

Summary for Clinicians

XSensor ForeSite SS | Wheelchair Seating Assessment

Key Properties LX1000 Sensor | 18×18" sensing area | 1296 cells | 12.7 mm spatial resolution
Accuracy ±5% full-scale | Pressure range: 5–200 mmHg

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Clinical Uses

Visualise Pressure Distribution

High-quality mapping enables clinicians to see a client's real-time interface pressure whilst seated — far more informative than subjective observation alone.

Customised Cushion Design

Data such as total contact area and average pressure assists with designing custom cushions, in conjunction with engineers and technicians.

Cushion Comparison

Side-by-side comparison of different cushions informs prescription decisions with objective, measurable data.

Real-Time Client Education

Live images allow clients to observe pressure changes as they perform pressure relief techniques — increasing compliance and engagement.

Postural Assessment Support

Pressure mapping may improve postural assessment accuracy. Note: it is primarily a visual education tool rather than a standalone analytical measurement.

Monitoring Over Time

Capturing baseline images allows future assessments to track changes in pressure distribution due to postural changes or cushion wear.

Step-by-Step User Guide

1

Place sensor mat on the client's wheelchair seat; position the Bluetooth connector at the user's front-left corner.

2

Have the client transfer onto the sensor mat.

3

Press 'On' on the tablet (left side) and on the Bluetooth connector. The mat indicator turns blue when connected.

4

Set pressure range to 125 mmHg (tap range on left side of tablet screen). Keep consistent for inter-rater reliability and cushion comparison.

5

Wait 5 minutes for the cushion to conform to the client's body shape and posture.

6

During settling time, add session notes: client ID, date, equipment, goals, and skin condition.

7

Use marker mode to label bony prominences (ITs, GT, Coccyx). The midline will display automatically.

8

Capture, label, and save the image. This creates a baseline for future assessments.

Cushion Properties & Pressure Mapping Considerations

AIR

Air cushions are influenced by temperature. Body heat expands air cells, reducing immersion. Allow 5 minutes for pressure redistribution and subsequent adjustments for an accurate reading.

GEL

Gel cushions are temperature-dependent. Body heat allows the gel to envelop the client's body contour. 5 minutes ensures accurate pressure mapping as the gel settles.

FOAM

Foam cushions are relatively firm but will compress and conform. 5 minutes allows postural adaptation and cushion immersion for a realistic pressure map.

⚠ Important: There is no universally 'safe' pressure number. Clinicians should educate clients on pressure relieving techniques to complement their cushions.

Interpreting Your Measurements

Peak Pressure

Highest value on the sensor. Orange-to-red areas indicate concentrated load. Tap the image for a 3x3 grid of local peak values. Clinically significant as indicator of injury risk.

Average Pressure

Mean of all pressures (typically 25–50 mmHg). Most useful for comparing different cushions. Does not vary as dramatically as peak pressures between cushion types.

Total Contact Area

Number of sensor cells in contact. Reflects body weight, size, shape, posture, and movement. A larger area generally indicates better immersion and envelopment.

Coefficient of Variation (%)

Standardised measure of pressure dispersion. Lower % = more even distribution. Air cushions typically yield lower CV than foam. Useful analytical metric.

Dispersion Index (%)

Percentage of pressure concentrated in the pelvic loading area. Higher % = greater concentration at bony prominences. More useful for clinician analysis than client education.