



## ICU Rehabilitation: Acute Phase of Critical Illness

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## ABOUT THE STUDY

Critical illnesses can have a significant impact on a person's physical, cognitive, and emotional well-being. Survivors of critical illness often face a long and challenging road to recovery. The process of rehabilitation plays a crucial role in helping individuals regain their strength, mobility, and independence. During critical illness, patients may be confined to an Intensive Care Unit (ICU) and placed on mechanical ventilation or other life-sustaining measures. Prolonged bed rest, immobilization, and sedation can lead to muscle weakness, joint stiffness, and reduced endurance. This phenomenon, known as ICU-acquired weakness, can persist even after discharge from the hospital, impairing a person's ability to perform daily activities. Rehabilitation during the acute phase of critical illness is known as early mobilization or ICU rehabilitation. The primary goal is to prevent or minimize the functional decline associated with bed rest. Early mobilization involves prolonged multidisciplinary approach that includes physiotherapists, occupational therapists, and speech therapists, working closely with the critical care team.

Early mobilization interventions may include passive range-ofmotion exercises, sitting at the edge of the bed, transferring to a chair, and ambulation. These activities help maintain muscle strength, joint mobility, and cardiovascular fitness. Additionally, occupational therapists focus on activities of daily living, such as grooming, dressing, and eating, to promote independence and functional recovery. Implementing early mobilization programs in the ICU has shown promising results. Studies have demonstrated reduced duration of mechanical ventilation, shorter ICU and hospital stays, and improved functional outcomes. Moreover, early mobilization has been associated with a decrease in delirium and psychological distress, improving the overall quality of life for critical illness survivors. As patients transition from the ICU to a general ward or rehabilitation unit, the focus of rehabilitation shifts towards intensive therapy aimed at restoring function and promoting recovery. Post-ICU rehabilitation programs are tailored to the individual needs and

may involve a combination of physical, occupational, and speech therapy.

Physical therapy plays a central role in post-ICU rehabilitation. Therapists design exercise programs to address muscle weakness, balance problems, and gait abnormalities. These programs may include resistance training, cardiovascular conditioning, and neuromuscular re-education. Physical therapists also use modalities such as heat, cold, and electrical stimulation to reduce pain and improve tissue healing.

Occupational therapy aims to help patients regain independence in activities of daily living. This may involve relearning basic skills such as dressing, bathing, and feeding. Occupational therapists may also assess and provide assistive devices or modifications to the home environment to enhance safety and facilitate independent living.

Speech therapy is essential for individuals who experience difficulty with swallowing or communication after critical illness. Dysphagia, or difficulty swallowing, can occur due to muscle weakness or impaired coordination. Speech therapists use swallowing exercises, dietary modifications, and other strategies to improve swallowing function and reduce the risk of aspiration.

Cognitive impairments, such as memory problems, difficulty concentrating, and reduced executive function, are common after critical illness. Cognitive rehabilitation, often delivered by neuropsychologists, focuses on restoring cognitive abilities and improving functional outcomes. This may involve memory exercises, attention training, and strategies to compensate for cognitive deficits.

Psychological and emotional supports are integral components of rehabilitation during and after critical illness. Survivors may experience symptoms of post-traumatic stress disorder (PTSD), anxiety, depression, or adjustment difficulties. Mental health professionals, including psychologists and psychiatrists, provide counselling and therapy to address these psychological challenges and promote overall well-being.

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