Seating & Positioning

Cushions

permobil

Attributes of great seating

Skin & Soft Tissue Protection

Protecting your skin is one of the most important things to do when you're in a wheelchair. Individuals who use a wheelchair as their primary means of mobility often have sitting times of more than 10 hours per day. These sitting times, in combination with a reduced ability to change position and decreased sensation, can put you at high risk for skin breakdown.

Pressure cannot be eliminated in seating, so instead, we must focus on the redistribution of pressure. Sustained pressure in one area can cut off circulation to vulnerable parts of the body. Without an adequate supply of blood, these body tissues can die. According to Johns Hopkins Medicine *(Pressure Ulcers),* a pressure injury can develop in just 2-3 hours if blood supply is cut off.

Are you at risk for pressure injuries? They are usually caused by:

- Continuous pressure: if there is pressure on the skin on one side, and bone on the other, the skin and underlying tissue may not receive an adequate blood supply
- Friction: for some individuals, especially those with thin, frail skin and poor circulation, turning and moving may damage the skin, raising the risk of pressure injuries
- Shear: if the skin moves one way while the underlying bone moves in the opposite direction, there is a risk of shearing which can lead to tissue death

Most Permobil cushions incorporate elements of immersion, envelopment, and/or offloading in order to help prevent skin/soft tissue injuries.

Immersion

Cushion allows the body to sink in and have greater overall contact area to redistribute pressure.

Envelopment

Cushion surrounds the body and redistributes pressures as the body immerses into the cushion.

Offloading

Cushion takes pressure off one small surface area and loads it onto a greater surface area that can withstand more pressure.

Positioning

Permobil knows that good posture decreases pain and reduces your risk of falling out of your wheelchair and being injured. Proper positioning also safeguards the integrity of your bone structure. But did you know that proper positioning also improves your ability to see more of your surroundings, to breathe and swallow easier, and have better digestion?

When you are properly positioned, you will be more comfortable and less tired, and you will have better ablility to interact with your environment. Improper positioning can cause you serious pain and can even lead to long-term structural issues. That's why our cushions are made with the goal to help promote good posture.

Most Permobil cushions are designed to promote postural stability and freedom of movement, which may help individuals perform daily living activities with less pain and fatigue.

Stability

When the pelvis is stable, this in turn creates stability in the spine, as the two are connected.

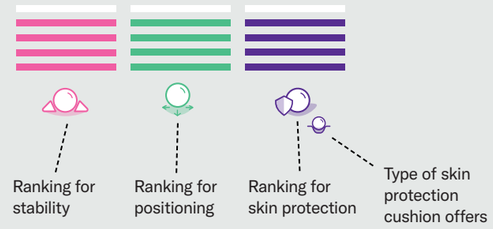
A stable base allows you to transfer easily and control your body position. It also allows you to reach and lean forward, move side to side, and feel more secure in your wheelchair. What a difference that makes in your daily life and being able to take part in activities. We want all those things for you, and more!

Our seating solutions provide you with the support, balance, and dependability you need.

Most Permobil cushions are designed to help individuals control their body position and prevent sliding, hold their pelvis in place, and enable them to reach and lean with stability.

Guide to understanding attributes

Throughout this brochure, charts like the one to the right appear with each cushion. These charts are an indication of that cushion's attributes, as well as the types of skin protection each cushion offers.



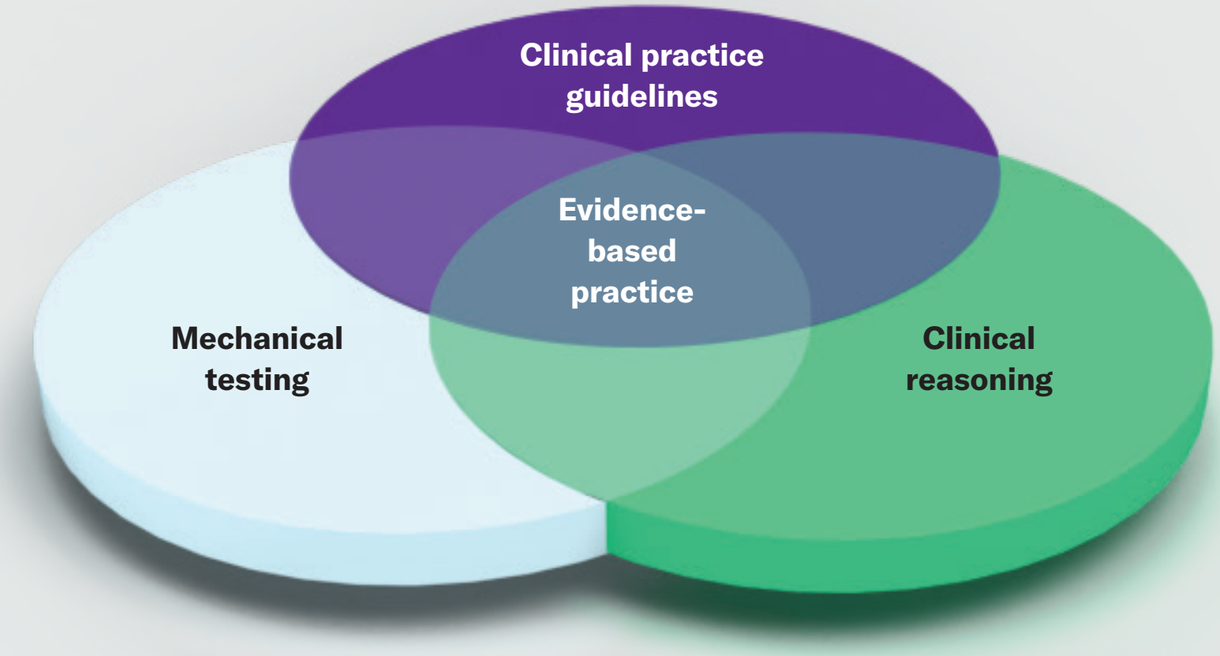
Science behind our products

Evidence-based practice

To demonstrate how Permobil cushions perform, we rely on a range of evidence and best practices, including clinical reasoning and published clinical evidence; mechanical data from standardized bench testing (ISO and RESNA); current clinical practice guidelines (CPG) for the prevention of pressure injuries; and the medical device regulatory requirements, including the new and rigorous requirements of the EU.

Clinical practice guidelines

The design, development, and evolution of our cushions have always been based on clinical recommendations to optimize client outcomes. Permobil seating solutions are reviewed and refined by clinicians, as well as by globally recognized knowledge and testing sources. These assessments provide insight into how each of our cushions are unique, and how each cushion provides different benefits.



Mechanical testing

Permobil professionals are at the forefront of standardized bench testing and clinical practice, through participation and leadership in the NPIAP, ANSI/RESNA, ISO and CEN.

We test our cushions to ISO and ANSI/RESNA standards at the Tissue Integrity Management Laboratory at the University of Pittsburgh. To learn more, and see the tests for yourself: https://wheelchairstandards.com/

Clinical reasoning

Having this range of evidence and information helps with the cushion selection process. Like you, each cushion is unique. Find the one that's best for you.

Attributes of great seating	Mechanical testing	Clinical practice guidelines	Clinical reasoning
Skin Protection	Immersion test (ISO 16840-2) reveals how deeply the body sinks into the cushion. Envelopment test (ISO 16840-12) reveals how the body weight is cradled by the cushion, using envelopment or offloading. Shear test (Shear force sensor) reveals the potential of the cushion interaction with the body to distort/deform the tissue. Contact Area (Pressure mapping) reveals how much contact is being made between the seat support and the individual.	CPG notes pressure injuries result from pressure or pressure in combination with shear. NPIAP guides use of support surfaces to achieve pressure redistribution in one of two methods: immersion/envelopment or redirection/offloading. NPIAP recommends immersing more than 40 mm to cradle bony prominences, which may reduce the risk of pressure injury.	Lower shear forces minimize the tissue distortion/deformation and may reduce risk of pressure injury. Achieve as much contact area as possible to promote greater pressure redistribution which may reduce risk of pressure injury. Immersing the bony prominences may reduce risk of pressure injury.
Positioning	Slide resistant test (ISO 16840-2) reveals how much force is required to slide forward on the cushion when seated.		A higher slide resistance force indicates more stability and may contribute to decreasing forward migration of the pelvis in the cushion for those with trunk and/or pelvic weakness.
Stability	Lateral tilt test (ISO 16840-13) reveals the stability the cushion may provide during side-to-side leaning.		A more stable cushion during leaning may increase ability to perform daily tasks for individuals with trunk and/or pelvic weakness.

ROHO

MOSAIC®

E2601

The MOSAIC cushion provides the benefits of interconnected large air cells that allow you to sink comfortably into the cushion. It is an easy to inflate, lightweight cushion that protects your skin and soft tissues.

Sizes* Widths: 16.25”-20.25” *(41.5 cm-51.5 cm)*
Depths: 16.25”-18.25” *(41.5 cm-46.5 cm)*

**For full size listing, please see the Cushion Sizing and Ordering Guide or permobil.com.*

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Cushion shown without cover.

Comfort

ELEMENTS® with Gel

E2601/E2602

The Elements with Gel is made of a single layer of foam topped with a four compartment QuadraGel pack for comfort.

Sizes* Widths: 16”-24” *(40.6 cm-61 cm)*
Depths: 16”-20” *(40.6 cm-50.8 cm)*

**For full size listing, please see the Cushion Sizing and Ordering Guide or permobil.com.*

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Skin Protection
Immersion
Envelopment
Positioning
Offloading
Stability