Association Between Home-Based Exercise Modality and Improvements in Exercise Capacity During Outpatient Cardiac Rehabilitation
Retrospective study

Ergometer-Based Exercise

n = 45 (65%)

Precise workload prescription (watts)
Reproducible intensity via objective wattage targets

Structured performance feedback
Real-time monitoring of cadence and workload

May enhance exercise self-efficacy
Mastery experience through measurable progress

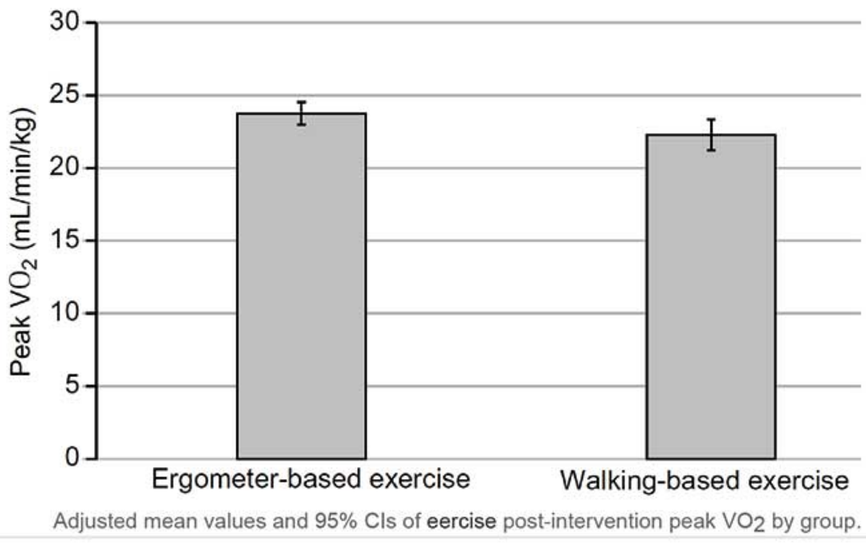
Walking-Based Exercise

n = 24 (35%)

Accessible, no equipment needed
Low barrier to initiation and continuation

Intensity guided by perceived exertion
Heart rate and Borg scale as primary indicators

Variable conditions affect training
Weather, terrain, and pace influence actual intensity



Adjusted mean values and 95% CIs of eercise post-intervention peak VO_2 by group.

Examination of factors affecting post-intervention peak VO (linear regression analysis)

	Multivariable model 1			Multivariable model 2		
Variable	**Coeff.**	**P-value**	**VIF**	**Coeff.**	**P-value**	**VIF**
Home exercises, walking (vs. ergometer)	-1.47	0.030	1.060	-1.24	0.067	1.101
Age (per 1 year)	-0.15	**<0.001**	1.278	-0.15	**<0.001**	1.280
Sex, female (vs. male)	-0.45	0.586	1.139	-0.33	0.686	1.146
Baseline peak VO (per 1 mL/min/kg)	0.81	**<0.001**	1.348	0.80	**<0.001**	1.363
Change in self-efficacy	—			0.12	0.071	1.073

KEY FINDINGS

PRIMARY OUTCOME (ANCOVA)

Ergometer > Walking

Higher adjusted post-intervention peak VO_2
($\beta = -1.47$, $P = 0.030$)

SELF-EFFICACY EFFECT

Associated Role

Adjustment for Δ self-efficacy

attenuated the association ($P = 0.030 \rightarrow P = 0.067$)

CONCLUSION

In outpatient cardiac rehabilitation, ergometer-based home exercises were associated with modestly greater improvements in peak VO_2. The principles underlying ergometer-based exercise—structured intensity prescription, objective feedback, and self-efficacy–enhancing approaches—may be applicable to a broader range of home-based exercise programs, including walking-based interventions.