Introductory Wheelchair and Cushion Fitting Guide

NOTE: TO BE SAFE AND EFFECTIVE, A WHEELCHAIR SHOULD BE PROPERLY FIT. This HIGHLY-SIMPLIFIED fitting guide can assist individuals in less-resourced environments. Following this outline should meet common seating needs, while identifying dangerous situations that should be avoided. These guidelines will not duplicate the results achieved by an experienced fitter doing specialized adjustments, including axle position, arm rests, backs, and seat angles.

1: Before the fitting

O Needed at fitting:
  □ Wheelchairs and cushions in various widths
  □ Chair (for fitter to sit in when talking to user)
  □ Wrench for footrest adjustment

O Background information (user)

Name ________________________________________________________________

City/Country __________________________________________________________

Age _______ How many hours per day will new wheelchair be used? ________

What is the disability?

□ Amputee □ Stroke □ Cerebral Palsy □ Brain Injury
□ Spinal Cord Injury □ Geriatric/Old Age □ Polio
□ Spinal Bifida □ Other ________________________________

How many years since onset of disability? ____

O What is risk of doing major harm or promoting further injury?

ASSESS RISK OF PRESSURE ULCER DEVELOPMENT
(A common problem in people with Spinal Cord Injury, Spina Bifida, or people with inability to move.)

ASK:
• Do you have any feeling in your buttocks?
• Have you ever had an open pressure ulcer on your buttocks?
• Do you need help to shift your weight off your buttocks?

• WARNING: if any shaded box is checked, this person should NOT sit in any wheelchair FOR MORE THAN ONE HOUR AT A TIME without a specialized pressure relief cushion (Such as the JARIK fluid cushion from www.jarikmedical.com). Pressure ulcers can occur in less than one hour of sitting and can result in DEATH.

□ Check if user was warned not to sit for more than one hour at a time.

Pressure ulcers from sitting typically occur at boney prominences of tailbone and sit-bones.
ASSESS RISK OF DEVELOPING A POSTURAL DEFORMITY
(A common problem seen in growing children,
and people with Cerebral Palsy or Brain Injury.)

ASK:
- Are you under 18 years old (still growing)?
- Do your arms or legs become highly rigid or tense,
making movement stiff or slow?

⚠ WARNING: If answer is yes to BOTH questions,
then person should NOT sit in a wheelchair for MORE THAN TWO
HOURS AT A TIME without a specialized seating system, as severe,
fixed deformities can result!

☐ Check if user was warned not to sit for more than two hours at a time.

○ Select wheelchair and cushion

- Ideal wheelchair width allows one finger
  width between hip and wheelchair side.
  NOTE: Too wide a wheelchair can result in
difficult propulsion, as well as off-center
  sitting and spinal curvature.

- Ideal length of seat is two finger widths
  from back of knee.
  NOTE: Too long a seat length forces a
  slouching posture; too short a seat depth is
  not a major problem but does reduce leg
  stability and positioning. (See problem-solving,
  last page.)

- Select a wheelchair for initial evaluation that
  appears to be the correct width.

- Select a cushion that matches the wheelchair
  width and appears to meet length criterion above.

○ Transfer person into selected wheelchair and cushion.

- Ask about preferred method of transfer into wheelchair
  (independent or assisted).
- If assisted, ask for help of a second person.
2: Fit the wheelchair and cushion selected

The ideal sitting posture:
- Hips to back of wheelchair and at 90°
- Knees at 90°
- Feet firmly supported on footrests
- Legs resting on seat surface.

This posture is not always possible.

- Position hips to back of wheelchair with maximum contact against back support.
  - Is seat short enough to allow knees to bend?
    If not, can seat be shortened?
  - Can hips be pulled further to back of chair?
    Independently or assisted? If assisted, see “hip pull”

- Check wheelchair width
  - Can fitter slide fingers forward along outsides of hip?
    If not, wheelchair may be too narrow.
  - Can fitter slide palms forward along outsides of hips?
    If yes, then wheelchair may be too wide.

- Check cushion length
  - Does seat or cushion extend within two to four fingers from back of knee?
    If not, can longer seat or cushion be used?

- Adjust footrest height so that:
  - Feet are firmly supported.
  - Legs are in firm contact with cushion surface.

3: After the fitting

- Answer each of the questions below.
- Ask again after 15 minutes of wheelchair use.

  Do hips tend to slide forward?
  Does trunk tend to fall forward?
  Does trunk tend to fall sideways?
  Is wheelchair difficult to propel?
  Are knees too close, too wide, or off to side?
  Any other problems? (specify)

<table>
<thead>
<tr>
<th>After fitting</th>
<th>After 15 minutes of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
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- If any “Yes” box is checked, proceed to “Problem solving” on next page.
Basic Problem solving

NOTE: If solution recommended does not help resolve problem, ask if a specialized seating system or seating adjustment by a trained wheelchair fitter is possible.

<table>
<thead>
<tr>
<th>COMMON PROBLEM</th>
<th>POSSIBLE SOLUTION</th>
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| Hips sliding forward| • Is seat too long? (Can you cut cushion length?)  
• Is cushion sliding? (Can you tie to back posts?)  
• Can you add thigh/lap belt? |
|                     | ![Thigh/lap belt](image)                                                                                                                       |
| Trunk falls forward | • Pull hips approximately 2 cm (two finger widths) forward  
• Can you add a chest belt?  
• Is a more supportive seating system available? |
|                     | ![Hips 2 cm forward](image) ![Chest belt](image)                                                                                             |
| Trunk falls to side | • Is chair too wide?  
• Pull hips approximately 2 cm (two finger widths) forward  
• Is a more supportive seating system available? |
|                     | ![Ideal seat width](image) ![Hips 2 cm forward](image)                                                                                      |
| Difficult to propel | • Is narrower wheelchair possible?  
• Could person propel with one leg?  
  If so:  
  Can person’s heel firmly touch ground? (allowing pulling of wheelchair with heel)  
  Can footrest flip up?  
• Can a family member or friend assist with wheeling? |
|                     | ![Foot propulsion](image) ![Heel firmly touches ground](image) ![Footrest up, propelling with heel](image)                                  |
| Improper leg position| • Can footrests be adjusted for better leg or foot support?  
• Add leg positioners if using JARIK Fluid Cushion |
|                     | ![Leg/foot support](image)                                                                                                                     |

4: Fitting is now complete.

Ask user for any further positive or negative feedback.
Specify _________________________________________________________________
_______________________________________________________________________