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Comparison of Box Breathing and Deep Breathing Exercises on Functional Capacity in CABG Patients: A Pilot Study

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ABSTRACT

Introduction: Coronary Artery Bypass Grafting (CABG) patients frequently present with reduced functional capacity after surgery, largely due to impaired pulmonary function and deconditioning. Breathing exercises are a cornerstone of cardiac rehabilitation. However, limited evidence exists comparing the effectiveness of box breathing with incentive spirometer-based deep breathing exercises in this population.

Aim: To compare the effects of box breathing and incentive spirometer-assisted deep breathing on functional capacity in post-CABG patients.

Material and Method: This pilot study will recruit post-CABG patients who will be randomly divided into two groups. Group A will perform *box breathing* (6 cycles per session) daily for 5 consecutive days. Group B will perform *deep breathing exercises* using an incentive spirometer for the same duration. Functional capacity will be assessed using the Six-Minute Walk Test (6MWT) before and after the intervention. Data will be analysed to evaluate within-group and between-group differences.

Expected Result: It is anticipated that both groups will demonstrate improvements in 6MWT distance, indicating enhanced functional capacity. Box breathing is expected to show outcomes comparable to, or possibly greater than, incentive spirometer-based deep breathing.

Conclusion: This pilot study will provide preliminary insights into the role of different breathing strategies in improving functional capacity in CABG patients. Findings may support the inclusion of simple, equipment-free methods like box breathing in cardiac rehabilitation programmes.

Keywords: Coronary artery bypass grafting, Incentive spirometer, Six-minute walk test.

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