



**Wheelchair Seating Questionnaire Clinical Guide**

	<b>Common Issues and Red Flag Concerns</b>	<b>Clinical Considerations for Issues and Concerns</b>
<b>SKIN</b>	<p>Pertaining to questions 1 &amp; 2 under <b>Skin</b>:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> one or both IT's</li> <li><input checked="" type="checkbox"/> coccyx and/or sacrum</li> <li><input checked="" type="checkbox"/> undersurface of one or both GT's</li> <li><input checked="" type="checkbox"/> spinous processes</li> <li><input checked="" type="checkbox"/> scapulae</li> <li><input checked="" type="checkbox"/> lateral aspect of knees or calves</li> <li><input checked="" type="checkbox"/> lateral malleoli, heels, and/or metatarsals</li> <li><input checked="" type="checkbox"/> Don't currently have skin issues but have had issues (in any of these areas) in the past</li> <li><input checked="" type="checkbox"/> Flap surgery</li> <li><input checked="" type="checkbox"/> Bedrest as recommended by healthcare provider(s)</li> <li><input checked="" type="checkbox"/> Self-directed bedrest</li> <li><input checked="" type="checkbox"/> Restricted or modified sitting schedule</li> </ul>	<p>Individuals with neurological conditions are at very high risk for pressure injuries and skin breakdown over weight bearing surfaces in sitting. They are also very prone to postural deterioration throughout the pelvis, hips, and spine which can change the way pressure gets distributed and concentrated at certain areas of the body. These factors highlight the skin-posture relationship and how postural deterioration introduces additional variables for skin breakdown. The development of pressure injuries can be complex and have a number of contributing factors. It's important to identify and address all variables that are seating-related in addition to those factors that are non-seating related. Main categories to address related to seating include: (1) support surface selection &amp; wheelchair configuration for pressure redistribution and postural support needs, (2) method and schedule for pressure redistribution movements, (3) quality and purpose of movement within wheelchair system as it relates to shear and friction, (4) breathability and heat/moisture management needs at the person-support surface interface, (5) sitting schedule. If someone reports (or if you observe on evaluation) any of these issues or concerns it is an indicator that they require comprehensive 24-hour pressure management and postural evaluations that should be prioritized as urgent, particularly for those who have had periods of time where they have been unable to sit. Individuals with neurological conditions who fall into this category with these types of skin issues commonly require custom seating interventions in addition to needing 24-hour pressure management interventions outside of the wheelchair. Make sure to address all the factors contributing to skin issues both inside and outside of the wheelchair before finalizing goals with seating interventions.</p>

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	<b>Common Issues and Red Flag Concerns</b>	<b>Clinical Considerations for Issues and Concerns</b>
<b>POSTURE</b>	<p>Pertaining to Questions 3 &amp; 4 for <b>Posture</b>:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> no trunk control/full dependence for balance</li> <li><input checked="" type="checkbox"/> very limited trunk control/ hands required to keep balance</li> <li><input checked="" type="checkbox"/> limited trunk control/could keep balance without hand support but could not move in and out of midline</li> <li><input checked="" type="checkbox"/> sliding</li> <li><input checked="" type="checkbox"/> leaning</li> <li><input checked="" type="checkbox"/> windsweeping</li> <li><input checked="" type="checkbox"/> slouching</li> <li><input checked="" type="checkbox"/> hips not centered over trunk</li> <li><input checked="" type="checkbox"/> feet don't stay on footplates</li> <li><input checked="" type="checkbox"/> head doesn't stay on headrest</li> <li><input checked="" type="checkbox"/> arms don't stay on arm supports</li> <li><input checked="" type="checkbox"/> falls out of the wheelchair or safety concerns due to loss of positioning</li> </ul>	<p>Individuals with neurological conditions are at very high risk for postural deterioration in sitting particularly when there are issues around muscle weakness, spasticity and abnormal muscle tone, or ROM limitations throughout the body. This, in turn, also makes these individuals at very high risk for skin breakdown as explained under the "Skin" section above. As a person's balance decreases, the risk for postural deterioration against gravity increases. Supporting posture as neutral as possible (across all 3 planes of movement) is an important goal for all individuals that have the flexibility to sit this way. Someone lacking this flexibility still needs to be provided with postural supports that will protect the remaining flexibility to minimize further deterioration in posture. The primary areas that need postural support to provide core stability in a seating system are (a) the pelvis, (b) hips &amp; proximal thighs, (c) the interface between the pelvis and spine, and (d) the trunk. The postural supports in a wheelchair for neurological clients should be provided through the appropriate use and set-up of a cushion and a rigid backrest, as well as secondary positioning supports as indicated from assessment as a first layer of intervention. A second essential layer of positioning is related to balance and postural stability. Understanding how a person's body needs to be oriented against gravity so that they feel balanced and stable when sitting upright is essential to ensure that the postural alignment and supports provided are also functional. The wheelchair's angles and orientation against gravity must match a client's ROM and balance needs against gravity to ensure this layer of postural stability is addressed. Clients who show signs of positioning loss typically have not had their balance and postural stability/support needs properly addressed in their equipment set-up. Remember core stability = distal function. Anyone who falls under this category with these types of postural issues should have a thorough postural evaluation both in and out of their wheelchair as a first step in determining the most appropriate type and set-up of equipment needed for further evaluation.</p>

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<p><b>COMFORT</b></p>	<p>Pertaining <i>to</i> questions 5 &amp; 6 under <b>Comfort</b>:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> low back pain</li> <li><input checked="" type="checkbox"/> neck pain</li> <li><input checked="" type="checkbox"/> pain over bony prominences that correlate to pressure</li> <li><input checked="" type="checkbox"/> hamstring pain</li> <li><input checked="" type="checkbox"/> shoulder pain</li> <li><input checked="" type="checkbox"/> pain on collapsed side of scoliosis</li> <li><input checked="" type="checkbox"/> pain only when sitting in the wheelchair, not on any other surface</li> <li><input checked="" type="checkbox"/> get out of my wheelchair or limit the amount of time in my wheelchair</li> <li><input checked="" type="checkbox"/> extra pillows or additional supports around the body</li> <li><input checked="" type="checkbox"/> change position (weight shift, tilt)</li> <li><input checked="" type="checkbox"/> I cannot relieve the pain/discomfort</li> </ul>	<p>How comfortable someone feels when sitting in their wheelchair can have some subjective components to it. E.g., certain materials can feel more or less comfortable depending on the individual. Despite some of these subjective variables, there are often more objective factors that lead to discomfort. It is important for clinicians to identify more objectively (a) the type of pain someone is experiencing and whether or not they only experience this pain when sitting, (b) whether or not the cause of the pain is related to other levels of the hierarchy, and (c) what someone does to alleviate the pain/discomfort. This helps clinicians distinguish between issues that they can resolve vs those issues that cannot be resolved with seating interventions alone.</p> <p>Individuals with neurological conditions present with common patterns of discomfort/pain which can be divided into different categories:</p> <ol style="list-style-type: none"> <li>1. Musculoskeletal pain – often described as an aching, or tightness, or tenderness in certain body areas. Most common areas that experience this type of pain when sitting in a wheelchair are the low back, neck, and shoulders. Most common causes of this type of pain in a wheelchair are lack of, or improper set-up of, appropriate postural supports at key areas of the body (see “Posture” section above), or improper orientation of someone’s body against gravity and/or within the wheelchair frame for positioning and/or propulsion. Repetitive strain can also factor into shoulder pain.</li> <li>2. Pressure-related pain – how well pressure is distributed and/or offloaded from certain bony areas that weight bear in sitting can impact comfort when someone has partial or full sensation. Performing a functional skin check will confirm whether or not the discomfort is correlating with pressure concerns. See “Pressure” section above.</li> <li>3. Neurogenic pain – often described as burning, shooting, “pins &amp; needles”. This type of pain can be isolated to specific areas of the body or felt more globally throughout the body. This type of pain requires more medical intervention vs seating intervention alone to address.</li> </ol>
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<p><b>MOBILITY</b></p>	<p>Pertaining to questions 7 &amp; 8 under <b>Mobility:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> endurance &amp;/or independence issues with long distances</li> <li><input checked="" type="checkbox"/> endurance &amp;/or independence issues navigating specific environmental obstacles</li> <li><input checked="" type="checkbox"/> shoulder &amp;/or neck pain with propulsion</li> <li><input checked="" type="checkbox"/> not fully independent with mobility but wants to be or used to be</li> <li><input checked="" type="checkbox"/> issues with seasonal (winter) outdoor propulsion</li> <li><input checked="" type="checkbox"/> propulsion ability has deteriorated along with postural deterioration</li> <li><input checked="" type="checkbox"/> endurance &amp;/or independence issues when driving long distances</li> <li><input checked="" type="checkbox"/> endurance &amp;/or independence issues navigating specific environmental obstacles</li> <li><input checked="" type="checkbox"/> loss of positioning impacting access and/or safety with drive controls</li> <li><input checked="" type="checkbox"/> not fully independent with mobility but wants to be or used to be</li> </ul>	<p>Maximizing an individual’s postural supports as well as balance and stability through the configuration of the wheelchair and seating components is a crucial first step in facilitating efficiency with both manual and power mobility. See “Posture” section above. Wheelchair skills training and education regarding the navigation of obstacles and different environmental conditions is also a crucial layer of intervention with any individual who uses a wheelchair as their primary means of mobility. Clients who use their upper extremities to propel a manual wheelchair will be at risk for shoulder and/or repetitive strain injuries. Even if the individual does not use their wheelchair full-time, the cumulative effect of propelling with the shoulder in poor alignment can still lead to shoulder issues over time. How well a manual wheelchair fits and is configured for the person’s size and postural support needs within the wheelchair frame will have a huge influence on how efficiently they will be able to move the wheelchair and carry out functional mobility tasks within different environments. Selecting a wheelchair that has adjustments to allow for better rear wheel access (i.e. rear seat to floor height and COG) is mandatory with these clients for these reasons. Any individual who is better suited for the use of a power chair based on their level of function should also be evaluated to determine the following:</p> <ul style="list-style-type: none"> <li>(a) What is the best access method for moving the chair? E.g. joystick, modified joystick, or alternative control</li> <li>(b) Where should the drive control be located to ensure the client can be properly positioned and their body supported to maximize efficiency with using that drive control?</li> <li>(c) Is their condition stable or changing? Will any changes influence how they are able to sit and/or drive eventually?</li> </ul>
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<p><b>FUNCTION</b></p>	<p>Pertaining to questions 9 &amp; 10 under <b>Function:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Poor positioning or positioning loss impacting ability to use upper extremities freely for functional tasks</li> <li><input checked="" type="checkbox"/> Positional instability or poor balance in the wheelchair causes positioning loss when attempting to carry out functional tasks</li> <li><input checked="" type="checkbox"/> cannot load/unload wheelchair from a vehicle, or this task is physically difficult to manage on a regular basis</li> <li><input checked="" type="checkbox"/> challenges with access to transportation</li> <li><input checked="" type="checkbox"/> challenges with maneuvering wheelchair to do tasks throughout the home and/or outside the home</li> <li><input checked="" type="checkbox"/> incontinence of bladder and/or bowel</li> <li><input checked="" type="checkbox"/> wears briefs when sitting in wheelchair</li> <li><input checked="" type="checkbox"/> issues with clothing management from wheelchair</li> <li><input checked="" type="checkbox"/> catheterizes from wheelchair but with issues related to positioning</li> </ul>	<p>How well someone is able to function from their wheelchair will always be influenced by the other levels of the seating hierarchy and therefore must be considered in relation to those variables. The remaining levels of the hierarchy are what determine how the wheelchair and seating system should be configured which in turn creates the foundation for how function can occur from the wheelchair. Therefore these levels of the hierarchy must be addressed as a priority before functional outcomes can be determined. For some individuals this may mean that how they carry out functional tasks may need to change or be adapted in some way to maintain independence when there is a change in wheelchair equipment and configuration. As a result, how an individual can function from their wheelchair may become worse before it becomes better. Their level of independence may also deteriorate before it improves. And it may require doing things differently and never returning to the patterns of behaviour they had prior to the seating interventions introduced. It may also involve the need to adapt the environment and/or introduce additional equipment to allow function to be restored. Educating clients about this process of change is an important step to establish buy-in as well as commitment to work through those changes with seating interventions.</p> <p>All this being said, there may be times where wheelchair and/or seating component features will need to be selected to facilitate function as a priority over other levels of the hierarchy. If this is the case, it's important to educate clients about the possible trade-offs and compromises they may experience at the other levels of the hierarchy as a result. This provides clinicians with a more structured way of negotiating goals and outcomes with clients, as well as establishing buy-in for changes necessary to address the issues they present with initially.</p>
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