

Transfers

Requirements for Transfers

Range of movement

It is necessary to have near full range of movement in all joints of the upper limbs, particularly:

- External rotation of the shoulder. This is very important for patients with tetraplegia, as this will assist them to 'lock out' their elbows if they have poor or absent triceps.
- Full elbow extension
- Full wrist extension, although it is important not to over stretch the wrist flexors as a certain degree of passive wrist flexion assists with balance during a lift

Muscle Strength

Reasonable muscle strength in the following groups is particularly important for a seated transfer:

- External rotators
- Anterior Deltoid for shoulder stabilisation
- Lattissimus dorsi, for shoulder depression, which assists in the 'lift' stage of the transfer
- Scapula stabilisers for shoulder stabilisation

Balance

Sitting balance should be reviewed prior to commencing transfer practice. It may also be necessary to consider alternative transfers, i.e, "legs up" transfer or the use of assistive devices.

Technique

Teaching a transfer technique utilises upper limb strength only, requires time to understand and practice the technique required. This is essential in ensuring a transfer technique is optimised to minimise the risk of injury and maximise independence.

Teaching the Skill

Vertical/pre-transfer lifts on the plinth

Surface: firm surface such as a treatment plinth

Patient positioning: long or short sitting

Hand positioning: beside and slightly in front of hips

The movement: shoulder depression and shoulder flexion/adduction, elbows remain extended throughout and chin to chest

Assistive devices: Lifting blocks



Therapist positioning:

- In short sitting the therapist is sitting in front of the patient
- The therapist is not lifting the patient at any stage during the transfer
- Elbows are resting on thighs/knees
- Therapist's aim is to guide the movement as the patient performs a lift
- Some patients may need to rest their forehead on or near the therapist's shoulder to support their balance. This will allow their focus to be on the correct technique without fear of falling too far forwards.



Progressing to horizontal movement

Hand position: the leading hand (i.e., the hand towards the side of the direction of the intended movement) moves away and slightly forward of the hip and the trailing hand stays close to or slightly behind the hip

Head position: ensure trunk is rotated so the patient looks in the opposite direction of where they will land

Movement: aiming to achieve a controlled vertical lift prior to the horizontal movement

- **Note:** dragging can lead to skin integrity breakdown

Transfer to the wheelchair

Position of the wheelchair

- Position the wheelchair as close to the plinth as a possible

- The front end of the wheelchair is angled inwards towards the plinth, minimizing the gap between the plinth and the cushion

Position of the castors

- Castors are positioned forwards to increase the stability of the wheelchair by increasing the size of the base
- If the castors are not positioned correctly the wheelchair could tip during a transfer

Position during the transfer

Positioning

- The wheel can also be covered with a towel to protect skin integrity, although the wheel should be avoided by transferring to the front of the cushion first
- Patient performs a quarter turn to position hips and feet towards the wheelchair

Position of feet

- Feet are positioned on the floor if able, to increase the stability of the patient during a transfer
- One or both feet can be placed on the footplate if unable to reach the floor, this is dependent on the height of the individual, the equipment in use and height of the transfer surface
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Hand position

- Leading hand is placed forwards and away from the body, may be on the front edge of the cushion or the frame of the wheelchair
- Trailing hand is close to the hip position on the treatment plinth

Head position

- Head is positioned forwards i.e., chin to chest
- Angled away from the direction the body is moving via trunk rotation

Assistive devices:

Lifting blocks

- Used to assist with the height and clearance of the lift

Transfer board

- Used to bridge the gap between transfer surfaces
- Can be useful for car transfers or as a teaching tool when learning the technique of a transfer
- Important to remember that it is a transfer board and not a slide board

Alternative transfer technique “Legs Up” transfer

If the patient is unable to perform a ‘legs down’ transfer, for example due to poor balance, spasticity or specific shoulder weaknesses, ‘legs up’ transfers may be trialled. Depending on the environment, front on transfers may also be required, for example in confined spaces where wheelchair position is limited.



Common transfers

Bed to and from manual wheelchair or mobile shower commode chair

Video

- <https://www.youtube.com/watch?v=oQ7DVhvXKLM>

Wheelchair to and from couch

Video

- <https://www.youtube.com/watch?v=oQ7DVhvXKLM>

Wheelchair to and from car

Video

- <https://www.youtube.com/watch?v=hRrxmC9NcKU>

Wheelchair to and from shower bench, static aid or toilet

Video

- https://www.youtube.com/watch?v=NWgQ_gC-Trw

Chair to chair transfer (i.e., wheelchair or sporting chair)

Video

- <https://www.youtube.com/watch?v=oQ7DVhvXKLM>

Wheelchair to and from floor

Video

- <https://www.youtube.com/watch?v=fBuRe3qrA68>

Reference

Reznik, J., Simmons, J. (2020). Rehabilitation in spinal cord injuries (1st ed.). Elsevier Health Sciences.