

therapeutic effects were most pronounced in patients over the age of 50, suggesting that age-related spinal biomechanics may influence clinical responsiveness to passive spinal decompression during sleep. These results highlight the potential of biomechanically engineered mattresses as non-invasive, supportive interventions in the long-term management of nonspecific low back pain. While further randomized controlled trials are needed to validate these findings and control for potential confounding factors, the present study contributes meaningful preliminary evidence supporting the clinical utility of the MagniStretch® system as an adjunctive tool in spinal care.

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