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# Effect of Inspiratory Muscle Training on Pulmonary Function, Functional Capacity, Quality Of Life And Length Of Stay in individuals undergoing Cardiac Surgery

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***Background*** – Cardiac surgeries being one of the most common procedures for Coronary artery disease is associated with respiratory muscle dysfunction which may lead to postoperative pulmonary complications. ***Purpose*** – To determine the effect of Inspiratory muscle training(IMT) on Pulmonary Function(PF), Respiratory muscle strength(RMS), functional capacity(FC), Quality of life(QoL) and Length of stay in individuals undergoing cardiac surgery. ***Methods*** – 30 individuals undergoing cardiac surgeries were assigned to a conventional physiotherapy (CPT) group (n=15) and IMT group (n=15).Outcome measures (Forced vital capacity(FVC), Forced expiratory volume in one second (FEV1), FEV1/FVC ratio for PF, Maximal inspiratory pressure (MIP), Maximal expiratory pressure (MEP) for RMS),were evaluated preoperatively and postoperatively from day 1 till day postoperative day 5. Other outcome measures (Six minute walk distance for FC, MacNew quality of life questionnaire) were evaluated preoperatively and on the day of discharge. ***Results*** – IMT and CPT showed statistically significant difference within groups in all outcome measures ($p<0.001$) except for 6MWD where only IMT showed significant difference within group($p=0.004$).FVC and FEV1 were statistically significant when compared from Day 1 to Day 4,5 and 6 ($p<0.05$).MEP showed a statistically significant difference from Day 1 to Day 6($p=0.015$). ***Conclusion*** – IMT group had significant improvement in FVC, FEV1 and quality of life when compared to the CPT group. IMT did not show statistical significance in RMS in between the group, However there was significant difference within the group. Hence the effect of IMT on RMS needs to be affirmed with a larger sample.