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**Title:** Correlation between gas-exchange dynamics in recovery of exercise tests and cardiovascular parameters in pulmonary hypertension

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**Body:** Introduction: In pulmonary hypertension (PH), cardiac dysfunction and gas exchange abnormalities within the lung may both delay the rate of recovery in O<sub>2</sub>-uptake (V'O<sub>2</sub>) and CO<sub>2</sub>-release (V'CO<sub>2</sub>) after a cardiopulmonary exercise test (CPET). Aim: Determine the correlation between recovery rates of V'O<sub>2</sub>, V'CO<sub>2</sub> after CPET with pulmonary vascular resistance (PVR) and right ventricular ejection fraction (RVEF). Method: In this retrospective study measurements on 12 PH-patients were used. 1-4 CPETs and heart catheterisations (for PVR measurement) per patient were done. Sometimes also a cardiac MRI was performed, rendering RVEF.

test group characteristics

	F/M	Age (y), range	Height (cm), sd	Weight (kg), sd	FVC (% pred), sd	FEV1/VC (%), sd	PAP (mmHg)
CPET+cath.	9/3	41 (23-59)	169 (6)	68 (11)	99 (14)	76 (5)	39 (16)
CPET+MRI+cath.	5/1	41 (29-54)	168 (4)	63 (9)	99 (8)	92 (8)	45 (15)

Results: Changes in V'O<sub>2</sub>, V'CO<sub>2</sub> strongly correlated with PVR and RVEF.

Conclusion: In PH-patients, slow recovery-rates of VO<sub>2</sub> and VCO<sub>2</sub> are associated with a high PVR and low RVEF.