I 20 subjects; 11 females, 9 males
I Conditions (bed, pillow, Prevalon) were randomized; three tests were collected for each condition
I Subjects were supine on a hospital bed; bed was positioned flat
I Equipment: Tekscan pressure mat #5315, 20 1 6 sensels
I Heel and Achilles tendon were located on the pressure map
I Testing was approved through Michigan State University Institutional Review Board; consent was granted

Conclusion:
The heel placed directly on the bed demonstrated the highest heel pressures, followed by the heel in the center of the pillow. The Prevalon boot showed nearly zero pressure in the area of the heel, proving the heel is off-loaded.

### BED

**Peak Pressure in Heel**

<table>
<thead>
<tr>
<th>Condition</th>
<th>g/cm²²</th>
<th>Stdev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed</td>
<td>175.2</td>
<td>46.4</td>
</tr>
<tr>
<td>Pillow (heel in direct contact)</td>
<td>87.4</td>
<td>30.7</td>
</tr>
<tr>
<td>Prevalon</td>
<td>0.1</td>
<td>0.5</td>
</tr>
</tbody>
</table>

1 g/cm²² = 0.014 psi
10 g/cm²² = 0.1422 psi
50 g/cm²² = 0.711 psi
100 g/cm²² = 1.42 psi
175 g/cm²² = 2.49 psi

### PREVALON®

**The Pillow: Pressured to maintain positioning**

Pillows may be effective in off-loading the heel, when positioned properly and when positioning is maintained. Often, multiple pillows are needed to position the foot and leg and to “float” the heel.

For the purposes of this study, the researcher was asked to measure peak heel pressure when the heel is placed directly on a pillow to simulate improper positioning due to positioning errors or patient movement. A hospital pillow with an 18 oz. fill weight was used, as recommended in a published study conducted by Fowler, Scott-Williams and McGuire.


The Pillow: Pressured to maintain positioning

PSI=pound per square inch.