

Q-Pro2000

Advanced Alternating
System



The Q-PRO2000 caters for all grades of pressure ulcers in a mattress replacement or overlay system.



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THE CHALLENGE

The European Pressure Ulcer Advisory Panel has defined a pressure ulcer as ‘an area of localised damage to the skin and underlying tissue caused by pressure, shear, friction and/or a combination of these’.⁽¹⁾ European figures suggest that approximately 18% of hospitalised patients have a pressure ulcer at any given time.⁽²⁾

Pressure ulcers cause great pain and suffering to patients. They also impose unnecessary psychological and physical strain on the dedicated nursing staff and carers. Treatment is costly with the annual cost in the UK approximately £1.4 - £2.1 billion (€1.78 - €2.68 billion).⁽³⁾

Healthcare professionals are increasingly being asked to provide greater patient care with less resources and an increased threat of litigation.



CONCERNS FOR CLINICIANS AND PATIENTS

The selection of equipment, although secondary to the delivery of essential nursing care, significantly contributes to the prevention and treatment of pressure ulcers.

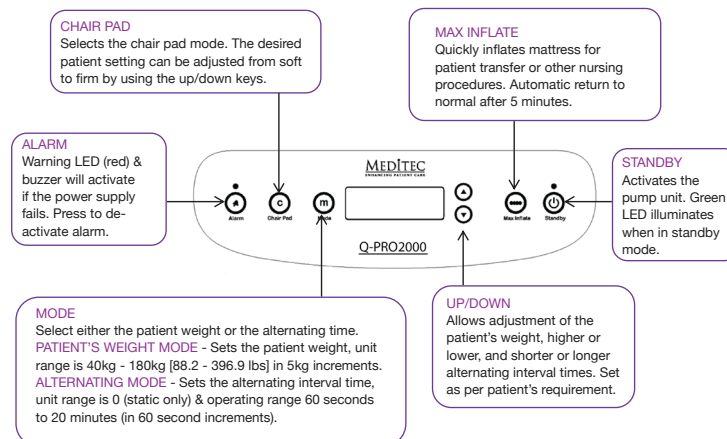
Over many decades a number of risk factors such as pressure, time, shear, friction and moisture, have been identified as contributors to the development of pressure ulcers. In recent years an additional factor of reperfusion injury has been highlighted.



Reperfusion injury refers to damage to tissue caused when blood supply returns to the tissue after a period of ischemia/blockage/obstruction, due to prolonged higher pressures and/or longer cycle times of alternating mattresses.

THE SOLUTION FOR CLINICIANS AND PATIENTS

The Q-PRO2000 incorporates the very latest technology to manage all extrinsic causes of pressure ulcer development including reperfusion injury. Meditec are proud to be the pioneers of a system which addresses the concerns of reperfusion injury.



Designed and Manufactured in Ireland

DEALING WITH REPERFUSION INJURY

Reperfusion injury refers to the damage to tissue caused when blood supply returns to the tissue after a period of sustained pressure.

It has been shown that the effects of ischaemia (lack of oxygen due to pressure on the tissue) and reperfusion (blood reflow) can be more damaging than ischaemia alone.⁽⁴⁾ If ischaemia is ended by the rapid restoration of blood flow, a second series of injurious events ensue which result in irreversible cellular damage.

The Q-PRO2000 patent* design provides gradual reperfusion which prevents tissue damage.

The Q-PRO2000 prevents reperfusion injury by having low interface pressure, frequent removal of pressure and ensuring a gradual reflow of blood to the affected area.

WHY IS PRESSURE IMPORTANT?

Despite the fact that a 'safe' interface pressure cannot be easily determined, it is accepted that high interface pressures are a major contributing factor in the development of pressure ulcers.⁽⁵⁾ The high output of the control unit, together with the low air loss mattress, provides lower cell inflation pressure which allows the patient to be immersed into the support surface resulting in greater pressure relief.

The dual layer cell construction (28 upper cells) provides a greater number of contact points with the patient which also lowers the interface pressures. These features contribute to extremely low pressures which enable blood vessel diameters to remain as large as possible, ensuring tissue oxygenation and nutrition are maintained.

The Q-PRO2000 has the lowest interface pressures on the market.⁽⁶⁻⁷⁾

IT IS NOT JUST ABOUT PRESSURE RELIEF

Interface pressure measurements alone are not sufficient to alert the clinician to the potential of skin breakdown. It is well established that there is a pressure time threshold above which ulceration is likely.⁽⁸⁾ The ideal situation is to have low interface pressures for short periods of time to prevent and treat pressure ulcers. In addition to having low interface pressures the Q-PRO2000 has a varying cycle time from 60 seconds to 20 minutes.

The Q-PRO2000 relieves more pressure more often than any other system.

WHY SHOULD WE BE CONCERNED WITH SHEAR AND FRICTION?

Horizontal shear and frictional forces will distort the shape of layers of tissue causing blood vessels to be occluded, reducing blood flow to the affected area. The 28 cell top layer design ensures the patient is well supported and prevents shear and frictional drag while a patient is being profiled.

The Q-PRO2000's smooth Theraderm cover provides low friction and shear which facilitates minimum lifting and better patient handling.

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EVIDENCE BASED PRACTICE

The Q-PRO2000 has out-performed its main competitors in laboratory evaluations such as Interface pressure and skin tissue perfusion measurements. As well as these physiological measurements the Q-PRO2000 has excellent evidence based patient outcomes.⁽⁹⁾

Features

- The Q-Pro2000 is now more eco friendly, using much less electricity to operate.
- The upgraded pump now operates on a much lower audible range making it virtually silent.
- CPR – Quick release allows deflation in 10 seconds.
- Patient Weight – Suitable for patients weighing up to 180 kg.
- Alarms – Audio and visual.
- Cleaning instruction – Wipe coversheet with water and mild detergent.

Technical Specifications:

- Air Supply Controller
- Airflow Output: 16 litres per minute
- Weight: 4kg
- Length: 34cm
- Height: 27cm
- Depth: 16cm
- Alternating Cycle Type: 1 in 2
- Alternating Cycle Times: 60 sec – 20 min (60 sec intervals)
- Electrical Rating: 220V-240V, 2 Amps, 50Hz
- Electrical Leakage: <820 Microamps
- Grand Resistance: <150 Mill Ohm
- Air Mattress: Length: 198cm
- Width: 85cm
- Height: 18cm / 12cm (Fully inflated)
- Cell Construction: 28 Upper/16 Lower
- Warranty: 1 year

References:

- (1) European Pressure Advisory Panel (1999). Guidelines on treatment of pressure ulcers. EPUAP Review. 2, 31-33.
- (2) European Pressure Advisory Panel (2002). Summary Report on the Prevalence of Pressure Ulcers. EPUAP Review. 4, 2, 49-57.
- (3) Bennett G., Delaey C., Posnett J. (1994). The cost of pressure ulcers in the UK. Age & Ageing; 33, 3, 230-235.
- (4) Bouten CVC, Oomens CWJ, Baaijens FPT, Bader DL (2003) The aetiology of pressure sores: skin deep or muscle bound? Arch Phys Med Rehabil 84:616-619.
- (5) Kosiak M (1961) Etiology of decubitus ulcers. Arch Phys Med Rehab 42:19-29.
- (6) Bain D, Centre for Disability Research and Innovation, Royal Orthopaedic Hospital, London.
- (7) Weaver V, Jester J (1994). A clinical tool: Updated readings on tissue interface pressure.
- (8) Reswick JB, Rogers JE (1976) Experience at Rancho Los Amigos Hospital with devices and techniques to prevent pressure sores. In: Kenedi RM, Cowden JM, Scales JT (eds) Bedsore biomechanics. Macmillan, London, pp 301-310.
- (9) Data on file.

At Meditec Medical, we are committed to enhancing patient care, through our cutting edge therapeutic support surfaces and dedicated service. We support healthcare professionals and their patients with effective solutions that treat and prevent pressure ulcers. Our Research and Development Team work hand in hand with our customers to design and manufacture pressure relieving mattresses and related products.

**Talk
to
us:**



Please call us now at: **01 462 4045** or email: **info@meditecmedical.com**