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## Respiratory capacity as an element of qualification for cardiac rehabilitation among women and men following a cardiac surgery

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**Introduction:** The cardiac surgery is followed by severe functional depression of the respiratory system. It is caused by many independent factors connected with the surgery itself, extracorporeal circulation and postoperative course, especially mechanical ventilation. Studies confirm that the postoperative course and return to a normal lifestyle is more difficult for women than men. Cardiac rehabilitation has a significant impact on the prevention of complications and mortality after cardiac surgery.

**Aim:** Analysis of spirometry results depending on the sex of the patients qualified for two models of rehabilitation (inpatient or home-based) after cardiac surgery.

**Materials & Methods:** In the Department of Cardiac Surgery, 104 patients admitted to a planned coronary artery bypass grafting were prospectively examined. The patients had a spirometry examination on the day of admission to hospital, and at 5th and 25-30th days after surgery. At the 5th day after surgery (i.e. The day of discharge), patients were randomized into two groups of 52 patients on the basis of spirometry, sex (women and men) and age ( $\leq 65$  and  $> 65$  years). This resulted in two homogeneous groups before the separation. The first group was qualified for the second phase inpatient cardiac rehabilitation at the Cardiac Rehabilitation Department at the Cardiac Surgery Clinic. The second group conducted home-based exercises according to the same exercise program. The last spirometry examination was performed 25-30 days after the surgery.

**Results:** Among the examined women a significantly better final result of spirometry examination was observed in group one (inpatient rehabilitation) than in group two (home-based), considering all women ( $p < 0.001$ ), women under 65 years of age ( $p = 0.011$ ) and those over 65 years of age ( $p = 0.007$ ). Among men, a decrease in the last spirometry result compared to the pre-surgery examination was also significantly lower following inpatient rehabilitation than home-based rehabilitation. The younger group (below 65) had better spirometry results than the older group ( $> 65$ ) but the results were not statistically significant.

**Conclusion:** Lesser decrease in respiratory capacity in the range of forced vital capacity following a cardiac surgery was observed in the group of women and men undergoing inpatient rehabilitation.

### Biography

Dr Aleksandra Szylińska (PhD) is a physiotherapist. She works as Assistant Profesor at Department of Medical Rehabilitation and Clinical Physiotherapy. Practical working as a physiotherapist in Cardiac Surgery Clinic with patients early stage after surgery.

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