the treatment of all stages of pressure injury up to and including Stage 4. This alternating mattress is the perfect equipment solution to be added to a holistic, multifactorial pressure care program.

The cells are designed with maximum outcomes in mind. The cell height is maintained throughout the cycle to prevent bottoming out and ensure fully offload is achieved, even if the head of the bed is raised thanks to an automatic fowler boost.

The alternate cells drop down to 0mmHg, offering full pressure relief for a longer duration of the cycle than achieved with other systems. This allows for maximisation of the tissue's natural reactive hyperaemia response to release cell deformation, facilitate reperfusion of tissue and restore equilibrium to tissue cells to assist in preventing pressure injury.



## Key Features

- **Comprehensive Alternating Pressure Solutions:** Offers a complete range of alternating pressure mattress solutions for high-risk patients, harnessing technical innovation to ensure optimal therapy and comfort.
- **Enlarged CPR Valve:** Includes an enlarged CPR valve, ideal for acute care environments.
- **"Bottoming Out" Prevention:** Incorporates a lower "safety cell" that remains fully inflated, ensuring greater surface stability and patient safety.
- **Sealed Mattress Base:** Features a sealed mattress base to optimise infection control and hygiene.
- **HeelCair Technology:** Enhanced protection and therapy for vulnerable heels. Includes an independent heel zone with narrower cells that can be disconnected for full offload.
- **AutoCair Technology:** Automatically adjusts pressure settings using continuous weight-sensing technology, eliminating concerns about incorrect pressure levels and ensuring fail-safe patient comfort and support.
- **CairAlert Feature:** Optional warning alarm signal to indicate when a patient has left the mattress or bed, enhancing patient safety. Equipped with an integrated falls prevention system, if required, the mattress will alarm on the user's movement to the edge of the bed. This eliminates the need for other alert systems, simplifying equipment needs and the provision of care.
- **Detailed Error Messages:** Provides specific error messages for servicing, simplifying troubleshooting and maintenance.
- **Backup Battery:** Providing up to 5 hours of full alternation for emergency backup power in case of power failure or accidental disconnection.

ProCair Plus Sealed Base Single	2000 x 880 x 200mm	APMPC-R02S <sup>DVA</sup>
ProCair Plus Sealed Base King Single	2000 x 1050 x 200mm	APMPC-R02SK <sup>DVA</sup>

# ProCair Trio

The Novis ProCair Trio is a premium active alternating pressure care surface providing optimal therapeutic and preventative features to maximise comfort, infection control and pressure care outcomes.

The 1 in 3 cell cycle supports two thirds of the body whilst one third is offloaded. The system offers the highest level of intervention, eliminating pressure, shear and friction due to the full pressure relief supplied by the alternating cells.

ProCair Trio Single	2000 x 880 x 200mm	APMPC-R05
ProCair Trio King Single	2000 x 1050 x 200mm	APMPC-R05K <sup>DVA</sup>

# ProCair Quad

The Novis ProCair Quad is a premium active alternating pressure care surface providing optimal therapeutic and preventative features to maximise comfort, infection control and pressure care outcomes.

The 1 in 4 cell cycle supports three quarters of the body whilst one quarter is offloaded. The system offers the highest level of intervention, eliminating pressure, shear and friction due to the full pressure relief supplied by the alternating cells.



## Key Features

- **Advanced Pressure Injury Prevention:** Specifically designed for individuals at a very high risk of pressure injury. System offers an advanced 1-in-4 alternation cycle for effective pressure offload therapy.
- **Real-time Pressure Adjustment:** Automatically adjusts pressure settings in real time, accommodating changes in the user's weight or position for consistent and effective therapy.
- **Dual Compressors:** Equipped with powerful twin compressors, this mattress system offers a rapid response and a higher weight capacity, ensuring reliable performance.
- **Backup Battery:** Includes a backup battery that provides up to three hours of continuous therapy in case of mains power failure, ensuring uninterrupted patient care.
- **Body Support:** During active therapy, it supports 66% (trio) or 75% (quad) of the user's body, providing superior comfort and support.
- **Optimal Infection Control:** Fully sealed mattress base and high quality cover ensures optimal infection control and hygiene.
- **Safety Side Bolster:** Features a safety side bolster that increases support and safety, particularly during when transferring to and from the bed.
- **Automatic Fowler Boost:** Mattress system automatically adjusts to provide an increased support when the bed is profiled, enhancing patient comfort and bottoming out support.
- **Individual Heel Cell Disconnection:** Heel cells can be disconnected individually, allowing for specialised treatment or prevention of this vulnerable area by providing continuous full offload.
- **CairAlert Alarm:** To notify caregivers when the user has left the mattress, enhancing patient monitoring and safety.

ProCair Quad Single	2000 x 880 x 200mm	APMPC-R04
ProCair Quad King Single	2000 x 1050 x 200mm	APMPC-R04K

# ProCair Prime Advanced

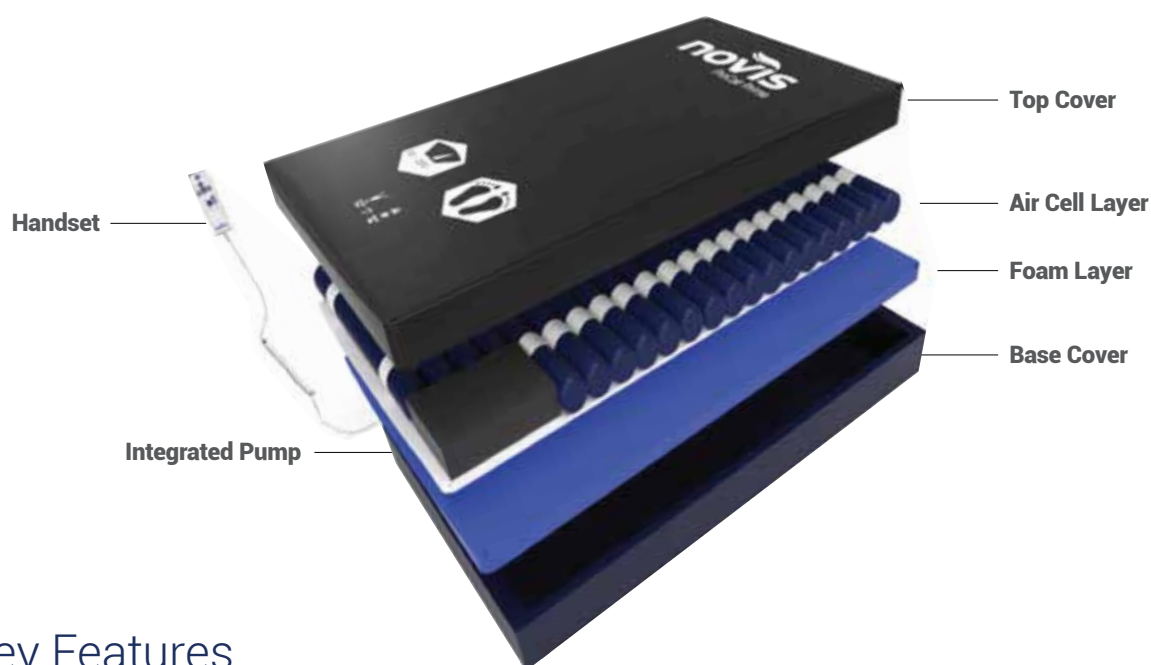
The Novis ProCair Prime Advanced is an innovative, unique alternating pressure care surface designed to represent modern advancement in technology of mattress replacement system.

This high featured, premium quality mattress meet the needs of community and aged care users. The integrated pump minimises the clinical look of a room as it is discreetly positioned within the mattress. This saves space at the end of the bed, will minimise damage and drops and reduces and sound or vibration for maximum user comfort.

Settings are controlled via a hand controller, providing independence to appropriate users, and ease of vision for caregiver use.

The alternate cells drop down to 0mmHg, offering full pressure relief for a long duration allowing for maximisation of the tissue's natural reactive hyperaemia response. This allows for release cell deformation, reperfusion of tissue and restore equilibrium to tissue cells to assist in preventing pressure injury.

The alternating support surface can be simply and easily converted to a static or hybrid mattress surface. These feature can be used to increase comfort and compliance or facilitate changes in the user's condition and needs.



## Key Features

- **Unique Built-In Pump:** Equipped with a one-of-a-kind built-in pump, which simplifies operation and minimises trip hazards whilst safeguarding against damage that can occur when pumps are accidentally bumped off the bed.
- **Real-time Pressure Adjustment:** Automatically adjusts pressure settings in real time, accommodating changes in the user's weight or position for consistent and effective therapy.
- **Function Adaptability:** It can function as a fully alternating pressure mattress (dynamic mode). It can be easily converted to hybrid mode by positioning the foam layer above the air cell layer. Provides flexibility in care and treatment.
- **User-Friendly Handset:** Designed for ease of use and can be operated by both the user and the caregiver. Enhances convenience in adjusting settings and modes.
- **Quick Twist CPR Valve:** Enabling rapid deflation in emergency situations. Ensures the safety and well-being of the patient during critical moments.
- **Backup Battery:** Includes a backup battery that provides up to three hours of continuous therapy in case of mains power failure, ensuring uninterrupted patient care.
- **Carry Bag Included:** Simplifying transportation and storage when the mattress is not in use. Adds an extra layer of convenience for healthcare providers and caregivers.

ProCair Prime Advanced Single

2000 x 900 x 200mm

APMPC-R03A

ProCair Prime Advanced King Single

2000 x 1050 x 200mm

APMPC-R03KA



# ProCair Prime

The Novis ProCair Prime is an innovative, unique alternating pressure care surface designed to provide full pressure relief in a more discreet manner, due to the internal integrated pump and hand control.

Designed for use in the community and aged care it is easily changed from a full active surface into a hybrid mattress surface.

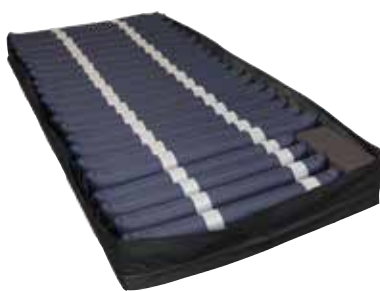
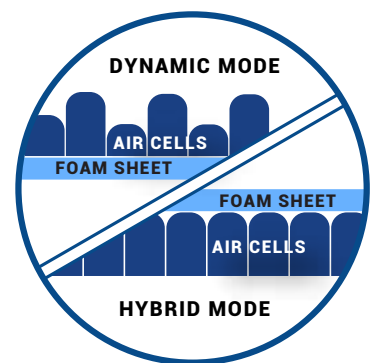
The alternate cells drop down to 0mmHg, offering full pressure relief for a long duration for maximisation of the tissue's natural reactive hyperaemia response. This facilitates the release cell deformation, reperfusion of tissue and restoration of equilibrium to cells to assist in preventing pressure injury.



ProCair Prime Single	2000 x 900 x 200mm	APMPC-R03 <sup>DVA</sup>
ProCair Prime King Single	2000 x 1050 x 200mm	APMPC-R03K <sup>DVA</sup>

## Prime Modes

The Novis ProCair Prime is adaptable for different clinical needs. It can be used as a fully alternating pressure mattress (dynamic mode) or easily converted to hybrid mode by positioning the foam sheet above the air cell layer. Additionally it can be placed in static mode to provide a pressure redistribution surface and maximum firm mode for stability during patient care and transfers.



**Dynamic Mode**



**Hybrid Mode**

# Obesity (BMI $\geq 30$ ), especially morbid obesity (BMI $\geq 40$ ), has a profound impact on the health health, vulnerability and integrity of the patient's skin and tissue systems making effective pressure care systems essential.

Given the complex structure and barrier function of skin, loss of skin integrity can have serious consequences, possibly resulting in infection, pain, damaged self-esteem, body odour, and altered mobility. Skin injuries among obese and morbidly obese individuals can pose serious to life-threatening clinical care situations.

Skin changes in the bariatric person increase the risk of skin damage, impaired healing, and development of skin conditions such as pressure injury.

## The impact of obesity on the increased risk of pressure injury is multifactorial:

- Immobility – decreased ability to reposition and offload tissues
- Excessive heat, perspiration and moisture effecting a controlled microclimate
- Increased susceptibility to shear and friction
- Increased force on weight bearing surfaces and through bony prominences
- Pressure occurring due to the interaction of skin folds and body parts
- Poor skin condition and healing potential

The complex skin issues and the potentially devastating consequences if an individual with obesity develops skin breakdown make it imperative that all obese individuals receive a complete and thorough skin assessment with hope of preparing clinicians to identify and prevent these skin conditions before they become complex issues. A multifactorial pressure care prevention program will be essential for all individuals to manage the increased risk of pressure injury.

## ProCair Bariatric

The ProCair bariatric alternating pressure care surface is designed to meet the unique requirements of a person of size without compromise on the advantageous features found in alternating mattress replacement surfaces.

Utilising a 1 in 4 cycle, it provides more support for comfort and quality of full pressure relief. The cells are designed to reduce risk of bottoming out, even when the bed head is raised with an automatic fowler boost. This surface is engineered to support users up to 450kg and will fit a King Single or larger width beds.

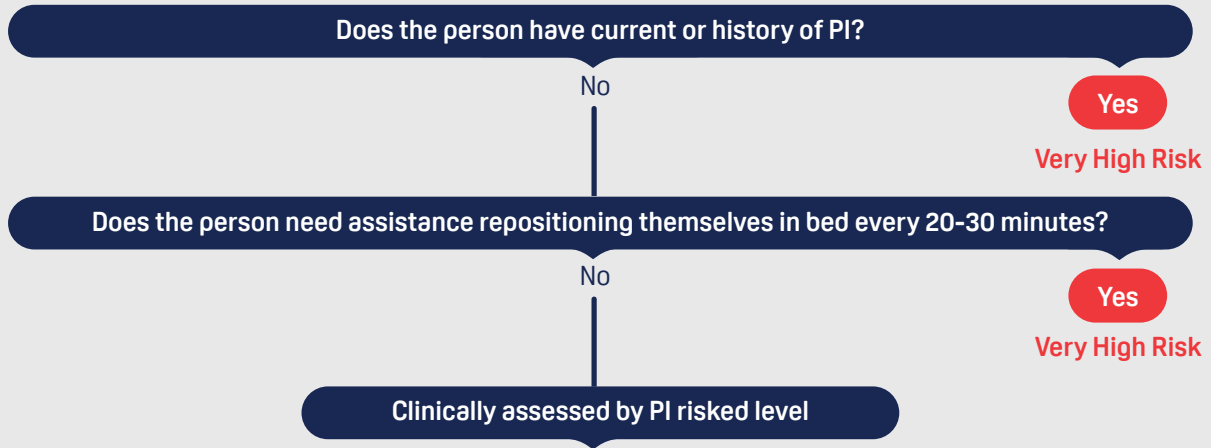
Due to the higher pressure care needs of the larger patient, the backup battery will provide up to 3 hours of full alternation therapy in the case of power failure, ensuring pressure injury risk is minimised during this loss of power.



ProCair Bariatric	2000 x 1050 x 250mm	APMPC-B04S
ProCair Bariatric	2000 x 1200 x 250mm	APMPC-B04SW

# Novis Pressure Care Support Systems

## Mattress Selection Guide



*This information is intended as a guide only, it does not replace thorough individual assessment advice or a qualified health professional or specific policies & procedures.*

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