

In bed mobilisation

Where out of bed mobilisation is contraindicated or options are limited, there are methods for supporting rehabilitation and recovery for patients confined to bed:

Regular repositioning

For those patients where out of bed mobilisation is contraindicated or options are limited, there are still methods for supporting early mobility and recovery.

- Daily passive movements and stretches are important to maintain joint range of motion and muscle length.
- The use of positioning therapy has long been advocated for the management of respiratory conditions in critically ill patients³⁶. Regular repositioning into alternate side lying positions or the use of Continuous Lateral Rotation Therapy (CLRT) or Kinetic Therapy has a number of benefits.



- The side lying position is useful for aiding in drainage of pulmonary secretions, with evidence to support reduced incidence of pneumonia with regular positional change³³ and appropriate turn angles. Kinetic therapy is defined as rotation of at least 40° for at least 18 hours per day and has been associated with the prevention and treatment of pulmonary complications in critically ill and mechanically ventilated patients³⁷.
- Regular repositioning is also essential to help prevent the development of pressure injuries/ulcers whenever patients are spending extended periods in bed.
- A selection of repositioning and transfer solutions to assist caregivers may be required.



Patient repositioning with Maxi Sky® 2 and Maxi Transfer Sheet

Progressive verticalisation

Alongside side lying, progressive verticalisation in the bed into either seated or standing positions is recommended in the early stages of a patient's recovery.

- The orthostatic challenge provided by this early verticalisation can help to reduce the deterioration in cardiac function or act as an early challenge for those with postural hypotension.
- This may start with a gradual move into upright sitting positions in bed, utilising the reverse Trendelenburg or cardiac chair position. Whilst not being as effective as sitting out in a chair due to the supportive surface, this seated position has a number of benefits. The change in perspective allows reorientation of the patient with their surroundings, providing a better position for communication, eating and drinking or functional activities where appropriate.



Citadel® Patient Care System Reverse Trendelenburg



Citadel Patient Care System Chair Position

Upright Positioning

As appropriate the patient can be progressed to full in bed tilting to achieve standing positions while in bed.

- This provides additional benefits over the chair position by facilitating weight bearing through the lower limbs preventing or reducing the impact of immobilisation of bone demineralisation.
- Upright positioning is often used as an adjunct to therapy – i.e. challenged sitting regularly during the day²¹ and can be particularly useful for those patients where regular sitting out is more challenging or requires high numbers of staff.

Benefits of upright positioning

- Provides an orthostatic challenge to prevent deterioration in CVS³⁵
- Increase functional residual capacity³⁸
- Better position for active exercise
- Slight increase in physiological demand³⁸



Upright positioning with Sara Combilizer™

Cycle ergometry

Cycle ergometry is another method of supporting in bed rehabilitation, either during acute phase of illness when out of bed mobility is contraindicated (e.g. open abdomen or poorly tolerated ET tube) or as an adjunct to progressive mobility to improve strength and cardiorespiratory fitness. The feasibility of using cycle ergometry for critically ill patients has been demonstrated³⁹, with evidence to suggest when utilised, patients receiving additional rehabilitation sessions of cycle ergometry were able to walk further at the point of hospital discharge in comparison to controls²⁸.

Electrical muscle stimulation

Electrical muscle stimulation may also be utilised during periods of immobility, although at present the effectiveness of this remains inconclusive⁴⁰.