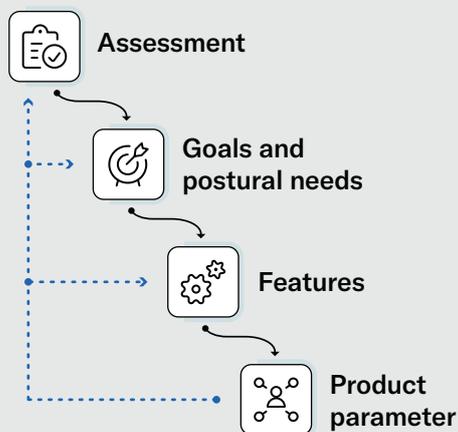


Aftermarket Back Support - Clinical Decision Making

Finding the balance between stability, mobility and function.



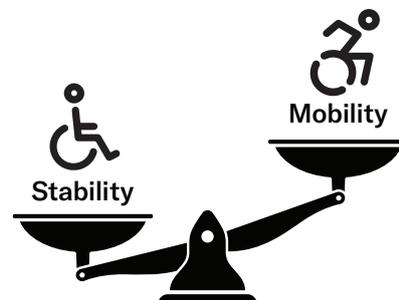
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Back Support: Determining Contouring and Support Levels

The Goals

Finding the right balance between stability and mobility.



MAT assessment must be considered prior to determining potential equipment solutions.

1. Level of Support

Consider sitting balance specific points of control needed.

- Trunk control
- Support required
- Points of control

Consider product features:

- Contouring
- Additional supports
- Shell shape
- Size (height and width)

2. Functional Needs

Consider individual functional capacity and goals. Will the level of support be a barrier to meeting functional needs? Consider:

- Mobility – access to wheels / access to controller
- Goals
- Activities of daily living
- Independent living – ability to reach and access environment
- Transfers
- Roles and responsibilities
- Environments

3. Individualisation

Consider the adjustability of the equipment to meet the individuals needs.

- What specific customisations are required
- Transport considerations eg. removability, weight
- Internal contour adjustment
- Mounting



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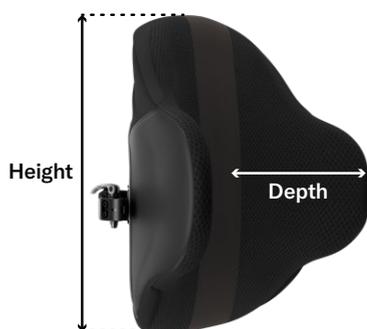
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Considering the Shell

Contoured shells provide posterior support and additionally offer increased lateral trunk support. Determining the **depth** of the contour requires specific consideration of the individuals needs. Start shallow and adjust as needed.

Both the depth (the measurement from back of backrest to front of contour) and the height of the shell need to be considered in relation to the users needs. The sized width also needs to interface appropriately with the width of the wheelchair. You can find the specifications for the Permobil Unite Back Support in the QR code.

When determining the most appropriate **height** for a back support, consider support vs function. Generally, a higher backrest provides increased support, however for an active user who is self-propelling, it is important that the height of the shell is below the inferior angle of the scapular. This enables upper limbs freedom of movement and reduces mobility barriers for independent propulsion.



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Postural Needs

- The first consideration is **how much** support is required.
- Consider the sitting balance of the user. Can they maintain an upright trunk? What type of sitter are they?
- How is the ribcage shaped – consider contour measurements alongside users measurements. Does the back support allow the user to come into it without causing rotation?
- More dependent sitters often require additional posterior support. Can this be achieved with the chosen back support? For more information on sitter types, see table below.

Functional Needs

- Transfers: Will the contour depth be a barrier? Can the user effectively move themselves around the contours?
- Mobility: Do the contours enable and promote good biomechanical self-propulsion patterns?
- Reach: Can the user still complete all the tasks that are important to them? Better yet, are they able to do things they weren't able to previously? Don't forget ADLs, meal prep, individual goals etc.



Sitter Types, Postural Needs & Back Support Selection Guide

Sitter Type	Trunk Control Characteristics	Back Support / Contour Requirements	Key Back Support Features Needed
Hands-Free Sitter	Independent trunk control; maintains upright posture without UE support	Minimal contour; shallow shaping for comfort and pressure management	<ul style="list-style-type: none"> • Allows freedom of movement • Low-mid back height for scapular mobility • Light contour, minimal lateral containment
Hands Dependent Sitter	Reduced trunk control; relies on arms to stabilise posture	Moderate contour to replace UE support and improve trunk stability	<ul style="list-style-type: none"> • Posterior trunk contact • Moderate lateral containment • Adjustable laterals or mouldable support
Prop Sitter	Poor or absent trunk control; unable to sit upright without external support	Deep contour; often moulded or highly contoured to maintain upright sitting	<ul style="list-style-type: none"> • Deep posterior contour • Aggressive lateral trunk support • Ability to accommodate or manage asymmetry /scoliosis

Additional Customisation

Increasing the Contour Depth

Lateral supports need to capture the trunk depth. Additional depth can be increased and provide more specific points of control through the addition of wings and lateral supports, providing a more customisable solution.

- Does the contour depth meet the needs?
- Do the lateral supports require offsetting to correct scoliosis?

Additional Supports

The posterior contour for dependent sitters can make a significant difference. When appropriate contour and angle is achieved, the lateral support requirements are often decreased which should be considered alongside shell contour.

Customisation of Posterior Contour

- Provision of a pelvic block – correct or maintain spinal alignment.
- Accommodation of Kyphosis – adding contours to accommodate posture.
- Pressure redistribution – increase contact where you need it.

Additional Pressure Redistribution

Good posterior contour will assist in providing contact, support, positioning and comfort. But sometimes we still need to consider additional pressure redistribution, such as air, or components to provide pressure redistribution and support.