

Stryker's Pioneer™ Stretcher Surface Proves Best-In-Class for Pressure Redistribution

Medical

Situation

Pressure ulcer prevention has been a prevalent topic in the healthcare industry: it is suggested that 10-15 percent of the general hospital population suffers from chronic pressure ulcers.¹ According to some nurses in the Emergency Nurses Association (ENA), initial skin breakdown can occur within the first two hours of the patient laying still. As hospitals continue to deal with overcrowding issues, many patients are being boarded for 48 hours or more in the Emergency Department (ED).² Numerous hospitals have chosen bed surfaces that can help prevent and treat wounds, but such advanced surfaces have not been available for stretcher surfaces until recently.

Rationale

Paving the way in stretcher products, Stryker Medical had identified a previous lack of innovation for stretcher surfaces throughout the industry. Stryker has since designed a pressure redistribution stretcher surface, Pioneer. Not only is it comfortable for the patient, but Pioneer also helps prevent and treat pressure ulcers. Pioneer, through a combination of 11 air and foam bladders, redistributes the patient's weight from three problematic zones to areas less susceptible to pressure ulcers. With the use of Pioneer, hospitals are now able to help prevent and treat pressure ulcers from the moment the patient is admitted to the hospital.

Methodology

An independent, third-party testing facility conducted tissue interface pressure mapping using an XSENSOR pressure mapping system on three stretcher surfaces (sample identification listed to right). The surfaces were placed onto a sturdy laboratory table and an average size male (see Table 1) was used for the analysis in three critical zones: scapula, sacrum and heel. The subjects were dressed in an appropriate size cotton sweat suit with no shoes to ensure optimum contact with the full surface sensor matrix.

Results

Below are the actual pressure mapping results for Pioneer, Competitor 1* and Competitor 2.*

Conclusion

As seen in the pressure mapping images below, Pioneer has the lowest tissue interface pressure (TIP) averages in the three areas of focus: Pioneer TIP readings are 27-percent lower than Competitor 1 and 40-percent lower than Competitor 2 (see Table 2 for actual TIP averages). It is evident that Stryker's Pioneer surface for stretchers has greater pressure redistribution capabilities than other similar products on the market today.

Table 1. Subjects' Physical Dimensions

	Subject's Height	Subject's Weight
Pioneer	5'6"	180 lbs
Competitor 1	5'8"	175 lbs
Competitor 2	5'8"	175 lbs

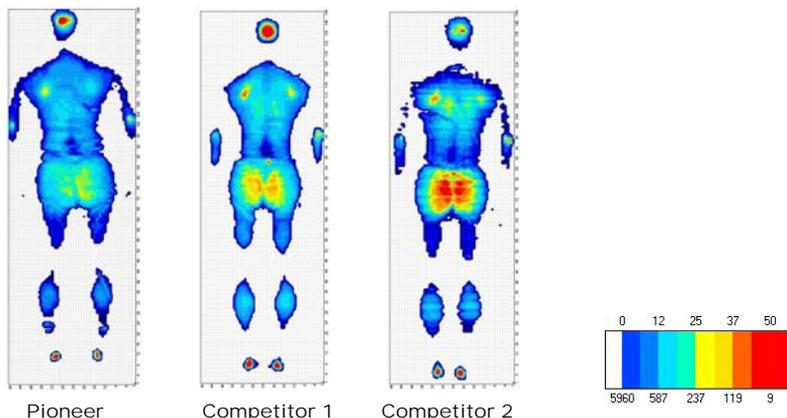
Table 2. TIP Averages

	Pioneer	Competitor 1	Competitor 2
Scapula	19	24	25
Sacrum	23	36	49
Heel	23	29	34

Sample Identification

- One Pioneer pressure redistribution surface (76" x 26" x 5")
- One stretcher surface from Competitor 1 (75" x 26" x 5")
- One stretcher surface from Competitor 2 (75" x 30" x 5")

Pressure Mapping Results



1. *Wound Care Made Incredibly Easy (2nd ed)*. (2007). Ambler, PA: Lippincott Williams & Wilkins.
2. "The Future of Emergency Care: Key Findings and Recommendations." *Future of Emergency Care Report Series (2006)*. 5 Dec. 2006 <http://ena.org/future/IOM/IOM_FactSheet.pdf>.

* Competitor 1 is AtmosAir® by KCI, Competitor 2 is PrimeAire® by Hill-Rom