

# Effectiveness of High-Intensity Laser Therapy on Upper Extremity Motor Impairment, Pain and Quality of Life in Chronic Stroke Survivors: A Pilot Study

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## ABSTRACT

**Background:** Stroke is a sudden and rapidly progressing cerebrovascular disease that can be classified into ischaemic or haemorrhagic types, with ischaemic stroke being more common. It is the second leading cause of death and third leading cause of death and disability. Upper extremity motor impairment is indeed a common and significant consequence of stroke, affecting patients' mobility, daily activities, and overall quality of life.

**Aim:** The main aim of this study was to describe the effectiveness of High intensity laser therapy on upper extremity motor-impairment, pain and quality of life in chronic stroke survivors.

**Method:** Ten ischaemic chronic stroke patients with the age group 40-75 years (male/female) were randomly divided into two groups: Group 1 (study group, n=5) received 3 HILT sessions per week for four weeks in combination with therapeutic exercise sessions and Group 2 (control group, N=5) received 3 HILT sessions per week for four weeks in combination with therapeutic exercise

sessions. Upper extremity motor impairment was evaluated with Fugl-Meyer Assessment of Upper Extremity (FMA-UE), shoulder pain assessment was done Visual Analogue Scale and quality of life was assessed by stroke-specific quality of life scale at T0 and T1.

**Results:** The increase in FMA-UE score, decrease in VAS score and improved quality of life after the treatment was significant in the study group and control group in comparison with the pretreatment between-group comparison. The study group showed the significant improvement over the control group with respect to FMA-UE, VAS and SS-QOL score.

**Conclusion:** HILT in combination with therapeutic exercises provides better improvement than Sham HILT in combination with therapeutic exercises for upper extremity motor-impairment, shoulder pain and quality of life.

**Keywords:** High intensity laser therapy, Stroke, Upper extremity motor impairment, Quality of life, Shoulder pain in stroke

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