

Wheelchair Seating Pocket Guide

Selecting wheelchair seating components
for pressure injury management



NPIAPSM
NATIONAL PRESSURE INJURY ADVISORY PANEL

Improving Patient Outcomes Through Education, Research and Public Policy

permobil

Purpose

The National Pressure Injury Advisory Panel (NPIAP) has done the industry a huge service by creating the Clinical Practice Guideline (CPG) to help unify all disciplines with a comprehensive literature review on pressure injury prevention and treatment. Rigorous appraisal of published research resulted in evidence-based recommendations that all disciplines can and should follow to consistently apply best practice to pressure injury management.

By referencing the 2019 CPG, physicians, physician assistants, nurse practitioners, nurses, and therapists will understand the importance the seated posture plays in the prevention and treatment of pressure injuries to consistently apply best practice.

Clinical Practice Guideline cited throughout:

European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. Emily Haesler (Ed.) EPUAP/NPIAP/PPPIA; 2019.

What type of client should be using a specialized skin protection support surface such as a seat or back support?

The number one factor in common among all wheelchair users is impaired mobility. As stated in the introduction of 2019 CPG, “a number of contributing or compounding factors are associated with pressure injuries; the primary of which is impaired mobility.”

Support surfaces specifically designed with skin protection properties should be used with clients with certain risk factors, instead of “entry-level” surfaces. According to the NPIAP, the following factors impact pressure injury (PI) risk. Refer your client to therapy for a seating and wheeled mobility evaluation if any of these apply:

- Limited mobility and limited activity *1.1*
- Previous/current pressure injury *1.2, 1.3, 1.4*
- Alterations to skin condition over pressure points *1.5*
- Pain at pressure points *1.6*
- Diabetes mellitus *1.7*
- Perfusion and circulation deficits *1.8*
- Oxygenation deficits *1.9*
- Impaired nutrition *1.10*
- Moist skin *1.11*
- Increased body temperature *1.12*
- Older age *1.13*
- Impaired sensory perception *1.14*
- Obesity *7.3*

How do I identify these at risk clients?

The NPIAP published Good Practice Statements (GPS) regarding the screening process to quickly identify clients at risk. Consider implementing the following processes:

- Conduct a PI risk screening as soon as possible after admission to the care service and periodically thereafter. *1.21*
 - Perform quarterly and annual screens or upon signs and symptoms of change in medical condition
- Develop and implement a risk-based prevention plan for individuals identified as being at risk. *1.23 (see risk factors on previous page)*
- Conduct a comprehensive skin and tissue assessment for all individuals at risk of pressure injury: *2.1*
 - As soon as possible after admission/transfer to the healthcare service
 - As part of every risk assessment
 - Periodically as indicated by individual's degree of PI risk
 - Prior to discharge from care service

Utilize a screening tool such as the sample on the next page. Feel free to copy and use it as an initial screen during your assessment.

Sample screening

According to the NPIAP CPG, consider the following factors for risk of pressure injury.

Physical impairments that could increase risk of pressure injury:

	PRESENT? Y/N	
Limited mobility and limited activity 1.1	Yes	No
Previous/current pressure injury 1.2, 1.3, 1.4	Yes	No
Alterations to skin status over pressure points 1.5	Yes	No
Pain at pressure points 1.6	Yes	No
Diabetes mellitus 1.7	Yes	No
Perfusion and circulation deficits 1.8	Yes	No
Oxygenation deficits 1.9	Yes	No
Impaired nutrition 1.10	Yes	No
Moist skin 1.11	Yes	No
Increased body temperature 1.12	Yes	No
Older age 1.13	Yes	No
Impaired sensory perception 1.14	Yes	No

If you answer yes to any of the risk factors listed...

Take action:
Refer to therapy for seating evaluation*

Take action:
Prescribe a skin protection support surface

*If your client is a full-time wheelchair user, always refer to a seating specialist.

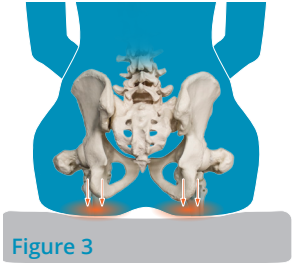
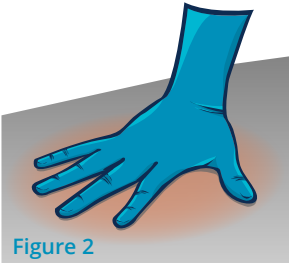
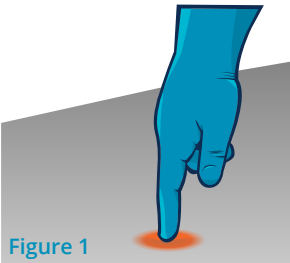
Once I know I have an at risk client, what does the Clinical Practice Guideline recommend?

The CPG recommends the following for an at risk client:

Select a support surface that meets the individual's need for pressure redistribution based on the following factors: GPS - 7.1	<ul style="list-style-type: none">• Level of immobility and inactivity• Need to influence microclimate and shear reduction• Size and weight of the individual• Number, severity, and location of existing PIs• Risk for developing new PIs
For individuals with a PI, consider changing to a specialty support surface when the individual: GPS - 7.9	<ul style="list-style-type: none">• Cannot be positioned off the existing PI• Has PIs on two or more turning surfaces that limit repositioning options• Has a PI that fails to heal or the PI deteriorates despite appropriate comprehensive care• Is at high risk for additional PI• Has undergone flap or graft surgery• Is uncomfortable• "Bottoms out" on current support surface
Select a seat and seating system support surface that meets the individual's need for pressure redistribution with consideration to: GPS - 7.11	<ul style="list-style-type: none">• Effects of posture and deformity on pressure distribution• Body size and configuration• Mobility and lifestyle needs
For individuals with obesity, select a support surface with enhanced pressure redistribution, shear reduction and microclimate features. GPS - 7.3	
Use a pressure redistribution cushion for preventing pressure injuries in people at high risk who are seated in a chair/wheelchair for prolonged periods, particularly if the individual is unable to perform pressure relieving maneuvers. 7.12	
Use a bariatric pressure redistribution cushion designed for individuals with obesity on seated surfaces. 7.14	
For individuals with or at risk for a pressure injury, consider using a pressure redistributing support surface during transit. GPS - 7.15	

How do I redistribute pressure away from high risk areas?

Force, when concentrated in a small surface area, creates high peak pressures (see Figure 1). When the force is spread over a greater surface area, the peak pressure is reduced (see Figure 2). Figure 3 below shows the at risk areas of the ischial tuberosities in the seated posture.

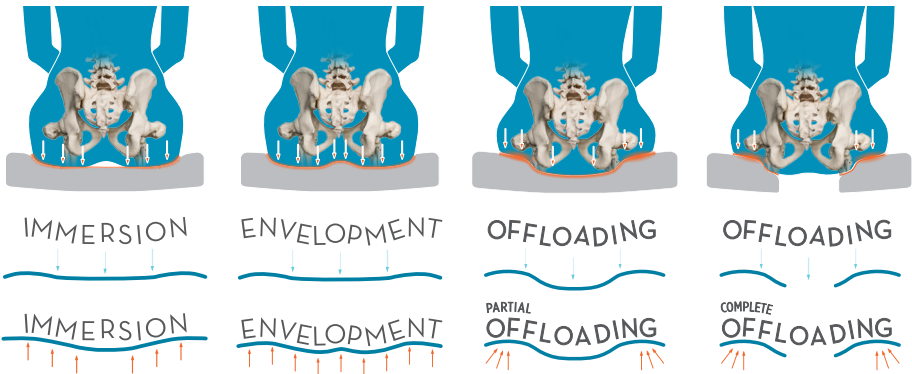


According to the CPG, when immobility is a key issue, the seat support surface should redistribute pressure away from high risk areas through the methods of pressure redistribution: immersion, envelopment, and/or offloading.

The method we choose should be based on the individualized needs of the client.

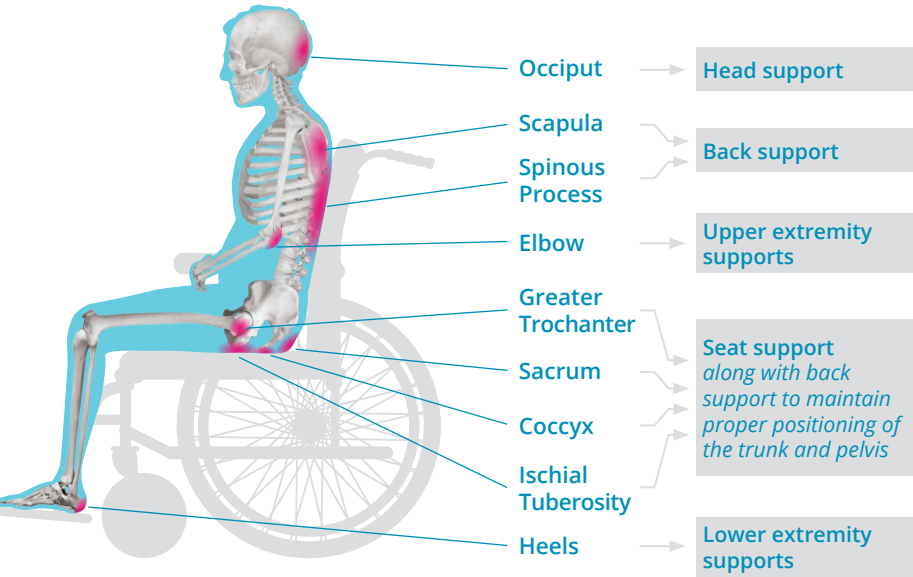
Pressure redistribution methods

Seat surfaces can immerse, envelop, or either partially or completely offload the client, to assist in the prevention or treatment of a pressure injury.



Common areas of pressure injury development when seated in a wheelchair

A seating system is a combination of the wheelchair, cushion, back support, and any ancillary accessories required. Properly fitting components for each individual must be selected, or they may cause just as much damage as not having them at all.



Should I only be concerned with the seat support (cushion) when pressure injury prevention and treatment is the goal?

Absolutely not! It is a seating system.

Every surface in daily use needs to be taken into consideration. For clients who use a wheelchair, a quality skin protection cushion is only as good as the system it is placed in. The ideal seating system consists of:

- The wheelchair base, correctly configured to match the client's measurements and range of motion limitations
- The back support, which positions the trunk to optimize pelvic positioning, further aiding in the prevention and treatment of a pressure injury
- The seat support (cushion) which will immerse and envelop or offload for optimal pressure redistribution and positioning
- Any needed accessories to add stability, redistribute pressure, and allow for function

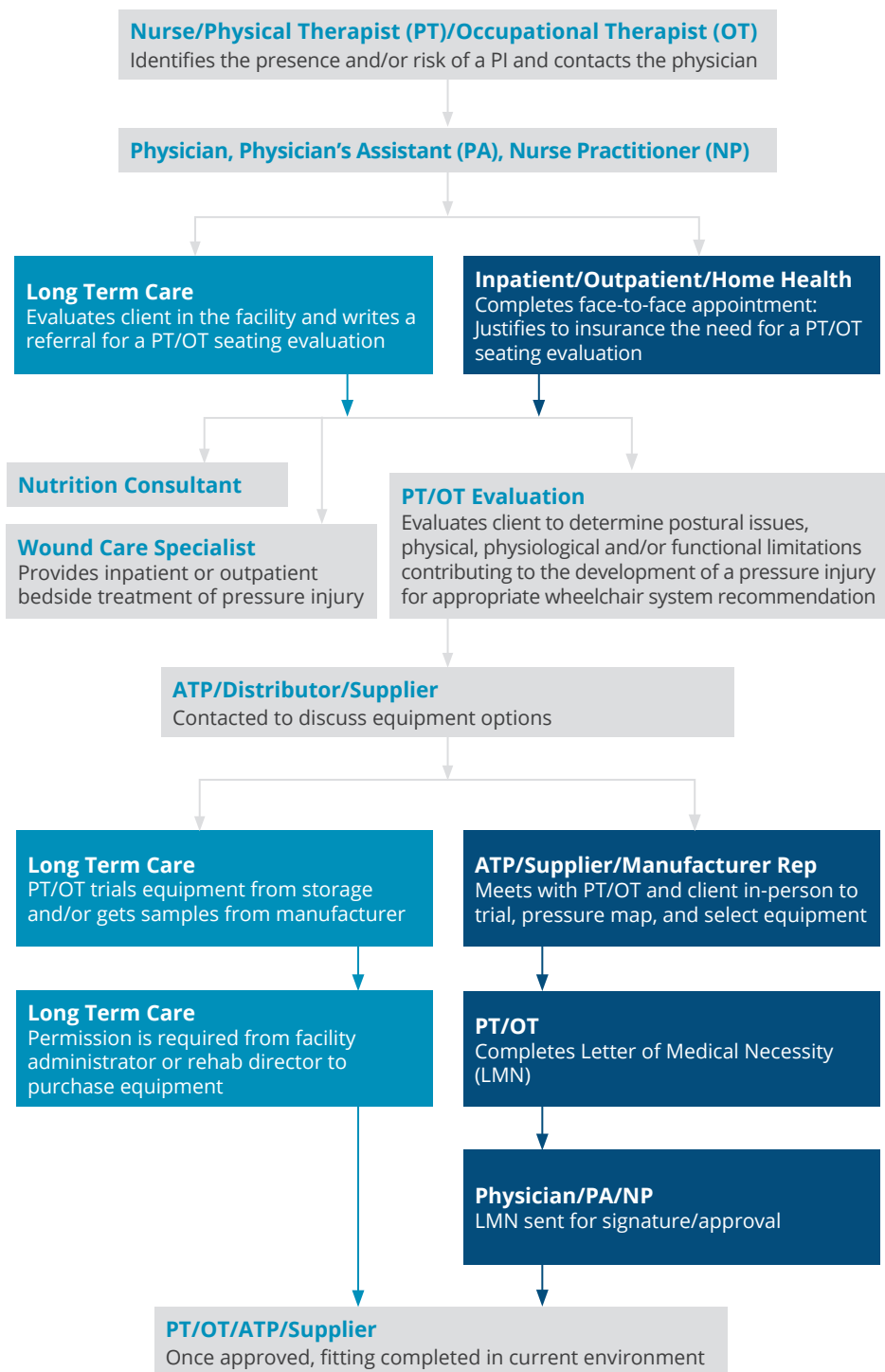
For this reason, when the need for skin protection has been identified, a seating referral to a specialized seating therapist is warranted.

What is the process for getting my client what is needed?

Now that I understand the importance of identifying the at risk client, implementing a screening process, and utilizing proper pressure redistribution support surfaces in the seated posture, how do I get the client what is needed? And what is my role?

The recognition, treatment, and prevention of a pressure injury is a multidisciplinary, team effort:

(continued on next page)



What if the healthcare professionals in my organization are not up to date with the clinical practice guideline?

What if they don't understand the importance of proper seating equipment to prevent or treat a pressure injury?

It is our job at the organizational level to implement education and training for proper PI prevention and treatment strategies to protect every client under our care. The CPG has very clear recommendations, and Permobil has comprehensive education programs to bring your facility up to speed!

NPIAP's 2019 CPG Recommendations: AT THE ORGANIZATIONAL LEVEL

Assess and maximize workforce characteristics as part of a quality improvement plan to reduce the incidence of PIs *20.1*

Assess the knowledge health professionals have about PIs to facilitate implementation of education and quality improvement programs *20.2*

Assess and maximize the availability and quality of equipment and standards for use as part of a quality improvement plan to reduce incidence of PIs *20.4*

Provide clinical decision support tools as part of a quality improvement plan to reduce incidence of PIs *20.8*

Develop and implement a multi-faceted education program for PI prevention and treatment *21.2*

NPIAP's 2019 CPG Recommendations: AT THE PROFESSIONAL LEVEL

Provide education in PI prevention and treatment as part of a quality improvement plan to reduce the incidence of PIs *20.10*