

Pressure Mapping

Glossary of Terms

A comprehensive reference for clinicians and clients using the XSensor ForeSite SS wheelchair seating system.

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What is Pressure Mapping?

Pressure Mapping is a biofeedback tool that uses a sensor mat to assess how a person's body weight is distributed on a seated surface. It is primarily used as an educational tool to understand pressure injuries and the techniques that could prevent them from occurring.

ForeSite SS

A pressure mapping system comprising the LX1000 sensor mat and tablet. Designed with 5+ years calibration stability, it measures and visualises body surface pressures.

Sensing Area

The 18×18 inch (457×457 mm) square grid that measures seating surface area. Total sensing area: 2088.5 cm².

Sensor Cell

One of the 36×36 squares that make up the sensing area, each 12.7 mm wide on the ForeSite SS.

Spatial Resolution

How closely two objects can be measured. The 12.7 mm cell size on the ForeSite SS enables high-accuracy readings.

Pressure Range

Scale used to measure and represent different pressure levels. Recommended setting: 125 mmHg for optimal high/low comparison.

Interface Pressure

The force exerted at the contact point between a person's body and the support surface (e.g. cushion).

Key Measurement Terms

Peak (mmHg)

The highest pressure value recorded on the sensor. Orange-to-red areas on the map indicate concentrated pressure at higher risk of injury.

Average (mmHg)

The mean of all pressures on the sensor. Typically, 25–50 mmHg. Useful for comparing different cushions.

Total Contact Area (cm²)

The surface area experiencing force. Reflects body weight, size, shape, posture and movement.

Coefficient of Variation (%)

A standardised measure of how evenly pressure is distributed. Lower percentage = better, more even distribution.

Dispersion Index (DI)

Percentage of pressure distributed relative to the pelvic loading area. Formula: $A/(A+B)$ where A=PLA and B=area outside PLA. Higher % = more concentrated pressure.

Peak Pressure Index (PPI)

Approximate contact area of the ischial tuberosity and other bony prominences at the peak pressure sensor location.

PSI Measurement

Force of one pound-force applied to one square inch. Can be converted to mmHg for clinical reference.

Anatomical & Cushion Terms

Ischial Tuberosities (ITs)

The sitting bones at the base of the pelvis. Most common sites of high-pressure peaks in seated positions.

Greater Trochanter

The bony projection on the outside of the upper femur. An important pressure monitoring landmark.

Coccyx

A small triangular bone at the bottom of the spine that bears weight when seated.

Sacrum

A large bone near the base of the spine that helps stabilise the pelvis.

Pelvic Loading Area (PLA)

Weight loading zones at or around the ischial tuberosities, sacrum/coccyx, greater trochanters and femurs.

Pressure Injury

Localised skin/tissue damage over a bony prominence caused by prolonged pressure, shear, or friction.

Immersion

The degree to which a support surface allows the body to 'sink' into it.

Envelopment

The degree to which a support surface locally conforms to body contours.

Redistribution

Using material and contouring to transfer pressure from high-risk to low-risk tissue areas.

Shear

Friction on tissues caused by dragging across a surface (3 Dimension); a key cause of skin breakdown.