

Physiotherapy works ✓

Critical Care

Critical care is the specialised care of patients whose conditions are life-threatening and who require comprehensive care and constant monitoring, usually in intensive care units (ICUs) and high dependency units (HDUs).

Critically ill patients frequently suffer long-term physical and psychological complications.⁽¹⁾ For patients mechanically ventilated for more than 7 days, 25 % display significant muscle weakness,⁽²⁾ and approximately 90 % of long-term ICU survivors will have ongoing muscle weakness.⁽³⁾ Prolonged stays in the intensive care unit are also associated with impaired quality of life,⁽⁴⁾ functional decline and increased morbidity, mortality, cost of care and length of hospital stay.⁽⁵⁾

Physiotherapy

Physiotherapy is both safe⁽⁶⁾ and effective. Physiotherapists are an integral part of the multi-disciplinary team in critical care, and are uniquely qualified with skills and expertise to work with the assessment and management of respiratory complications, physical deconditioning, and neuromuscular and musculoskeletal conditions.

Respiratory physiotherapy

Respiratory physiotherapy interventions may include positioning, education, manual and ventilator hyperinflation, weaning from mechanical ventilation, non-invasive ventilation, percussion, vibration, suctioning, respiratory muscle strengthening, breathing exercises and mobilisation.⁽⁸⁾

**For England
the average cost
of critical
care beds is
£1.3billion
annually⁽⁷⁾**

Size of the problem

- In 2010, almost **150,000 people** in England were admitted to an intensive care bed, with a further **590,000** occupying a high dependency bed.⁽⁹⁾
- Approximately **110,000 people** spend time in intensive care units after critical illness in England and Wales each year.⁽¹⁰⁾

There is substantial evidence that supports the role of physiotherapy for the respiratory management of critically ill patients,⁽⁸⁾ which has been demonstrated to provide both short-term and medium-term benefits.⁽¹¹⁻¹³⁾ Physiotherapy treatment as part of a multi-disciplinary approach to care is integral in promoting lung function, reducing the incidence of ventilator-associated pneumonia, facilitating weaning and promoting safe and early discharge from the intensive care unit.^(8, 12, 14-16)

Results of a cross-sectional study for patients who received intensive chest physiotherapy following pulmonary lobectomy estimated that reduced length of hospital stay (median hospital stay decreased from 8.3 to 5.7 days) was judged to be directly attributable to physiotherapy intervention. Further findings indicated a reduction in mortality rates, pneumonia rates and in lung collapse.⁽¹⁷⁾ ►►

Rehabilitation

Physiotherapy is an important intervention that prevents and mitigates adverse effects of prolonged bed rest and mechanical ventilation during critical illness. Rehabilitation delivered by the physiotherapist is tailored to patient needs and depends on conscious state, psychological status and physical strength. It incorporates any active and passive therapy that promotes movement and includes mobilisation. Early progressive physiotherapy, with a focus on mobility and walking whilst ventilated, is essential in minimising functional decline.⁽¹⁸⁾ If this process does not occur within the critical care environment, there are increased costs of service provision to the health system, as these patients often require extensive periods of rehabilitation and follow-up to meet long-term disability needs as a result of critical illness.⁽¹⁹⁾

The National Institute for Health and Clinical Excellence (NICE)⁽¹⁰⁾, The European Respiratory Society and the European Society of Intensive Care Medicine⁽¹⁴⁾ recommend early assessment and management of physical morbidity (including mobilisation and muscle training) delivered by physiotherapists and other health professionals. They also recommend that the physiotherapist should be responsible for implementing mobilisation plans and exercise prescription in conjunction with other team members.

Early physiotherapy and occupational therapy of mechanically ventilated patients is safe, well-tolerated and has shown to result in more ventilator-free days compared with standard care, and a shorter duration of delirium.⁽²⁰⁾ Early rehabilitation

of mechanically ventilated patients results in improved respiratory and limb muscle strength and better functional independence at hospital discharge, both in exercise capacity⁽²¹⁾ and basic activities of daily living.⁽²⁰⁾

Early mobilisation can reduce ICU and hospital length of stay.⁽²¹⁾ A study that implemented a physiotherapy led early mobility protocol showed decreased intensive care unit and hospital length of stay (11.2 versus 14.5 days) and a potential cost saving of 7% of standard patient care costs.⁽²²⁾

Conclusion

The potential savings from early physiotherapy for critically ill patients are significant for the UK health economy as demonstrated through evidence of impact on quality of life, functional independence and hospital length of stay.

FURTHER INFORMATION CSP Enquiry Handling Unit

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