

Pressure Mapping Tests by

Select Medical Ltd

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**OLA Elegant**  
(mattress overlay)

**&**

**OLA Classic**  
(mattress replacement)

Documentation Supplied by:

## THE OLA Elegant & OLA Classic

### Summary

The OLA Elegant dynamic mattress overlay and OLA Classic dynamic mattress replacement system show a reduction in interface pressures across the area of the support surface, with a choice of firmness available to the user.

The variability in peak pressure throughout the cycle indicates that the position of greatest pressure is continually moving so that no one area is subjected to constant high pressure. These findings are particularly relevant for those persons with reduced mobility and at risk of pressure damage.

### Aims

To investigate the OLA Elegant and OLA Classic dynamic mattress systems and the effect they have on support pressures during prolonged periods.

Two subjects were chosen for the tests:-

**Subject 1 – Diagrams 1 & 2      Female                                      Height 158 cm      Weight 53 kg**

**Subject 2 – Diagrams 3 & 4      Male                                      Height 182 cm      Weight 90 kg**

The subjects are of different weights which help to evaluate and more accurately test the equipment supplied.

## **Equipment**

Tests were to be made using a renowned Pressure Mapping application.

The Pressure Mapping system is a complete kit which converts a PC into an advanced pressure distribution measurement system. Using sensors in a normal operational environment, the system can sample pressure data as it happens (in real time), present the information as a colour-coded real-time display, and record the information (as a 'movie') for later review and analysis. The application of a pressure to an active sensor results in a change in the resistance of the sensing element in inverse proportion to the pressure applied. After a simple calibration is performed, this force can be displayed on the screen in the measurement units that you choose, such as KPa; PSI or mmHg.

For this investigation all measurements were taken in mmHg.

## **Method**

### **OLA ELEGANT**

The first subject was placed in a recumbent position on the OLA Elegant dynamic system (Diagram 1) and then the bed raised to a semi-recumbent position (Diagram 2). Measurements were taken over the period of several cycle changes and the results recorded.

### **OLA CLASSIC**

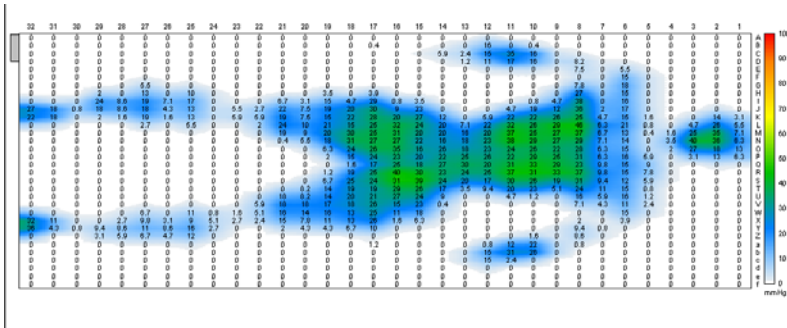
The second subject was placed in a recumbent position on the OLA Classic dynamic system. Again Measurements were then made and the results observed.

Whilst the procedures were to be carried out the subjects were asked to make an opinion of how the mattresses felt regarding comfort and relief. Both subjects commented that they felt comfortable and suitably supported.

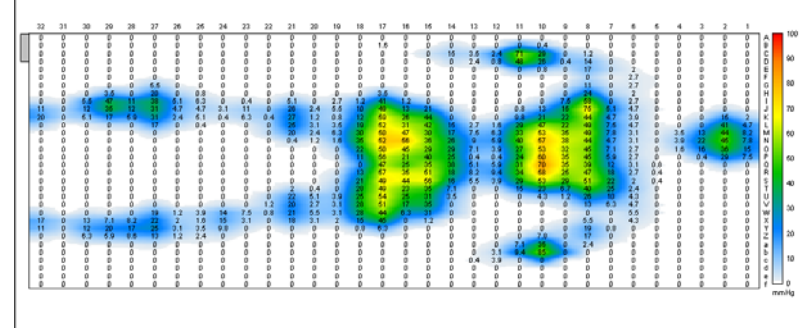
## Results

The results obtained can be seen on diagram 1, 2 3 & 4.

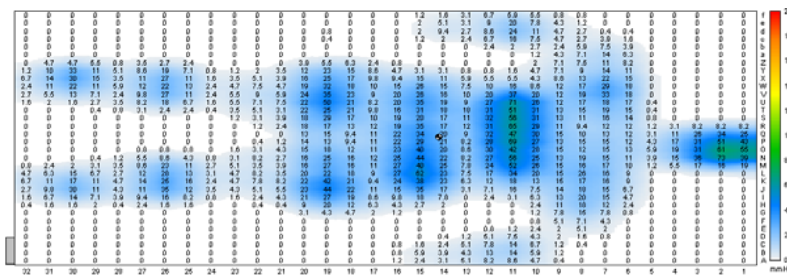
### 1. OLA ELEGANT



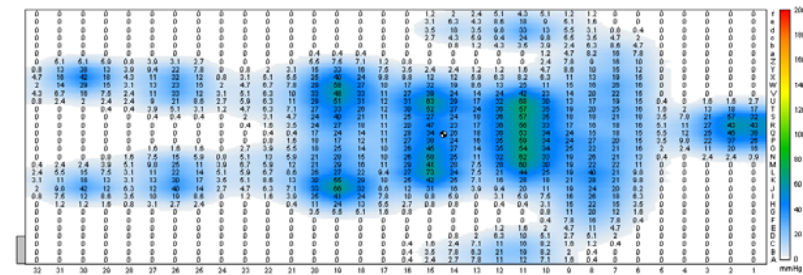
### 2. OLA ELEGANT



### 3. OLA CLASSIC



### 4. OLA CLASSIC



OLA ELEGANT - Diagram 1 shows the interface pressures at their lowest following change-over. Diagram 2 shows the pressures at the peak of the cycle change in a semi-recumbent position. On Diagrams 1 and 2 for the mattress tests it can be seen that there is significant reduction in observed interface pressure on the OLA Elegant mattress over the period of two cycle changes and changing from a recumbent to semi-recumbent position.

OLA CLASSIC - With a much heavier load applied to the OLA Classic mattress system, Diagrams 3 and 4 demonstrate the effectiveness of the OLA Classic dynamic mattress system to noticeably reduce interface pressures.

## Pressure Mapping Tests for | OLA Elegant & OLA Classic

## **Conclusion**

Our tests demonstrate that both the OLA Elegant and OLA Classic mattress systems proved beneficial by relieving interface pressures between the subjects used and the support surfaces.

The equipment helps reduce harmful pressures that over periods of time could cause serious health issues to those at risk of pressure damage. The spreading of the surface area and the greater support given by these dynamic mattress systems allow the support surfaces to provide an excellent relevance in patient care.

It should be noted that results on our Pressure Mapping equipment are for comparative use only and may vary according to both ambient and subject body temperature, but care is taken during testing to ensure that these are kept as near stable as possible.