

Stryker's Pioneer™ Pressure Redistributing Stretcher Surface is the First of Its Kind for Emergency Departments

Medical

Situation

The volume of patients visiting hospitals is continually increasing. Emergency department visits grew by 26 percent between 1993 and 2003.¹ Increased patient volume is a root cause for many challenges that hospitals face today. One challenge that has become a rising concern is increased length of stay for patients. As a result, patients are often “boarded” for 48 hours or more.² During a patient’s waiting period, there are many factors that must be considered to ensure the patient’s health does not deteriorate. One major factor is the integrity of the patient’s skin. Fortunately, there is a variety of advanced wound care surfaces for hospital beds. However, there is a gap in advanced surface availability for areas of the hospital that utilize stretchers for the patient platform.

Rationale

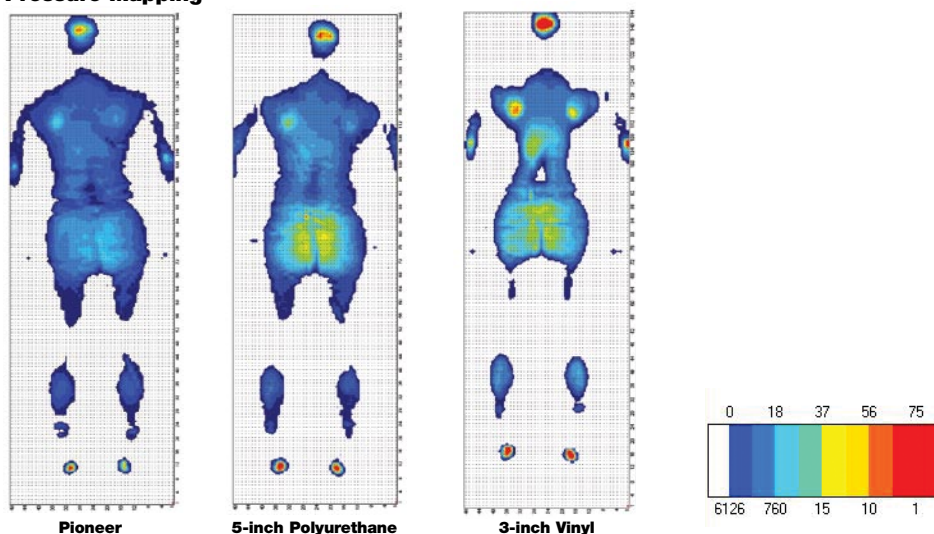
As an industry leader in providing best-in-class stretcher products, Stryker Medical recognized the need for an advanced pressure redistribution surface for stretchers. Focusing on improved patient outcomes, Stryker developed Pioneer, a stretcher surface that redistributes pressure through a series of eleven air bladders reinforced with dual-density foam support. The surface provides superior pressure management for the patient from head to toe. Pioneer is the first product of its kind that allows hospitals to provide a continuum of preventative wound care from the moment a patient is admitted to the time he or she is discharged.

Methodology

A third-party testing facility conducted interface pressure mapping using an XSENSOR™ pressure mapping system on three stretcher surfaces (sample identification listed below). The surfaces were placed onto a sturdy laboratory table and an average size male measuring 5'6" tall and weighing 180 pounds was used for the analysis in three critical zones: scapula, sacrum and heel. The subject was dressed in an appropriate size cotton sweat suit with no shoes to ensure optimum contact with the full surface sensor matrix.

Results

Pressure Mapping



Conclusion

Pioneer has the lowest tissue interface pressure (TIP) averages in the three zones measured. In fact, Pioneer reduces the pressure on a patient’s skin by more than 55 percent in every zone when compared to a 3-inch vinyl mattress. A comparison of the TIP averages and overall pressure mapping results clearly displays the clinical benefits of Stryker’s Pioneer stretcher surface over other available stretcher surface options.

Sample Identification

- One Pioneer pressure redistribution surface (76" x 26" x 5")
- One 5-inch polyurethane, dual-density foam surface (76" x 26" x 5")
- One 3-inch standard vinyl and foam surface (75.5" x 26" x 3")

Tissue Interface Pressure (TIP) Averages

	Pioneer	5-inch Polyurethane	3-inch Vinyl
Scapula	19	28	33
Sacrum	23	44	42
Heel	23	35	42

1. “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>.

2. Ibid.