Current control of patient body composition after a contemporary cardiac rehabilitation program: The ReCardio registry

M. Sestayo Fernandez1, C. Pena-Gil2, A. Albaladejo3, C. Contreras Lorenzo3, M. Sandin Rollan4, A. Lopez Lozano5, A. Lopez Suarez5, R. Campuzano Ruiz6, E. Barrenada Copete6, MM. Rodrigo Cuadrado6, F. Garza7, L. Matute-Blanco8, C. De Pablo Zarzosa8, A. Castro Conde3 - (1) Health Research Institute of Santiago de Compostela, Santiago De Compostela, Spain (2) University Hospital of Santiago de Compostela, Santiago De Compostela, Spain (3) La Paz University Hospital, Madrid, Spain (4) General University Hospital Doctor Balmis of Alicante, Alicante, Spain (5) Complex Public Hospital Virgen del Rocio Regional, Sevilla, Spain, Spain (6) Fundacion Hospital Alcorcon, Alcorcon, Spain (7) UNIVERSITY HOSPITAL MIGUEL SERVET, Zaragoza, Spain (8) Ramon and Cajal University Hospital, Madrid, Spain

ReCardio 2025

Background: Cardiac rehabilitation (CR) is a structured, multidisciplinary program aimed at restoring cardiovascular function, reducing risk factors, and improving physical and psychosocial well-being in patients with heart disease.

Purpose: To evaluate the clinical characteristics and body composition profile of patients completing contemporary cardiac rehabilitation (CR) programs across Spain, using data from the prospective, multicenter ReCardio national registry.

Methods: We conducted a prospective, multicenter, cross-sectional registry including 244 consecutive adult patients with ischemic heart disease after completing a CR program in seven Spanish centers between October 2024 and October 2025.

Results: Mean body weight decreased from 82 ± 14 kg at baseline to 80 ± 13 kg at discharge (–1.9 kg, $p < 0.001$), paralleled by a reduction in BMI from 28.9 ± 4.5 to 28.2 ± 4.1 kg/m^2 (–0.63 kg/m^2, $p < 0.001$). Waist circumference also improved, decreasing from 102.8 ± 17 cm to 99.1 ± 11 cm (–3.6 cm, $p < 0.001$). Body fat percentage declined as well, from 30.8 ± 9.4% to 28.6 ± 8.7% (–2.2%, $p < 0.001$).

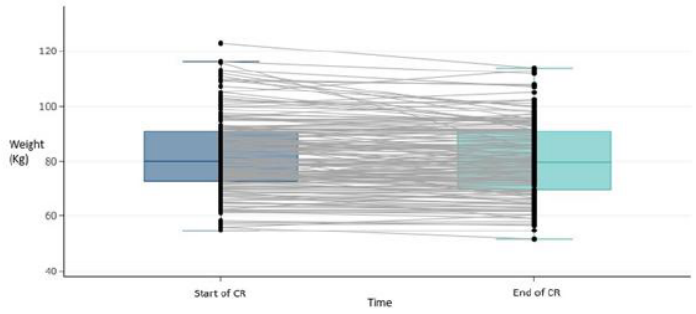

Figure 1. Boxplot for weight (Kg) between start of CR and end of CR

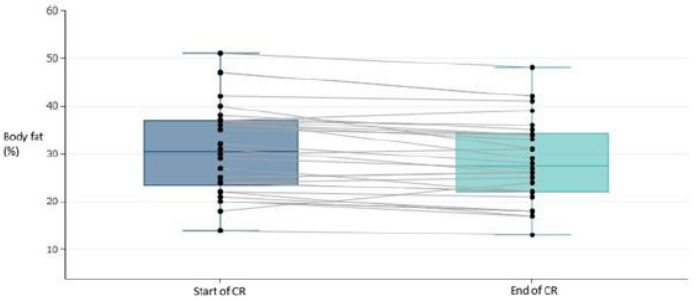

Figure 2. Boxplot for body fat (%) between start of CR and end of CR

Conclusions: CR programs evaluated in Spain, enabled patients to significantly improve their body composition, underscoring the value of CR as a comprehensive tool for achieving weight-management goals as a cornerstone of secondary prevention in patients with ischemic heart disease.
Despite these positive changes in body composition, **30% of patients remained with a BMI > 30 kg/m^2**.
Only 9.3% of our population was receiving treatment with GLP-1 receptor agonists. This finding underscores a meaningful opportunity for improvement and highlights the need for extended follow-up to optimize obesity management in Phase III CR.

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Current control of diabetes after cardiac rehabilitation program: the ReCardio registry

M. Sestayo Fernandez1, C. Pena-Gil2, A. Albaladejo3, C. Contreras Lorenzo3, M. Sandin Rollan4, A. Lopez Lozano5, A. Lopez Suarez5, R. Campuzano Ruiz6, E. Barrenada Copete6, MM. Rodrigo Cuadrado6, F. Garza7, L. Matute-Blanco8, C. De Pablo Zarzosa8, A. Castro Conde3 - (1) Health Research Institute of Santiago de Compostela, Santiago De Compostela, Spain (2) University Hospital of Santiago de Compostela, Santiago De Compostela, Spain (3) La Paz University Hospital, Madrid, Spain (4) General University Hospital Doctor Balmis of Alicante, Alicante, Spain (5) Complex Public Hospital Virgen del Rocio Regional, Sevilla, Spain, Spain (6) Fundacion Hospital Alcorcon, Alcorcon, Spain (7) UNIVERSITY HOSPITAL MIGUEL SERVET, Zaragoza, Spain (8) Ramon and Cajal University Hospital, Madrid, Spain

Background: Cardiac rehabilitation (CR) is an evidence-based intervention that integrates supervised physical activity, education, and psychosocial support to enhance outcomes in patients with acute or chronic cardiovascular conditions.

Purpose: To evaluate the current control of diabetes in patients that have completed contemporary cardiac rehabilitation (CR) programs across Spain, using data from the prospective, multicenter ReCardio national registry.

Methods: We conducted a prospective, multicenter, cross-sectional registry including consecutive adult patients with ischemic heart disease after completing a CR program in seven Spanish centers between October 2024 and October 2025.

Results: Among patients with diabetes (n=53, 21.5%), mean fasting glucose showed no significant change from start of CR to end of CR (116.5 ± 27.1 vs. 117.0 ± 9.3 mg/dL). In the overall cohort, fasting glucose remained within the normal range (99.8 ± 20.1 vs. 99.1 ± 24.6 mg/dL, p = no significant difference). Among individuals with diabetes, antidiabetic therapy was widely prescribed (89.3%). SGLT2 inhibitors were the most frequently used agents (82.1%), predominantly empagliflozin (37.5%) and dapagliflozin (16.1%). Metformin was prescribed in more than half of diabetic patients (55.4%), followed by GLP-1 receptor agonists (30.4%), primarily semaglutide (21.4%). DPP-4 inhibitors were prescribed in 10.7% of diabetic patients, and insulin in 8.9% of the diabetic population.

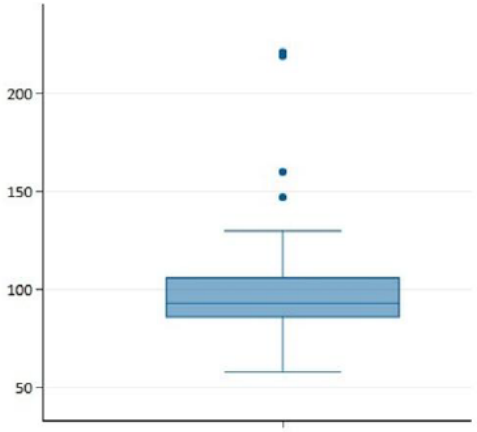

Figure 1. Glucose (mg/dL) at end of CR in the general CR population

Conclusions: Patients with diabetes completing contemporary CR programs in Spain show good overall glycemic control, with stable fasting glucose and HbA1c levels throughout the CR program. These findings suggest that while current CR frameworks support maintenance of acceptable diabetes control, further strategies—such as targeted metabolic interventions or closer glucose-focused follow-up—may be required to achieve additional glycemic optimization within CR pathways.

Changes in functional capacity after a contemporary cardiac rehabilitation program: results from the ReCardio national registry

M. Sestayo Fernandez1, C. Pena-Gil2, A. Albaladejo3, C. Contreras Lorenzo3, M. Sandin Rollan4, A. Lopez Lozano5, A. Lopez Suarez5, R. Campuzano Ruiz6, E. Barrenada Copete6, MM. Rodrigo Cuadrado6, F. Garza7, L. Matute-Blanco8, C. De Pablo Zarzosa8, A. Castro Conde3 - (1) Health Research Institute of Santiago de Compostela, Santiago De Compostela, Spain (2) University Hospital of Santiago de Compostela, Santiago De Compostela, Spain (3) La Paz University Hospital, Madrid, Spain (4) General University Hospital Doctor Balmis of Alicante, Alicante, Spain (5) Complex Public Hospital Virgen del Rocio Regional, Sevilla, Spain, Spain (6) Fundacion Hospital Alcorcon, Alcorcon, Spain (7) UNIVERSITY HOSPITAL MIGUEL SERVET, Zaragoza, Spain (8) Ramon and Cajal University Hospital, Madrid, Spain

Background: Cardiac rehabilitation (CR) is a comprehensive, multidisciplinary intervention designed to optimize the physical, psychological, and social functioning of patients with cardiovascular disease.

Purpose: The objective of this study is to evaluate the clinical characteristics and changes in functional capacity of patients completing contemporary cardiac rehabilitation (CR) programs across Spain, using data from the prospective, multicentre ReCardio national registry.

Methods: We conducted a prospective, multicentre, cross-sectional registry including consecutive adult patients with ischaemic heart disease after completing a CR program in seven Spanish centres between October 2024 and October 2025. This interim analysis included 77 patients that performed a cardiopulmonary exercise test

Results: Mean peak oxygen consumption (VO_2 peak) increased from 23.4 ± 5.8 at start of CR to 25.6 ± 6.1 ml/kg/min at end of CR, reflecting a mean gain of +2.1 ml/kg/min ($p < 0.001$). The percentage of predicted VO_2 also improved significantly, rising from 97.4 ± 21.0% at start of CR to 102.0 ± 25.1% at end of CR (mean change +4.6%, $p < 0.001$). Among patients who began CR with a predicted VO_2 <80%, 50% improved above this threshold at end of CR.

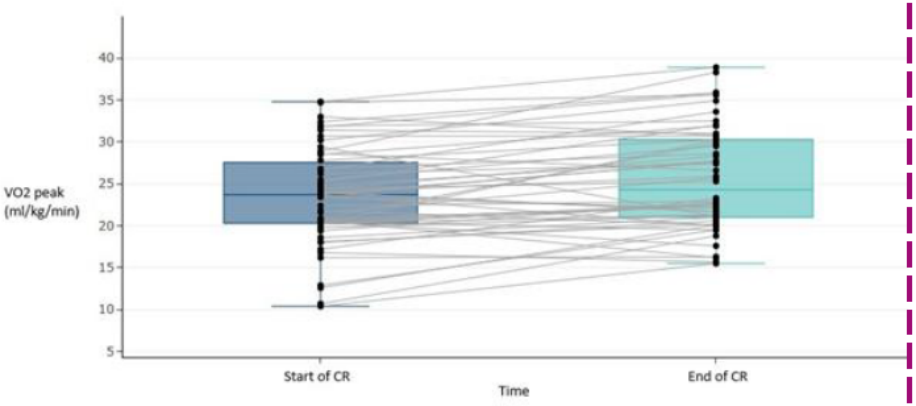

Figure 1. Boxplot for VO2 peak between start of CR and end of CR

Conclusions: Patients participating in contemporary CR programs in Spain already show a generally preserved baseline functional capacity as assessed by VO_2 peak during maximal cardiopulmonary exercise testing at start of CR. Despite these favorable starting values, participation in a comprehensive, exercise-based CR program was associated with additional clinically meaningful improvements in aerobic fitness, including **an improvement in VO2 peak approaching 1 MET at end of CR.**

These results highlight the sustained value of exercise-based CR in enhancing functional capacity even among patients with good initial performance.

Current control of lipid profile after a contemporary cardiac rehabilitation program: insights from interim analysis of the Spanish national ReCardio registry

M. Sestayo Fernandez1, C. Pena-Gil2, A. Albaladejo3, C. Contreras Lorenzo3, M. Sandin Rollan4, A. Lopez Lozano5, A. Lopez Suarez5, R. Campuzano Ruiz6, E. Barrenada Copete6, MM. Rodrigo Cuadrado6, F. Garza7, L. Matute-Blanco8, C. De Pablo Zarzosa8, A. Castro Conde3 - (1) Health Research Institute of Santiago de Compostela, Santiago De Compostela, Spain (2) University Hospital of Santiago de Compostela, Santiago De Compostela, Spain (3) La Paz University Hospital, Madrid, Spain (4) General University Hospital Doctor Balmis of Alicante, Alicante, Spain (5) Complex Public Hospital Virgen del Rocio Regional, Sevilla, Spain, Spain (6) Fundacion Hospital Alcorcon, Alcorcon, Spain (7) UNIVERSITY HOSPITAL MIGUEL SERVET, Zaragoza, Spain (8) Ramon and Cajal University Hospital, Madrid, Spain

Background: Cardiac rehabilitation (CR) is an evidence-based program integrating exercise, lifestyle modification, and psychosocial support to optimize cardiovascular outcomes and overall well-being in heart disease patients.

Purpose: To evaluate the clinical characteristics and lipid control of patients completing contemporary cardiac rehabilitation (CR) programs across Spain, using data from the prospective, multicenter ReCardio national registry.

Methods: We conducted a prospective, multicenter, cross-sectional registry including consecutive adult patients with ischemic heart disease after completing a CR program in seven Spanish centers between October 2024 and October 2025.
Baseline data at start of CR (such as total cholesterol) refers to the recorded value upon first visit to CR, that is, after the patient has been discharged from hospital and medical treatment has been optimized post acute event of ischemic heart disease.

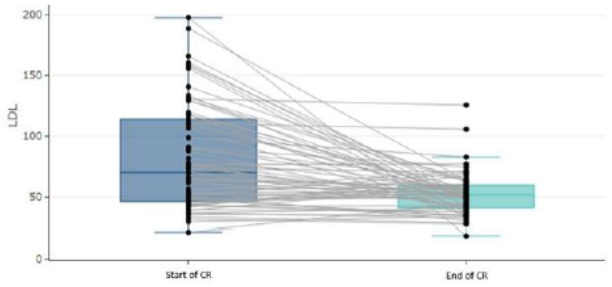

Figure 1. Graphical representation of LDL cholesterol at start and at end of CR.

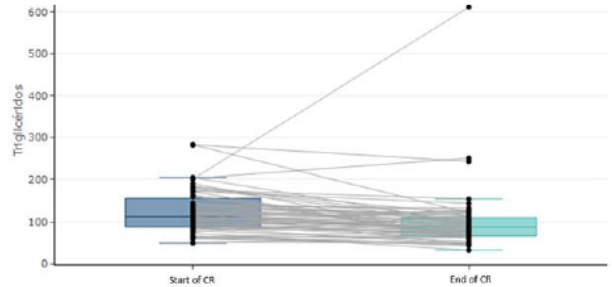

Figure 2. Graphical representation of triglycerides at start and at end of CR.

Results: A total of 244 patients (82% male, mean age 61.3 ± 10.3 years) were included. Cardiovascular risk factors were prevalent, with 67% reporting tobacco use, 56% hypertension, 24% diabetes, 26% pre-diabetes, and 84% dyslipidemia. Body mass index was normal in 20%, overweight in 50%, and obese in 30%. Acute coronary syndrome occurred in 94% of patients, including 53% STEMI and 40% NSTEMI. During the cardiac rehabilitation program, significant improvements in lipid profiles were observed. Mean total cholesterol decreased from 141.8 ± 48.9 to 113.8 ± 21.9 mg/dL (Δ −28.0 ± 51.4, $p < 0.001$), median LDL-C from 70.5 (Q1–Q3: 46.5–114.2) to 52.0 mg/dL (Q1–Q3: 41.2–60.0; Δ −12.9, $p < 0.001$), and triglycerides from 123.9 ± 50.7 to 101.2 ± 78.8 mg/dL (Δ −22.6 ± 70.4, $p < 0.001$). Lipoprotein(a) median concentrations were 31.5 mg/dL (IQR 73) and 85 nmol/L (IQR 157.2), with 40.4% and 32.7% of patients above 50 mg/dL and 150 nmol/L, respectively. At CR completion, most patients were on intensive lipid-lowering therapy: statins 96%, ezetimibe 83%, icosapent ethyl 5%, PCSK9 inhibitors 4%, and inclisiran 1%.

Conclusions: This preliminary assessment of a contemporary cohort of patients that participate in CR in Spain, shows a significant improvement in lipid profile, underscoring the value of CR as a comprehensive tool for achieving lipid-management goals and optimizing treatment in patients with ischemic heart disease. The use of new lipid lowering therapies remains low in Spain.

ReCardio 2025

Cardiopulmonary Exercise Testing Refines Clinical Decision-Making in Severe Asymptomatic Valvular Heart Disease: A Case Series Experience

Sestayo-Fernández, Manuela1,2; Violeta González-Salvado1,2,3; Javier Adarraga-Gómez2,3; Pablo de la Fuente-López2,3; González-Juanatey, José Ramón1,2,3,4; and Peña-Gil, Carlos1,2,3,4.
1. Instituto de Investigación Sanitaria de Santiago de Compostela, IDIS, Spain.
2.Centro de Investigación Biomédica en Red de Enfermedades Cardiovasculares, Instituto de Salud Carlos III, Spain.
3. Cardiology department, Hospital Clínico Universitario de Santiago de Compostela, Spain.
4. Faculty of medicine, Universidad de Santiago de Compostela, Spain.

Background: Cardiopulmonary exercise testing (CPET) provides objective assessment of functional capacity yet remains underused despite potential to guide intervention timing when clinical-imaging discordance exists in valvular heart disease (VHD).

Purpose: Following 2025 ESC Guidelines for management of VHD, which support earlier intervention for severe aortic stenosis, we evaluated whether CPET influences management beyond echocardiographic assessment in severe asymptomatic VHD.

Methods: We performed a prospective descriptive analysis of 70 consecutive patients with severe asymptomatic VHD undergoing CPET (January-September 2025). Trained cardiologists classified tests as clinically normal/abnormal. Pathological VO_2 was defined as peak VO_2 ≤80% predicted. VE/VCO_2 slope differences between groups were assessed.

Severe asymptomatic VHD	Aortic stenosis (n=47, 67%)	Mitral regurgitation (n=14, 20%)	Aortic regurgitation (n=4, 6%)	Tricuspid regurgitation (n=4, 6%)	Mitral stenosis (n=1, 1%)
DEMOGRAPHICS					
Age (years)	71.7±9.4	60.2±11.8	61.3±15.8	70.3±10.6	73.0
Female	n=19, (40.4%)	n=5, (35.7%)	n=1, (25%)	n=4, (100%)	n.a.
CPET PARAMETERS					
Peak oxygen uptake (ml/kg/min)	15.6 [11.9–17.4]	20.3±6.8	30.7±15.8	16.3±8.9	19.2
Percentage of predicted peak oxygen uptake (%)	80.4±16.3	79.5 [73.5–83.8]	116±19.9	73.0 [69.8–88.5]	92.0
Peak load (watts)	74.6±37.5	126±48.0	175±110	54.5 [52.3–75.5]	90.0
Percentage of predicted peak load (mean±SD)	80.8±30.3	94.0 [88.3–104]	137±30.9	116±28.7	85.0
Respiratory exchange ratio (RER)	1.18 [1.09–1.22]	1.2±0.1	1.17±0.1	1.19±0.1	1.21
Slope of minute ventilation/carbon dioxide production (VE/VCO2, %)	33.6±6.20	28.5±3.17	31.6±3.35	33.0±8.02	35.6

Table 1. Clinical, and CPET parameters, expressed as mean ± SD or median (IQ1, IQ3), as appropriate, stratified by main VHD diagnosis. n.a.=not available.

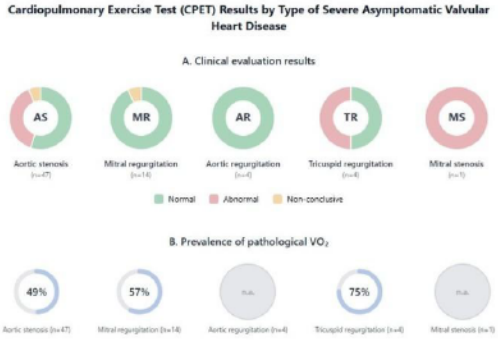

Figure 1. Distribution of CPET findings in severe asymptomatic VHD: Clinical Assessment, and Pathological VO_2. n.a.=not available.

Results: After CPET, the management plan changed in 24% of patients, predominantly shifting from conservative to interventional approaches, most notably in AS.

Conclusions: CPET provided objective physiological insight and guided intervention decisions through individualized assessment of patient performance, influencing management in nearly one in four patients. The test was particularly informative in severe AS, where it confirmed functional limitation and supported early intervention.
The observed discrepancy between clinically normal CPETs and pathological VO2 values underscores the need to define which CPET parameters should serve as key pathological thresholds in this population, as some patients with apparently normal exercise responses may still demonstrate subclinical functional impairment.