Guidance notes for the Appropriate Adjustment of Wheelchair foot supports

Before using the wheelchair for the first time it is important to make any adjustments to suit the needs of the individual user for whom the wheelchair has been selected. Wherever possible a wheelchair should be used by an **individual user** as individual needs are very specific to that user. No two users have the same physical dimensions, clinical needs or environmental challenges.

In situations where a wheelchair has to be used by more than one user, it is important to recognize that the time that that user spends in the wheelchair should be minimized as much as possible. Sitting badly in an inappropriately selected and adjusted wheelchair can lead to a wide range of problems ranging from fatigue and general discomfort to skin breakdown and deformities.

Appropriately adjusting wheelchair foot supports is important because:

1. It ensures **equable body weight distribution** over a maximum supporting surface – the greater the area of supporting surface the less the risk of high loading over specific bony prominences of the body. Non use of foot supports equals inadequate body weight distribution throughout the supporting surface of the wheelchair.

In normal sitting

75% of weight is over only 8% of body surface

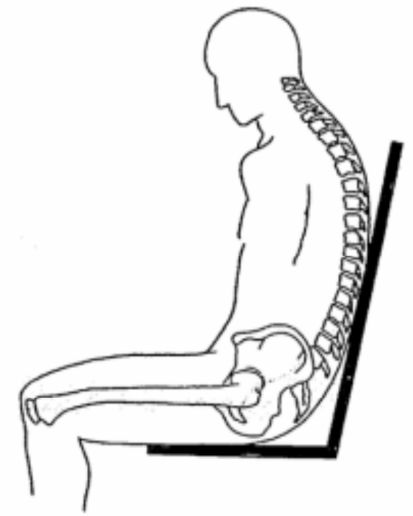
19% feet
2% arms
4% back

2. It **enhances comfort** – therefore the wheelchair user is less likely to slide down the seating support to a 'slouched' and therefore less posturally correct position. A 'slouched' sitting position inhibits ease of use of the wheelchair with inadequate weight being over the propelling wheels and too much over the castors. The greater the

percentage of weight that is over the rear propelling wheels the greater is the rearwards instability of the wheelchair but the greater is the maneuverability of the wheelchair.

INCREASED REARWARDS STABILITY = REDUCED MANOEVRABILITY

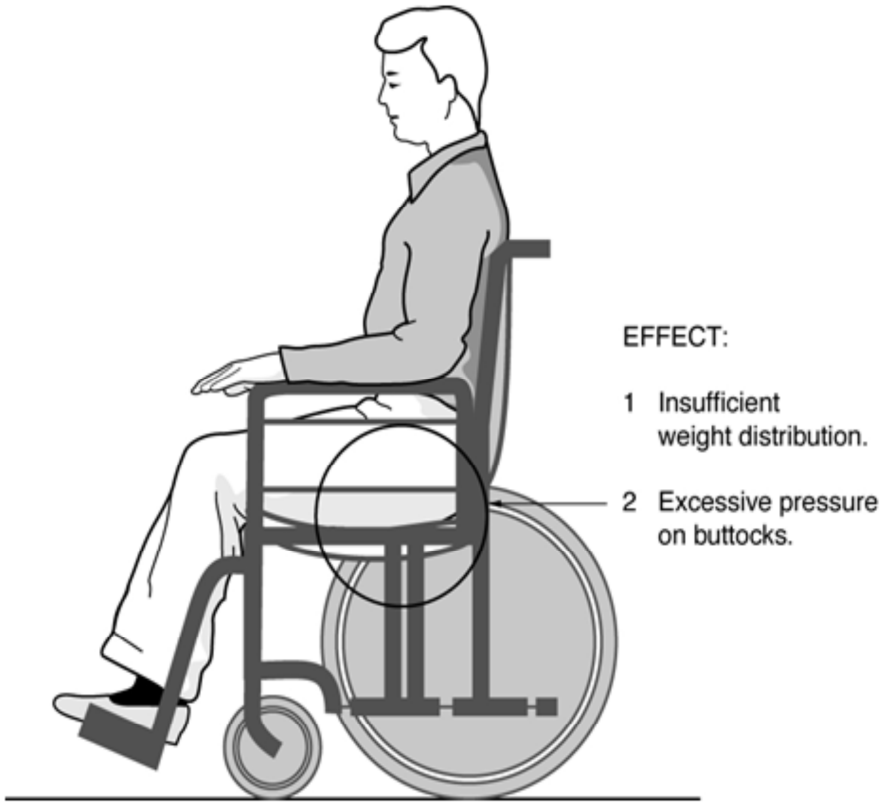
This 'slouched' position also has a negative impact on the physiological and systemic functioning of the occupant. For example when sitting in this position the chest wall cannot expand adequately thus inhibiting effective breathing.



'Slouched' position Note compressed chest wall and poor thigh support

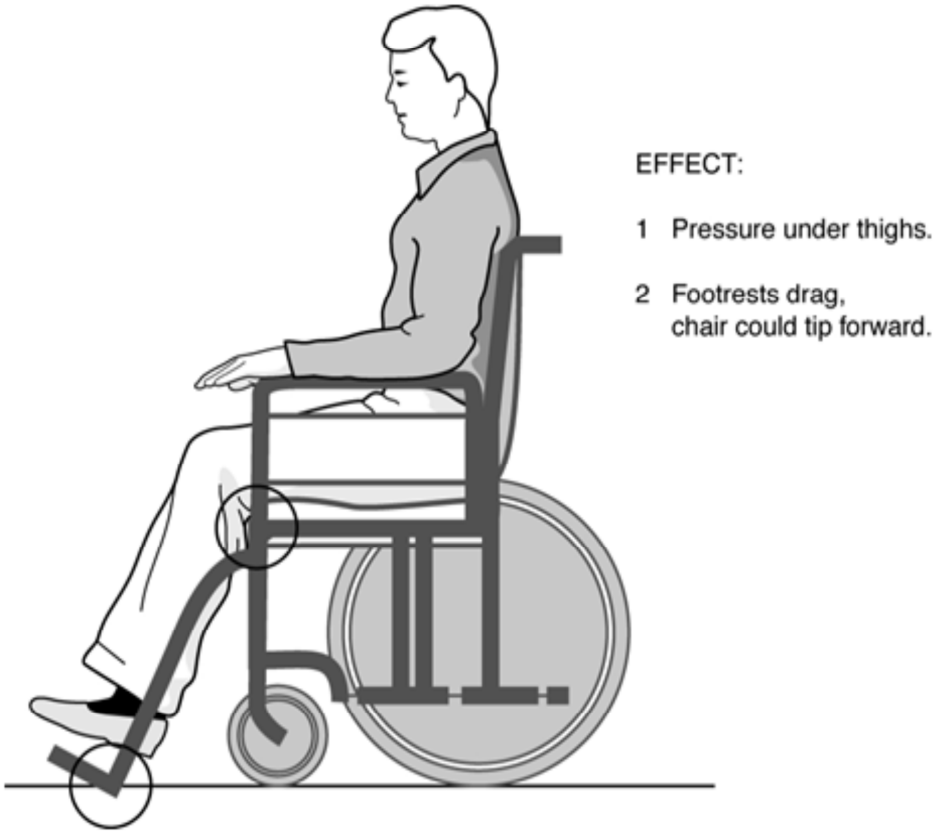
'Upright' position Note improved thigh support and upright head and chest position

3. Foot supports that are adjusted to a 'too high' position lead to increased loading over the sitting bones of the pelvis thus at worse, increasing the risk of skin breakdown or, at best, significant discomfort leading to an altered sitting position.



4. Foot supports adjusted to a 'too low' position leads to the wheelchair user sliding down in the seat to a 'slouched' sitting position with weight loading being too far forward over the castors thus inhibiting ease of propulsion by the occupant or the carer and poor alignment of the user relative to the propelling wheels. There is one caveat in this area, that being that if the wheelchair occupant has excessively long legs there is the danger that once lowered low enough for the user, that the foot plates will then foul kerbs and ramps in use. If this is the case then it is necessary to have foot supports that extend forwards from the wheelchair which, whilst

being a necessary compromise and not ideal, will still allow for the footplates to be adjusted downwards. If the wheelchair user is very long in the legs it is important to check equipment technical specifications to ensure that the foot support hangers have adequate adjustment in them for the intended user.



So how to adjust:

1. Sit the wheelchair user in the wheelchair in the most advantageous posture to maximize function, sitting well back on the selected most appropriate cushion, adjusting to fit snugly around the pelvis the pelvic support strap in order to stabilize the sitting base and then making necessary adjustments to the back support if the design allows this. The user should be wearing the footwear most commonly used by them; be this slippers, shoes, trainers etc.

2. The aim is to achieve a horizontal thigh bone with the hip joint at or as near to 90 degrees as possible. The feet should be positioned on the foot supports with the heels into the heel loops where used and any calf straps as fitted adjusted to sit comfortably behind the users calves. This will maximize weight distribution along the length of the thigh as well as through the feet. Aiming to keep the feet more directly underneath the knee joint will facilitate the maintenance of a more upright, and therefore more functional, sitting position.

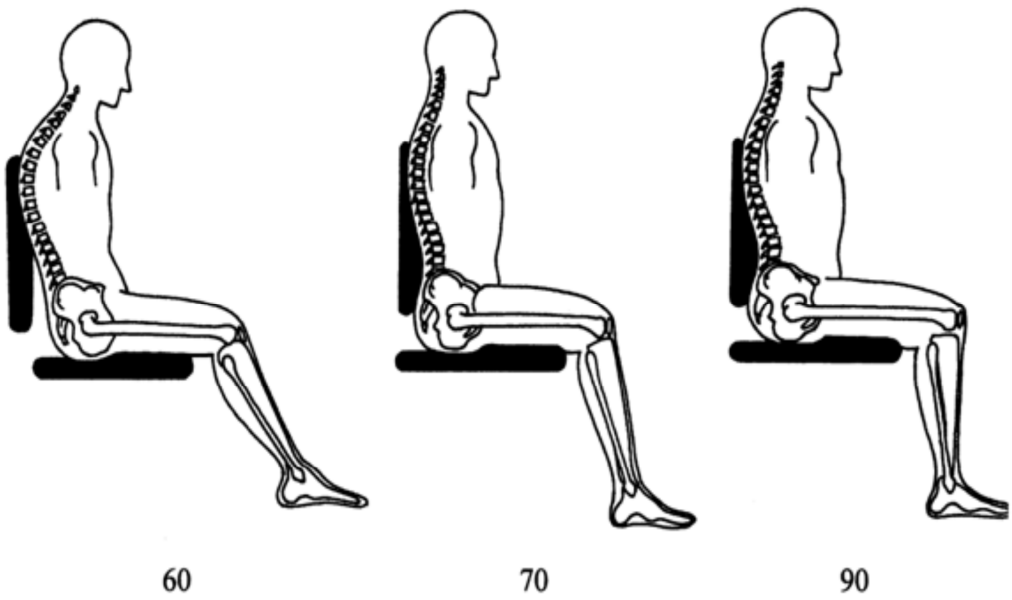


Figure 7

3. Refer to the wheelchair user guide for advice on exactly how to release the adjustment mechanism of the foot support hanger and adjust up or down in order to achieve the desired position. Tighten any loosened adjustments to secure in the selected position.
4. The points of adjustment should be checked regularly to ensure that they remain secure and safe.

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