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## The Hidden Cost of Immobility in Neurology: A Literature Review of Physiologic Decline and Caregiver-Led Prevention

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**Abstract**

Prolonged bed rest is a significant but often underestimated contributor to secondary disability in patients with neurological conditions. Neurological disorders such as stroke, Parkinson's disease, spinal cord injury, traumatic brain injury, and advanced dementia frequently result in prolonged immobility and dependency. Extended bed rest produces widespread physiological changes affecting the musculoskeletal, cardiovascular, respiratory, integumentary, and nervous systems, ultimately compromising recovery and quality of life.

**Objective:**
This review explores the physiological consequences of prolonged immobilization in bedridden neurological patients and highlights the importance of caregiver-assisted interventions in minimizing secondary complications and promoting functional recovery.

**Methods:**
A narrative review of recent literature was undertaken to examine evidence regarding physiological alterations associated with prolonged bed rest and the effectiveness of caregiver-supported interventions, including regular repositioning, passive range-of-motion exercises, respiratory exercises, nutritional support, skin care, and early mobilization.

**Results:**
Current evidence indicates that structured caregiver involvement can significantly reduce muscle wasting, joint contractures, pressure injuries, respiratory complications, and cardiovascular deconditioning. Caregiver-assisted rehabilitation also contributes to improved circulation, maintenance of joint mobility, enhanced respiratory function, and stimulation of neuroplasticity. Furthermore, appropriate caregiver education improves adherence to rehabilitation programs and supports better functional outcomes and quality of life.

**Conclusion:**
This review concludes that preventing immobility-related decline should be considered a core component of neurological care. Caregivers play a critical role in preserving physiological function in bedridden neurological patients. Integrating caregiver education into rehabilitation programs represents a cost-effective strategy to reduce complications, enhance recovery, and improve long-term patient outcomes. Future research should focus on standardized caregiver training protocols and technology-assisted home rehabilitation.