L’année 2021 en Réadaptation

Marie Christine Iliou

Service de Réadaptation et Prévention Secondaire.
Corentin Celton. APHP Centre

Conflits d’intérêts

Pas de conflits d’intérêt avec cette présentation

Conflits d’intérêt des 5 dernières années

- Astra Zeneca
- Novartis
- Sanofi
- Servier
- We Health

Année 2021

Guidelines

1856 publications Read Cardiaque (PubMed)

Inclusions, participation

2 ème année Covid …

RC : coronarien

RC : IC FE réduite et préservée

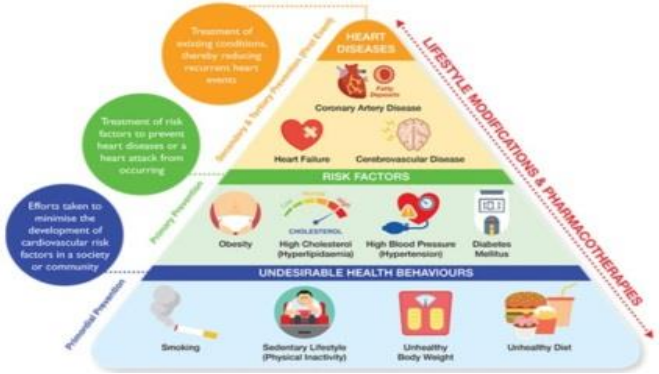
RC : Populations particulières

ESC European Society of Cardiology
European Heart Journal (2021) 42, 3227–3337
doi:10.1093/eurheartj/ehab484

2021 ESC Guidelines on cardiovascular disease prevention in clinical practice

Developed by the Task Force for cardiovascular disease prevention in clinical practice with representatives of the European Society of Cardiology and 12 medical societies

With the special contribution of the European Association of Preventive Cardiology (EAPC)



Pre-conception | Pregnancy | Baby | Young children | Adolescence | Adult life | Adult life with CVD | Elderly

Patients with established ASCVD[a]

STEP 1[b]

- Stop smoking and lifestyle recommendations (Class I)
- SBP <140 to 130 mmHg if tolerated (Class I)
- LDL-C ≥50% reduction and <1.8 mmol/L (<70 mg/dL) (Class I)
- Antithrombotic Therapy (Class I)

AND

STEP 2

Intensified treatment based on:

- Residual 10-year CVD risk[c]
- Lifetime CVD risk and treatment benefit[d]
- Comorbidities, frailty
- Patient preferences

SBP <130 mmHg if tolerated (Class I) *AND* LDL-C <1.4 mmol/L (<55 mg/dL) (Class I) *AND* DAPT, DPI, novel upcoming interventions (e.g. colchicine, EPA) (Class IIb)

ESC European Society of Cardiology
European Journal of Preventive Cardiology
doi:10.1093/eurjpc/zwab115

FULL RESEARCH PAPER

Poor adherence to lifestyle recommendations in patients with coronary heart disease: results from the EUROASPIRE surveys

Dirk De Bacquer [1]*, Felicity Astin[2], Kornelia Kotseva[3,4], Nana Pogosova [5],

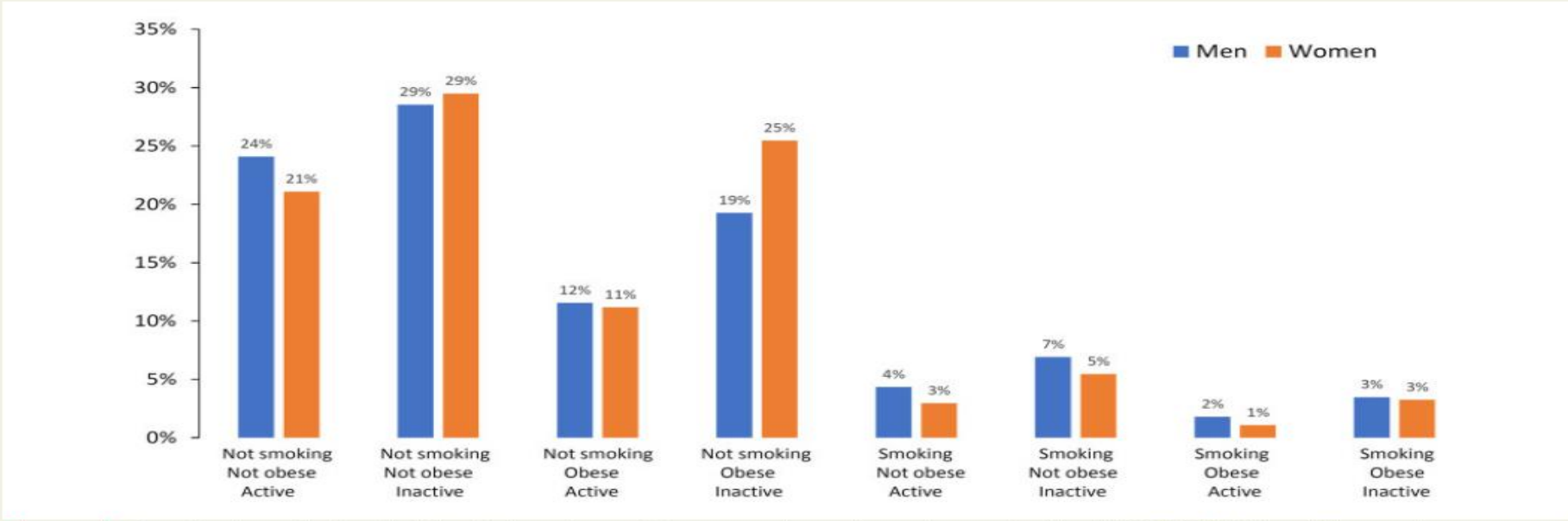


Figure 1 Combinations of unhealthy lifestyles in patients with coronary heart disease, by gender (the EUROASPIRE IV and V surveys).

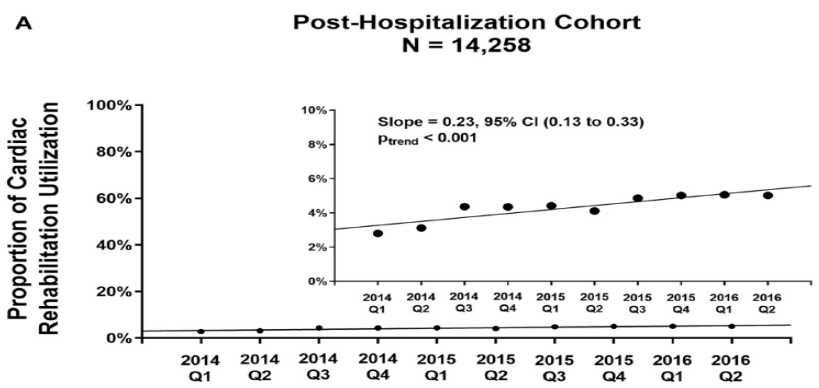
ESC European Society of Cardiology
European Heart Journal (2021) **00**, 1–128
doi:10.1093/eurheartj/ehab368

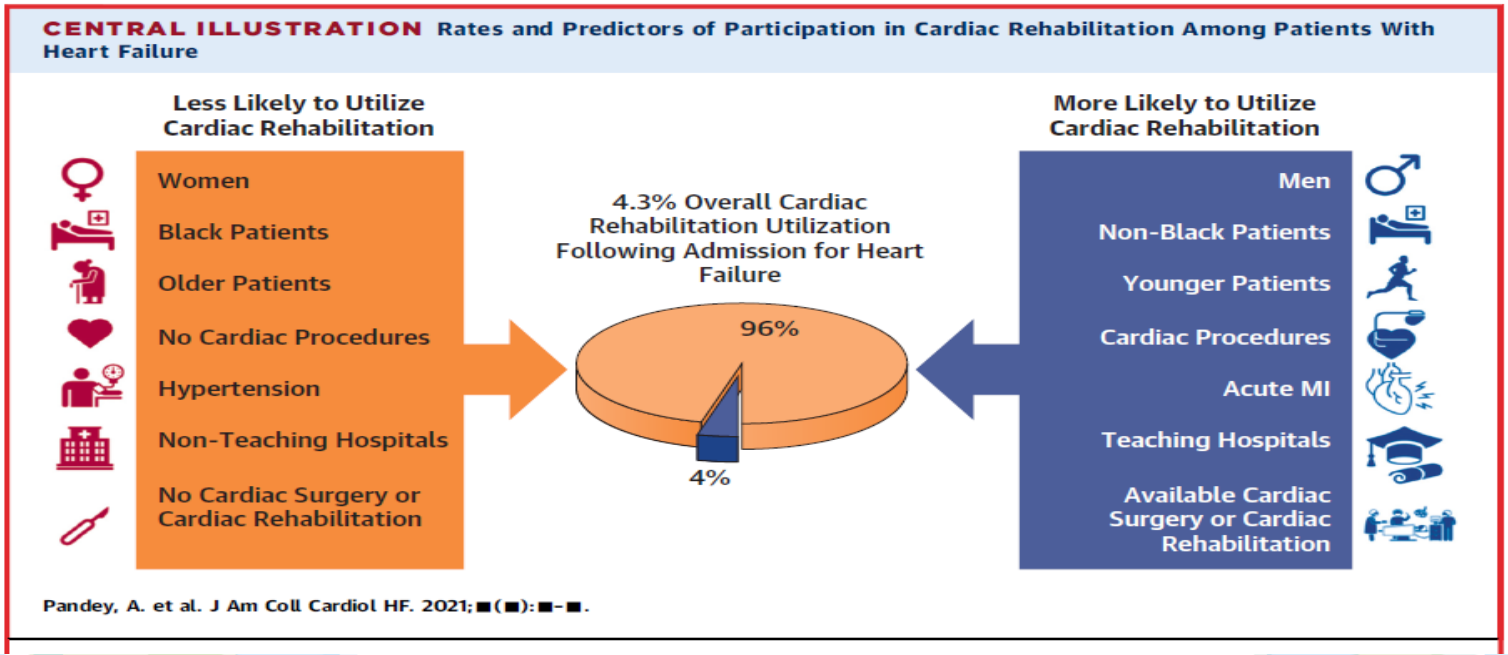
2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

Recommendations for exercise rehabilitation in patients with chronic heart failure

Recommendations	Class[a]	Level[b]
Exercise is recommended for all patients who are able in order to improve exercise capacity, QOL, and reduce HF hospitalization.[c 324–328,335–337]	I	A
A supervised, exercise-based, cardiac rehabilitation programme should be considered in patients with more severe disease, frailty, or with comorbidities.[95,324–327,338]	IIa	C

Temporal Trends and Factors Associated With Cardiac Rehabilitation Participation Among Medicare Beneficiaries With Heart Failure





ESC European Society of Cardiology
European Journal of Preventive Cardiology doi:10.1093/eurjpc/zwaa121
CONSENSUS DOCUMENT
Cardiac rehabilitation

Comprehensive multicomponent cardiac rehabilitation in cardiac implantable electronic devices recipients: a consensus document from the European Association of Preventive Cardiology (EAPC; Secondary prevention and rehabilitation section) and European Heart Rhythm Association (EHRA)

Roberto F.E. Pedretti [1]*, Marie-Christine Iliou[2], Carsten W. Israel[3], Ana Abreu[4],

Entraînement	n études	Gain Pic VO2	Sécurité
MCT	7	+ 4-30 %	Pas de sur-risque de chocs Pas d'effets délétères
HIIT	2	+ 4-10 %	
MCT + résistance	5	+ 7-15 %	

Table 1 Challenges in patients with cardiac implantable electronic device during cardiac rehabilitation

- Chronotropic incompetence, inappropriate sensor function for rate-adaptive pacing (under- or overresponsive).
- Sinus tachycardia above the upper tracking limit (dual-chamber and CRT devices).
- Under- and oversensing (pacemaker and ICD).
- Arrhythmias (ventricular or supraventricular extrabeats, junctional rhythm, supraventricular, and ventricular tachyarrhythmias).
- Changes in AV conduction.

Table 4 Challenges for patients with a cardiac implantable electronic device during a CR programme

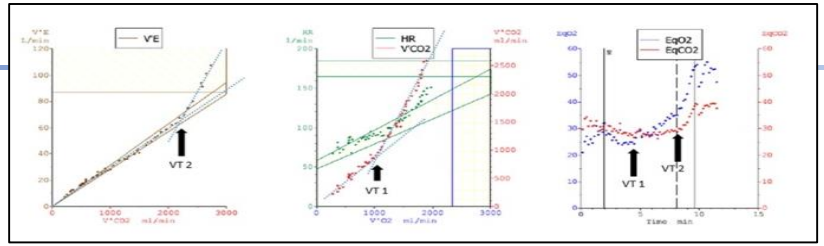
Problem	Programming solution
Chronotropic incompetence	Activate sensor
Insufficient heart rate increase despite sensor	Increase sensor reactivity (threshold of activity detection, rate increase, duration of rate increase, etc.)
Excessive pacing rate increase	Decrease sensor reactivity (threshold of activity detection, rate increase, duration of rate increase, etc.)
Sinus rate above the upper tracking limit	Increase upper tracking limit
2:1 block during exercise	Shorten sensed AV delay and/or PVARP, consider rate-adaptive AV delay and rate-adaptive PVARP
Angina pectoris during exercise	Limit upper tracking rate to 110 b.p.m. in patients with coronary artery disease
Undersensing during exercise	Increase sensitivity (atrium: up to 0.1–0.2 mV)
Oversensing during exercise	Check sensing polarity (bipolar!), reduce sensitivity in pacemakers, avoid TENS
Multiple supraventricular or ventricular premature beats, endless loop tachycardia	Activate 'PMT intervention' in dual-chamber and CRT devices, activate 'PVC reaction in dual-chamber devices, in individual cases increase the lower rate limit
Non-sustained ventricular tachycardia	Prolong tachycardia detection in ICDs (≥ 40 intervals)
Supraventricular tachycardia during CR	Prolong tachycardia detection in ICDs (≥ 40 intervals in VT zones, ≥30/40 intervals in VF zone), activate enhanced detection criteria or VT/SVT discrimination criteria, in individual patients increase tachycardia detection rate (e.g. to 200 b.p.m.) with a monitoring zone (e.g. 180–200 b.p.m.)
Accelerated junctional rhythm during exercise	Increase the lower rate limit in dual-chamber and CRT devices (e.g. to 70 b.p.m.), activate overdrive algorithms
Shortening of intrinsic AV delay	In CRT: Shorten the sensed AV delay or (better) activate rate-adaptive AV delay; if available activate negative AV hysteresis

ESC European Society of Cardiology
European Journal of Preventive Cardiology
doi:10.1093/eurjpc/zwab007

POSITION PAPER
Cardiac rehabilitation

Exercise intensity assessment and prescription in cardiovascular rehabilitation and beyond: why and how: a position statement from the Secondary Prevention and Rehabilitation Section of the European Association of Preventive Cardiology

Dominique Hansen[1,2]*, Ana Abreu[3], Marco Ambrosetti[4].

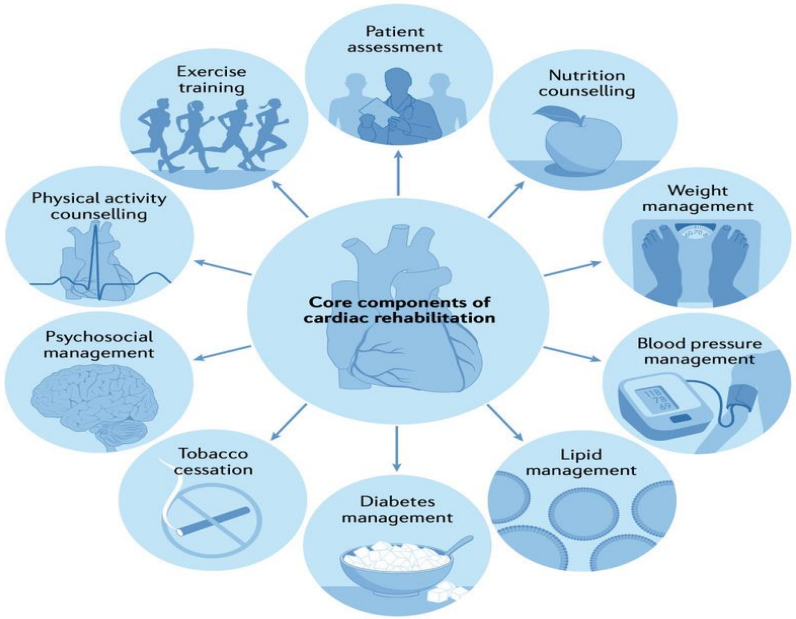


Classification of aerobic exercise intensity[17]

Intensity	VO_2max (%)	HRmax (%)	HRR (%)	RPE scale	Training zone
Low intensity, light exercise	<40	<55	<40	10–11	Aerobic
Moderate intensity exercise	40–69	55–74	40–69	12–13	Aerobic
High intensity	70–85	75–90	70–85	14–16	Aerobic + lactate
Very high intense exercise	>85	>90	>85	17–19	Aerobic + lactate + anaerobic

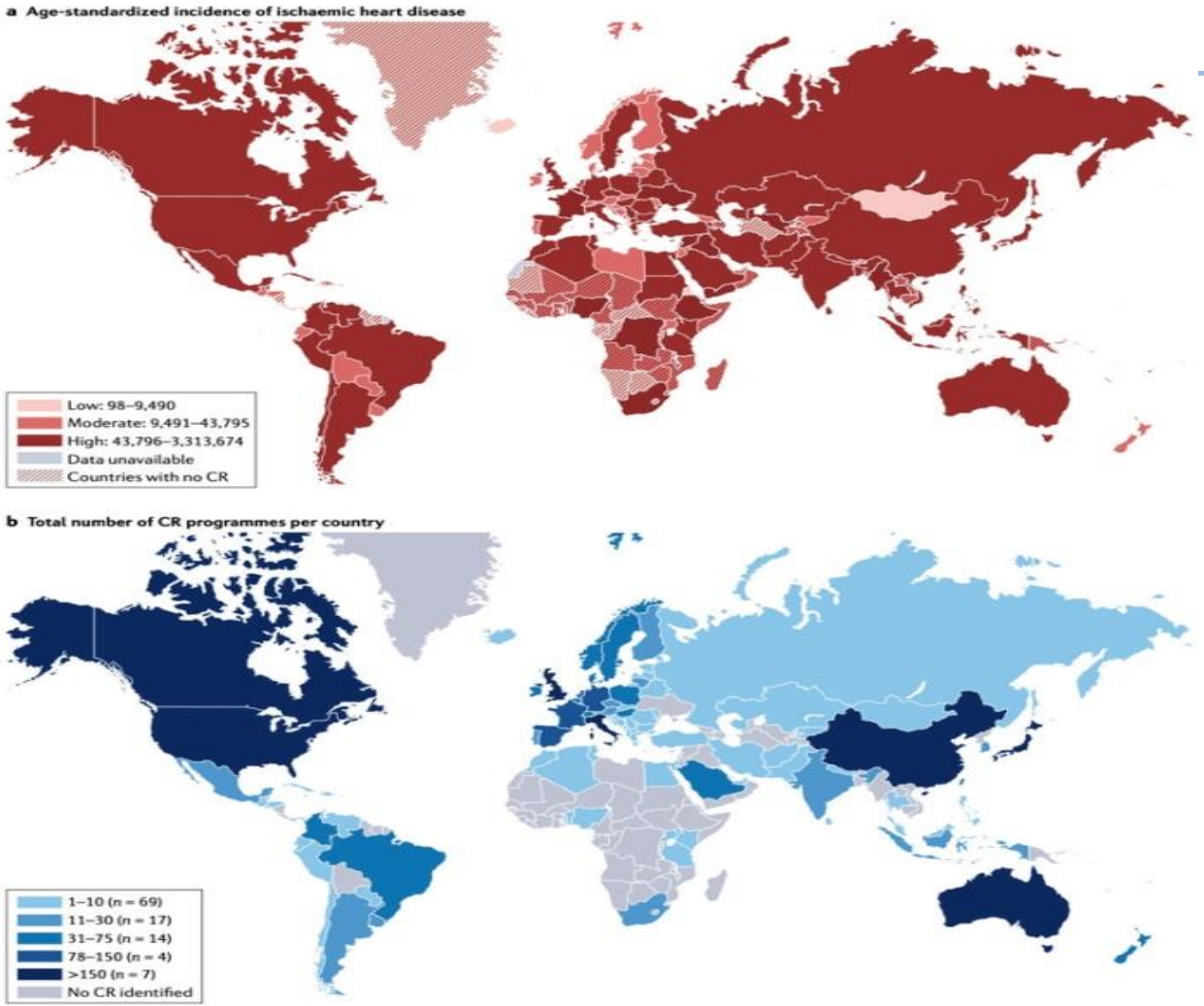
	AEROBIC TRAINING		STRENGTH TRAINING
	Optimal standards[70]	Minimal standards[70]	
Step 1 Determination of exercise intensity at entry of CR (phase II)			
	From first CPET: VT1 by VE/VO_2 slope VT2 by VE/VCO_2 slope Extrapolate to HR, W or time	From first ergometry test: W_{peak} and HR_{peak} Extrapolate to %HR_{peak}, %W_{peak} or time	From <10RM test of target muscles every few weeks: Calculate desired load
Step 2 Control of exercise intensity during subsequent exercise sessions			
	Talk test or Borg RPE guided by clinician/therapist		OMNI-RES guided by clinician/therapist
Step 3 Adjust the exercise intensity during progressive CR			
	From CPET after 3 months, or preferentially earlier, based on clinical decision: VT1 by VE/VO_2 slope VT2 by VE/VCO_2 slope Extrapolate to HR, W or time	From ergometry after 3 months, or preferentially earlier, based on clinical decision: W_{peak} and HR_{peak} Extrapolate to %HR_{peak}, %W_{peak} or time	From <10RM test of target muscles every few weeks, based on clinical decision: Calculate desired load

The role of cardiac rehabilitation in improving cardiovascular outcomes.



- Il existe des recommandations de haut niveau de preuve
- Faible accès
- Intérêt d'alternatives et de la télé-réadaptation
- Nécessité d'une pérennisation des programmes, avec une prise en charge globale et inclusive des patients
- Nécessité de développer ces programmes de réadaptation dans pays niveau économique moyen et faible

Taylor RS, Dalal HM, McDonagh STJ. Nat Rev Cardiol. 2021 Sep 16:1–15.


a Age-standardized incidence of ischaemic heart disease
Low: 98–9,490
Moderate: 9,491–43,795
High: 43,796–3,313,674
Data unavailable
Countries with no CR
b Total number of CR programmes per country
1–10 (n = 69)
11–30 (n = 17)
31–75 (n = 14)
78–150 (n = 4)
>150 (n = 7)
No CR identified

Exercise-based cardiac rehabilitation programs in the era of COVID-19: a critical review

Marios Stefanakis[1], Ladislav Batalik[2,3], Jannis Papathanasiou[4,5], Lefkothea Dipla[1], Varsamo Antoniou[6], Garyfallia Pepera[6,*]

Rev. Cardiovasc. Med. 2021 vol. 22(4), 1143-1155

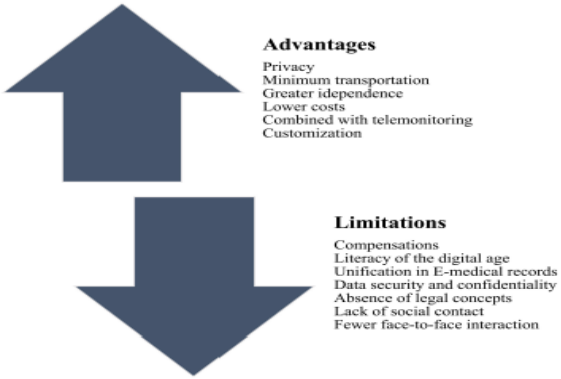
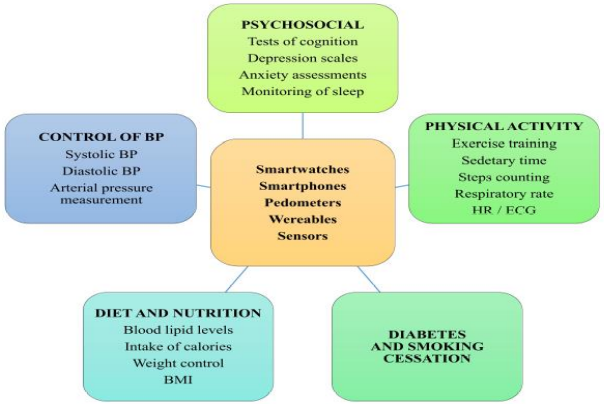


Fig. 3. Limitations and Advantages of Telerehabilitation, adapted



Open access Original research

BMJ Open

How has technology been used to deliver cardiac rehabilitation during the COVID-19 pandemic? An international cross-sectional survey of healthcare professionals conducted by the BACPR

Alasdair F O'Doherty [1], Helen Humphreys [2,3], Susan Dawkes,[4,5] Aynsley Cowie,[5,6] Sally Hinton,[5] Peter H Brubaker,[7] Tom Butler,[5,8] Simon Nichols [2,3,5]

En France

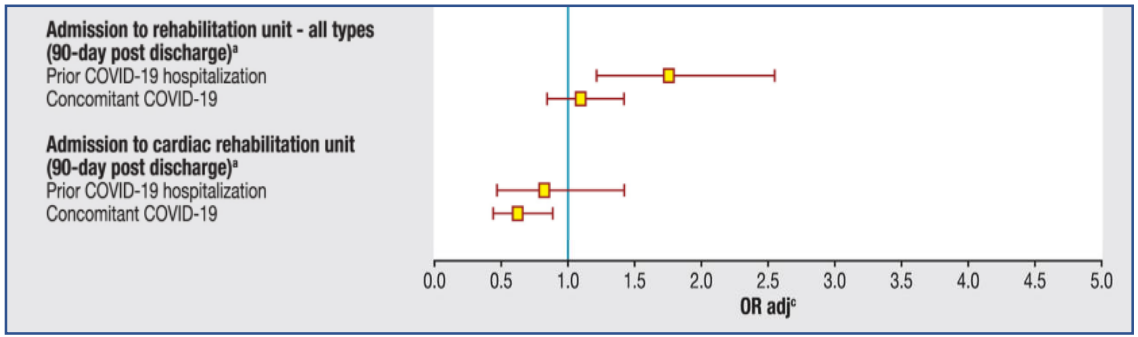
3015 patients ,âge moyen de 66 ans

Près de 45 % des patients sont allés en centre de réadaptation cardiaque ou non

Les patients COVID sont plus souvent adressés directement (14.5% et 12.1%,vs 5.7% pour non COVID; $P < 0.0001$).

Les patients COVID sont moins souvent adressés (acceptés?)en R Cardiaque

La réadaptation et les consultations de médecine générale sont associés à l'adhésion médicamenteuse



Archives of Cardiovascular Disease 115 (2022) 37—47

ESC European Society of Cardiology
European Journal of Preventive Cardiology
doi:10.1093/eurjpc/zwab083

Participation in exercise-based cardiac rehabilitation is related to reduced total mortality in both men and women: results from the SWEDEHEART registry

Örjan Ekblom[1]*, Åsa Cider[2,3], Kristina Hambraeus[4], Maria Bäck[2,5], Margrét Leosdottir[6,7], Amanda Lönn[1,8], and Mats Börjesson[2,9]

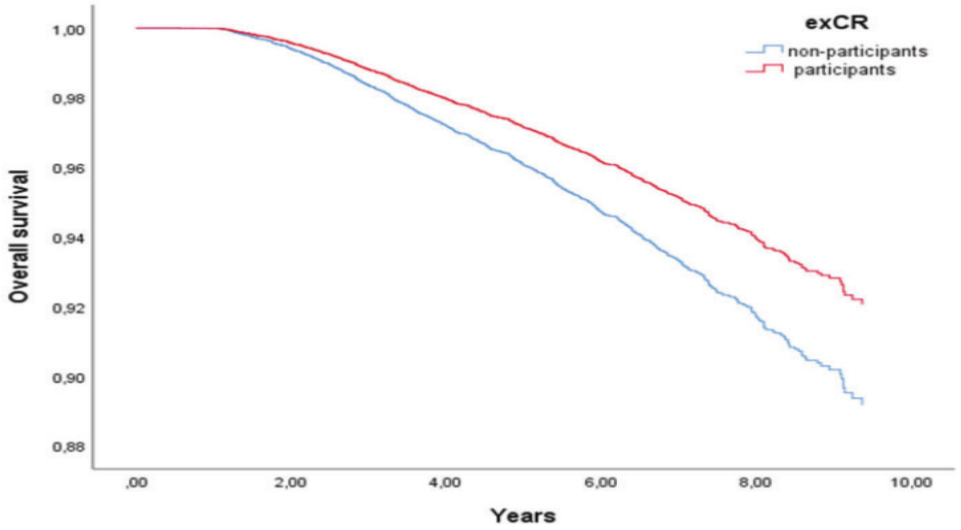


Figure 2 Total mortality in fully adjusted analyses of individuals ($n = 20\ 895$) participating vs. not participating in exercise-based cardiac rehabilitation.

20 895 patients

Suivi moyen: 4.5 ans

Mortalité totale - 28 %

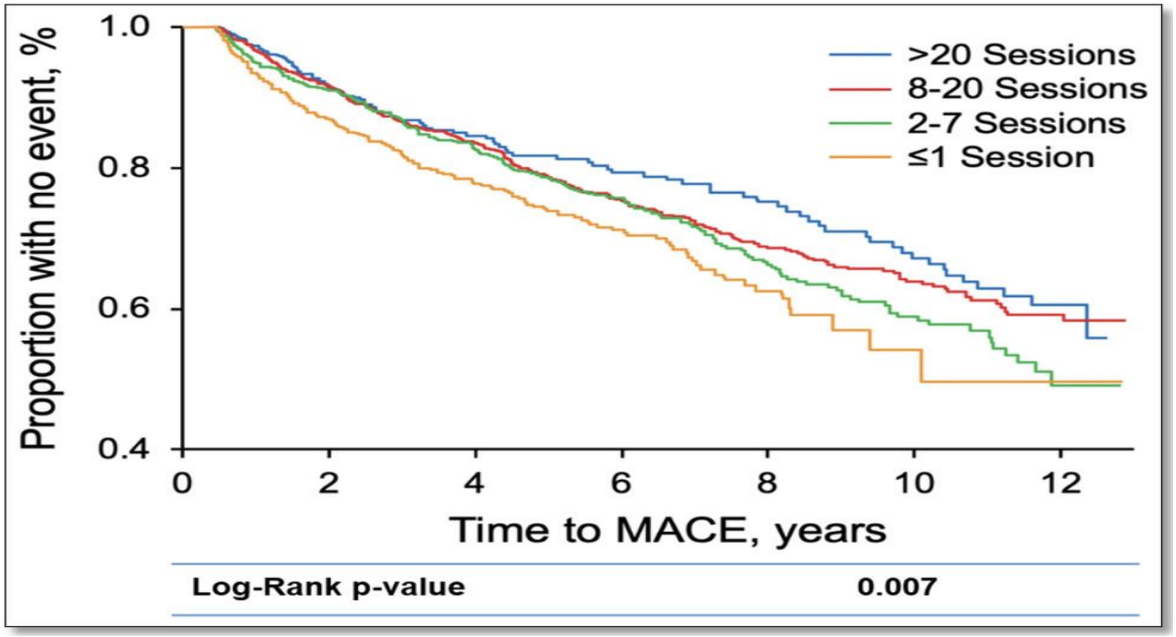
Réduction du risque supérieur chez les femmes (HR 0.54) vs chez les hommes (HR 0.81)

Journal of the American Heart Association
Volume 10, Issue 20, 19 October 2021
https://doi.org/10.1161/JAHA.120.021356

ORIGINAL RESEARCH

Dose of Cardiac Rehabilitation to Reduce Mortality and Morbidity: A Population-Based Study

Jose R. Medina-Inojosa, MD, MSc : Sherry L. Grace, PhD : Marta Supervia, MD, MSc :



- Mayoclinic
- Cohorte: 2 345 CAD (2002 to 2012)
- 36 séances prescrites /12.5 réalisées
- Suivi moyen = 6 ans -> 12
- « Dose » de RC CR est inversement associée avec événements CV *(acute MI, unstable angina, ventricular arrhythmias, stroke, revascularization, all cause mortality)*
- *Il n'a pas été retrouvé de seuil*
- *Chaque séance supplémentaire améliore le pronostic*
- ***Effet dose- réponse***

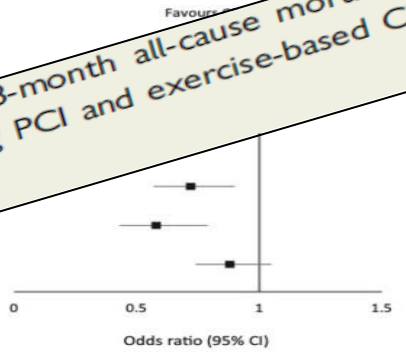
ESC European Society of Cardiology
European Journal of Preventive Cardiology https://doi.org/10.1093/eurjpc/zwab191

FULL RESEARCH PAPER
Cardiac rehabilitation

Exercise-based cardiac rehabilitation vs. percutaneous coronary intervention for chronic coronary syndrome: impact on morbidity and mortality

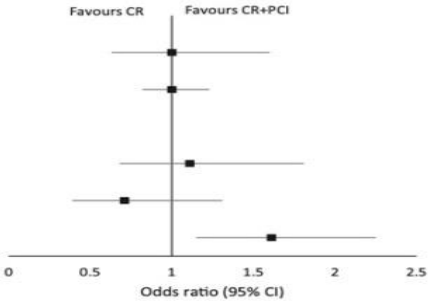
18 382 SCC
18 mois suivi

	18-month events, n (%)				
	CR cohort	PCI cohort	Odds Ratio	95% CI	*p*-value
All-cause mortality	86/4,346 (2.0%)	225/4,327(5.2%)	0.37	0.29-0.47	<0.0001
Rehospitalisation	717/4,357 (16.5%)	1,751/4,357 (40.2%)	0.29	0.27-0.32	<0
Cardiovascular morbidities					
Acute myocardial infarction	125/2,877 (4.3%)	185/3,097 (6.0%)			
Stroke	69/4,144 (1.7%)	114/			
Heart failure	274/3,061			.05	0.1492



Compared to PCI, exercise-based CR associated with significantly lower odds of 18-month all-cause mortality, rehospitalization, and cardiovascular morbidity in patients with CCS, whilst combining PCI and exercise-based CR associated with lower incident heart failure only.

	18-month events, n (%)				
	CR cohort	CR+PCI cohort	Odds Ratio	95% CI	*p*-value
...use mortality	36/1,332 (2.7%)	36/1,334 (2.7%)	1.00	0.63-1.60	0.9949
Rehospitalisation	224/1,337 (16.8)	224/1,337 (16.8)	1.00	0.82-1.23	1.0000
Cardiovascular morbidities					
Acute myocardial infarction	35/907 (3.9%)	31/886 (3.5%)	1.11	0.68-1.81	0.6857
Stroke	18/1,288 (1.4%)	25/1,277 (2.0%)	0.71	0.39-1.31	0.2692
Heart failure	95/1,036 (9.2%)	61/1,034 (5.9%)	1.61	1.15-2.25	0.0048



Contents lists available at ScienceDirect

International Journal of Cardiology

journal homepage: www.elsevier.com/locate/ijcard

Strain predicts left ventricular functional recovery after acute myocardial infarction with systolic dysfunction☆

Ahmed Ben Driss [a,b,*], Caroline Ben Driss Lepage [a], Anis Sfaxi [c], Maher Hakim [c], Simon Elhadad [c], Jean Yves Tabet [a], Ahmed Salhi [c], Virginie Brandao Carreira [c], Madjid Hattab [c], Philippe Meurin [a], Hélène Weber [a], Phalla Ou [b], Jean François Quignodon [d], Guillaume Jondeau [b], Jean Pierre Laissy [b]

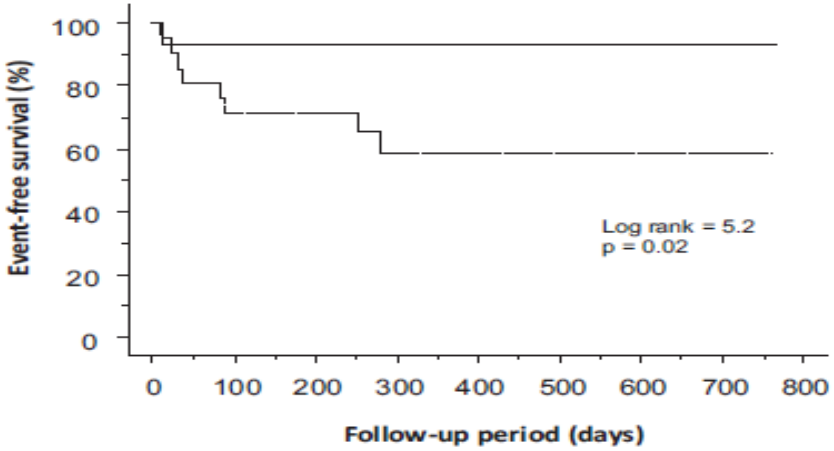


Fig. 5. Kaplan-Meier event curves for time to cardiac event during the follow-up period according to baseline GLS. The median GLS value was −11.5%. The event-free survival was lower in patients with baseline GLS > −11.5% (dashed line) than in those with baseline GLS < −11.5% (solid line) ($p = 0.01$).

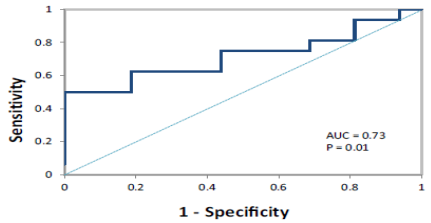


Fig. 3. Receiver operating characteristic curves of GLS analysis at baseline for the prediction of global LV functional improvement at 8 month follow-up.

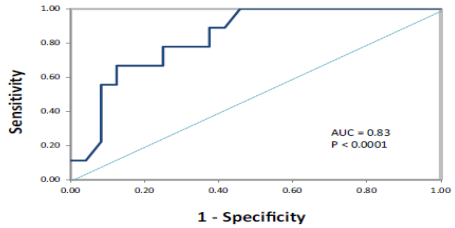
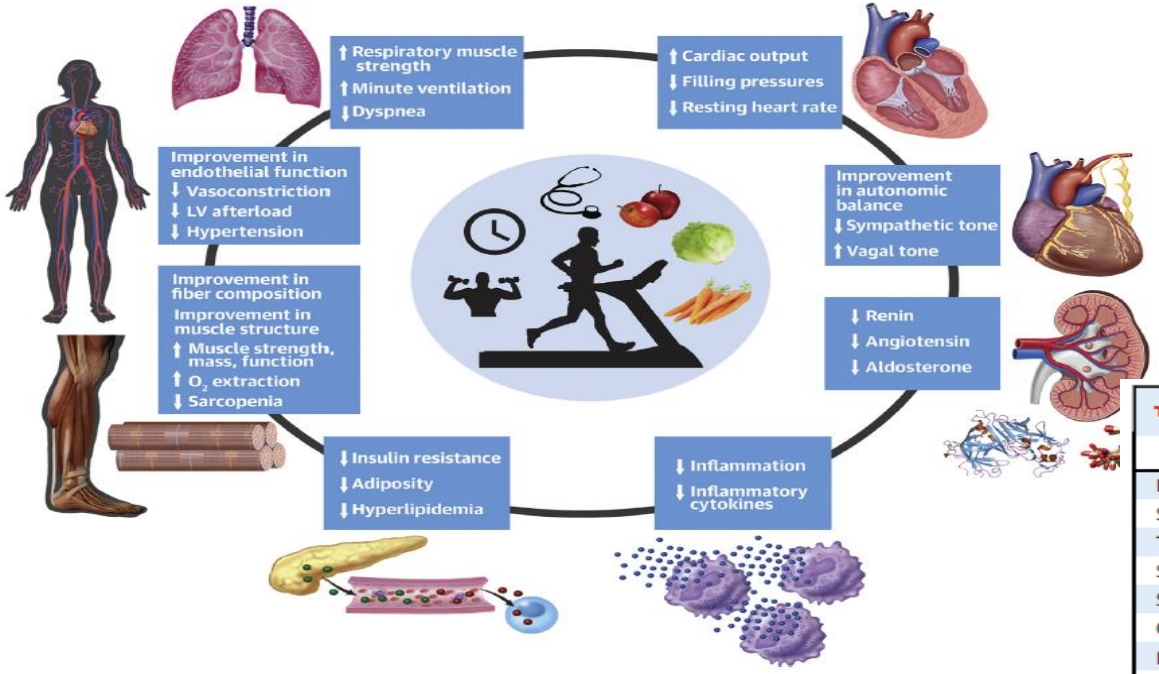


Fig. 4. Receiver operating characteristic curves of GLS analysis at baseline for the prediction of LV remodeling at 8 month follow-up.

Cardiac Rehabilitation for Patients With Heart Failure

JACC Expert Panel

CENTRAL ILLUSTRATION Mechanisms of Beneficial Effects of Exercise Training and Cardiac Rehabilitation in Patients With Heart Failure



Bozkurt, B. et al. J Am Coll Cardiol. 2021;77(11):1454–69.

Mechanisms by which cardiac rehabilitation and exercise training improve overall status in patients with heart failure.

TABLE 2 HIIT Versus MCT in Patients With Heart Failure

	MCT	HITT
Evidence base	++++	+++
Similarity to lifestyle exercise	+++	+
Time required	++	++++
Suitability for frailty/very low fitness	++++	++*
Staff effort	++	++++
Cardiometabolic benefit	+++	++++
Fitness achieved	+++	++++
Suitability for broad range of patients	++++	++
Safety	++++	++

ESC European Society of Cardiology
European Journal of Preventive Cardiology (2021) 28, 1704–1710
doi:10.1093/eurjpc/zwab035

FULL RESEARCH PAPER
Cardiac rehabilitation

Cardiac rehabilitation and all-cause mortality in patients with heart failure: a retrospective cohort study

Benjamin J.R. Buckley [1]*, Stephanie L. Harrison[1], Elnara Fazio-Eynullayeva[2],

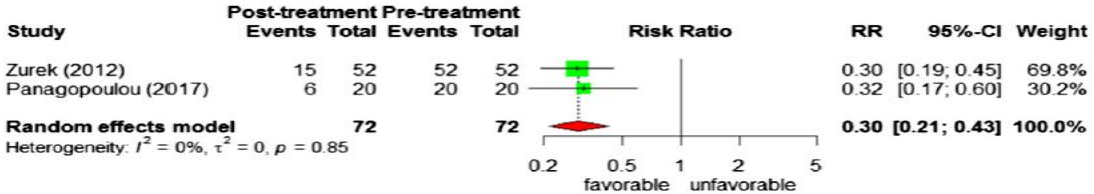
20 82 IC en RC vs 20182 IC sans RC
Suivi 2 ans

Major adverse events	% of events	Odds ratio	95% CI	P-value
All-cause mortality	9.3 vs. 15.2	0.58	0.54–0.62	<0.0001
Hospitalization	40.4 vs. 47.8	0.74	0.71–0.77	<0.0001
Incident stroke[a]	0.7 vs. 1.2	0.63	0.51–0.79	<0.0001
Incident AF[b]	2.2 vs. 4.5	0.47	0.4–0.55	<0.0001

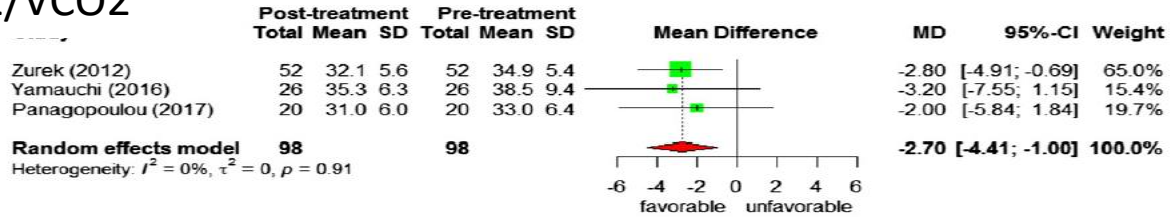
European Society of Cardiology
European Journal of Preventive Cardiology https://doi.org/10.1093/eurjpc/zwab195

Exercise training effects on metabolic and ventilatory changes in heart failure patients with exercise oscillatory ventilation: systematic review and meta-analysis

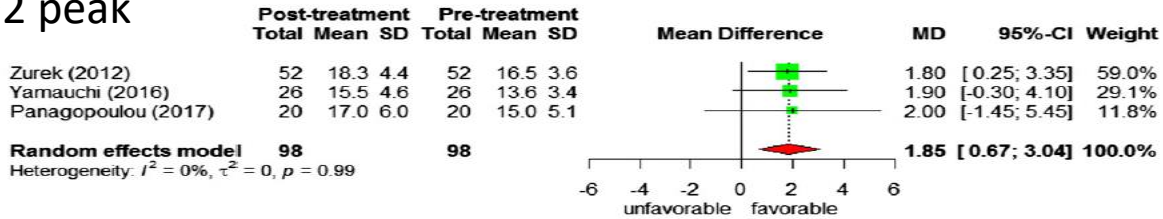
OVE



VE/VCO2



VO2 peak

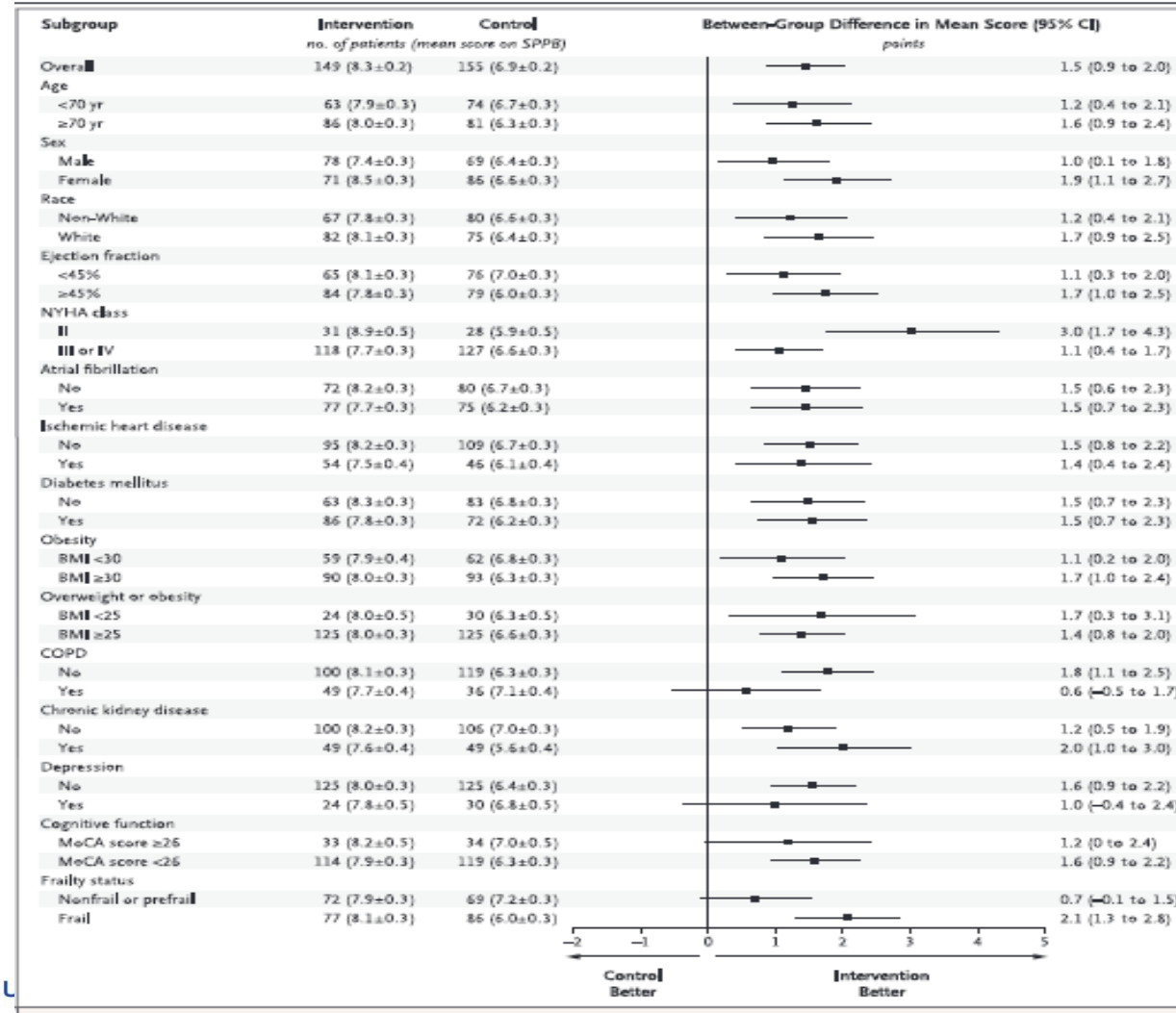


The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 JULY 15, 2021 VOL. 385 NO. 3

Physical Rehabilitation for Older Patients Hospitalized for Heart Failure

Dalane W. Kitzman, M.D., David J. Whellan, M.D., M.H.S., Pamela Duncan, P.T., Ph.D., Amy M. Pastva, P.T., Ph.D., Robert J. Mentz, M.D., Gordon R. Reeves, M.D., M.P.T., M. Benjamin Nelson, M.S., Haiying Chen, Ph.D., Bharathi Upadhya, M.D., Shelby D. Reed, Ph.D., Mark A. Espeland, Ph.D., LeighAnn Hewston, D.P.T., M.Ed., and Christopher M. O'Connor, M.D.



Exercise rehabilitation in cardiac resynchronization: systematic review and a meta-analysis

Liza Grosman-Rimon[1,2] · Sarah Hui[3] · Sara Santos[5] · Brian Vadasz[4] · Farid Foroutan[5] · Ashley Farrell[5] · Spencer Lalonde[5] · Arash Ghashghai[5] · Michael McDonald[3,5] · Ana C. Alba[5]

Heart Failure Reviews (2021) 26:507–519

Fig. 3 Significant improvement in peak VO_2 with aerobic exercise rehabilitation compared with usual care

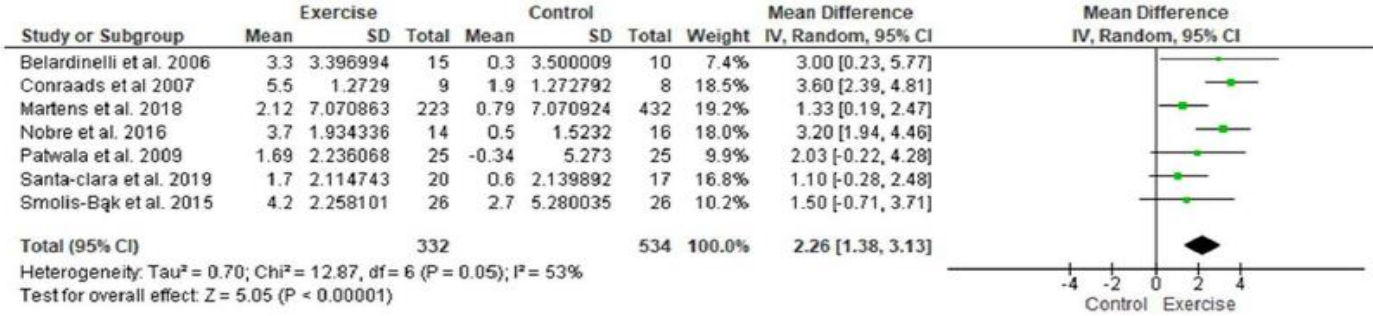
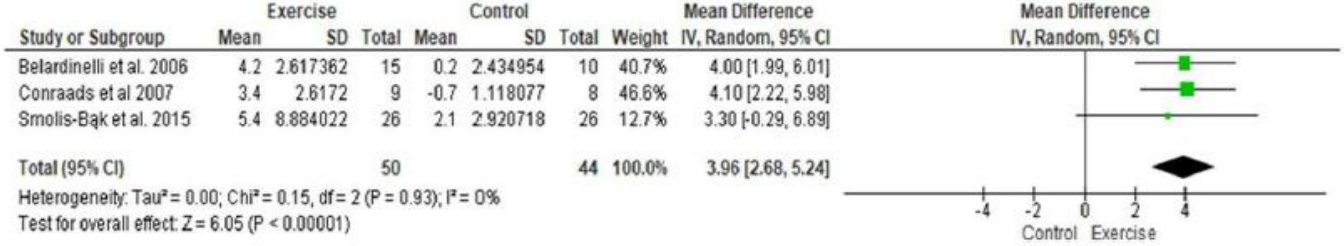


Fig. 4 Significant improvement in AT-VO_2 with aerobic exercise rehabilitation compared with usual care



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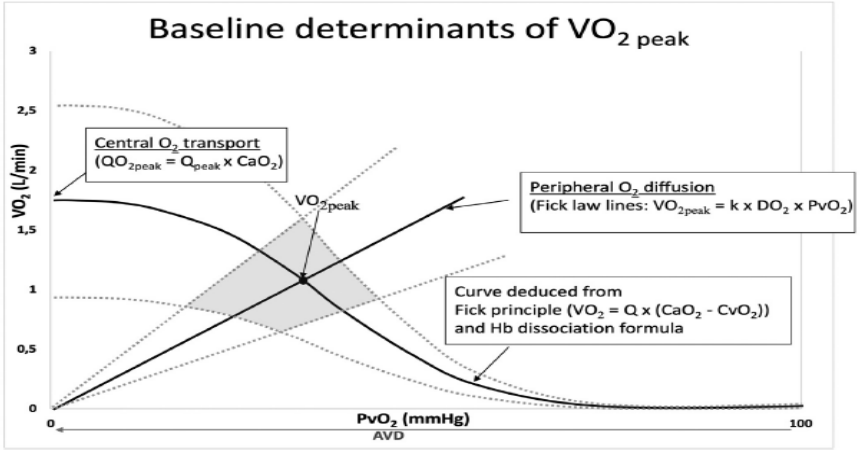
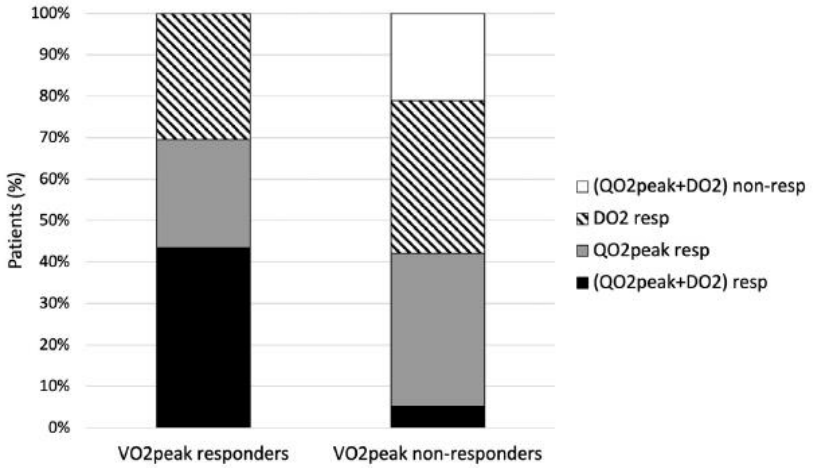
Responses to exercise training in patients with heart failure. Analysis by oxygen transport steps

Antoine Legendre [a,b,*], Feriel Moatemri [c], Oksana Kovalska [c], Maria Balice-Pasquinelli [c], Jean-Christophe Blanchard [c], Aurelia Lamar-Tanguy [c], François Ledru [c], Pascal Cristofini [c], Marie-Christine Iliou [c]

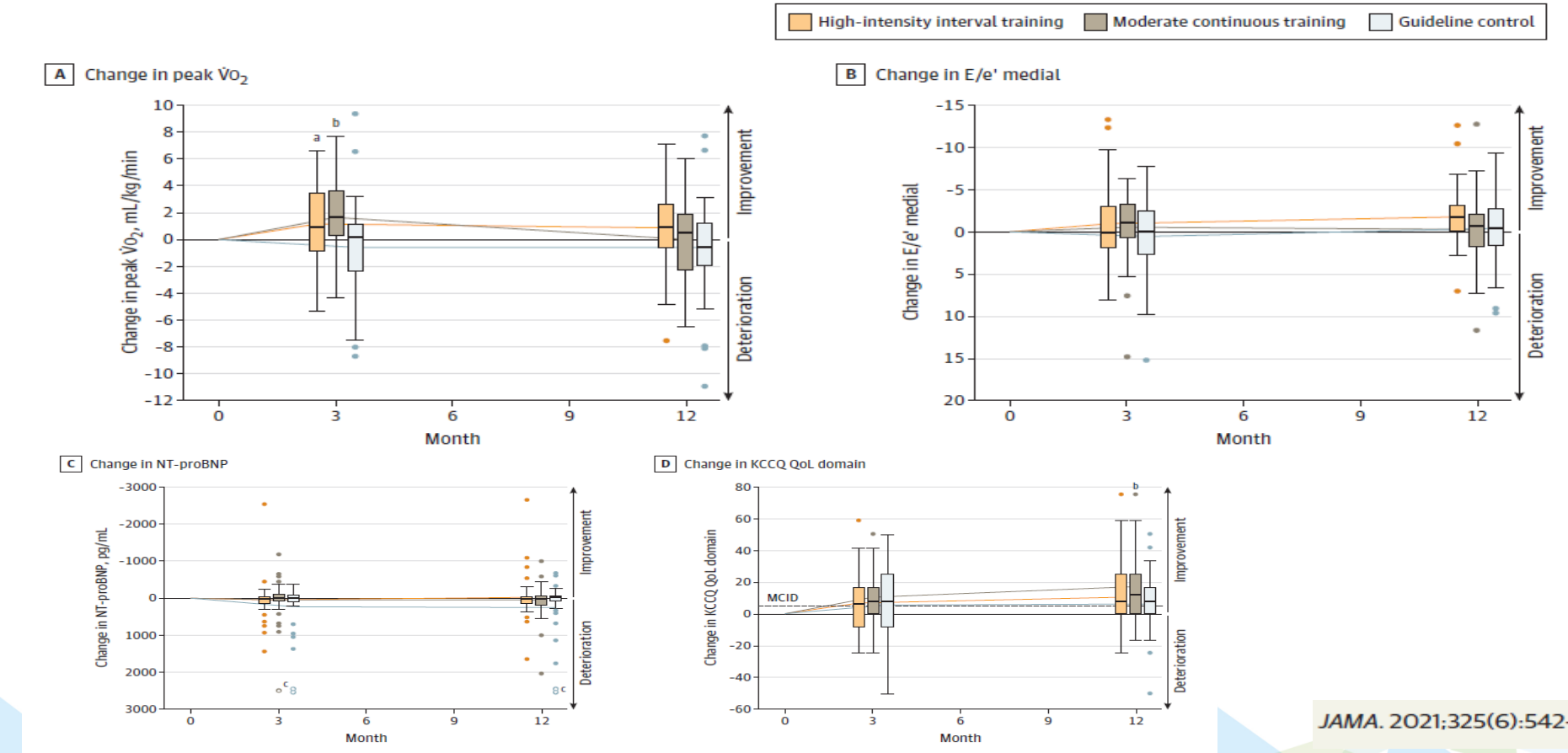




Effect of High-Intensity Interval Training, Moderate Continuous Training, or Guideline-Based Physical Activity Advice on Peak Oxygen Consumption in Patients With Heart Failure With Preserved Ejection Fraction

CR ds HPpEF

the OptimEx-Clin Study Group



JAMA. 2021;325(6):542-551.

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Article original

MEdical TReatment Optimization in cardiac rehabilitation (METRO study) : a French multicenter study

Optimisation du traitement médical en réadaptation cardiaque (METRO study) : étude multicentrique française

Bruno Pavy[a,*], Marie-Christine Iliou[b], Jean-Michel Guy[c], Jean-Yves Tabet[d], Anne Ponchon-Weess[e], Bernard Pierre[f], Marie-Cécile Blonde[g], Franck Bire[h], Francine Paemelaere[i], Gilles Bosser[i], Philippe Blanc[k], Véronique Gebuhrer[l], François Carré[m], on behalf of the group of exercise rehabilitation sport prevention (GERSP) of the French Society of Cardiology

Reasons given for treatment changes

	Beta-blockers					
	None n=46	introduction n=18	Dose increase n=163	Dose decrease n=58	Molecule change n=57	stop n=23
no side effect	18	9	100	19	22	1
bradycardia	5	1	10	20	5	4
hypotension	0	1	6	7	4	6
asthma	3	1	0	0	0	2
COPD	3	1	3	3	0	0
Raynaud	1	0	0	1	3	2
PAD	2	0	0	0	0	0
Conduction dis.	1	0	0	0	0	0
Hypoglycemia	1	0	0	0	0	0
Coronary spasm	1	0	0	0	0	1
Sexual dysfunction 0	0	1	1	6	3	
Intolerance	1	0	1	2	2	3
Refusal	1	0	0	0	0	0
No response	9	5	42	5	15	1

	Renin Angiotensin System inhibitors					
	None n=180	introduction n=96	Dose increase n=194	Dose decrease n=19	Molecule change n=35	stop n=14
no side effects	71	53	107	6	15	0
hypotension	34	21	26	9	6	8
Cough	1	1	2	0	9	4
Renal failure	2	1	0	0	0	0
Intolerance	1	2	0	1	1	1
Angioedema	1	0	0	0	0	0
No response	70	18	59	3	4	1

COPD : Chronic obstructive pulmonary disease ; Conduction dis : conduction disease

N=1000

Prospective multicenter study

- -ACS: 68.5%
- -PCA: 62.6%
- -CABG: 36.3%

4 groups:

- -no change in treatment
- -betablocker optimization (32%)
- -RAS inhibitors optimization (36%)
- -both (16%)

18.3 +/- 6 sessions, full ET volume= 27+/-14h, same in the 4 groups

Results:

- HRR +33%
- CRF +24.8%

Significant personalized changes in treatment in French CR

Improving cardiorespiratory fitness and probably future adherence to the drugs

Nature, Availability and Utilization of Women-Focused Cardiac Rehab: A Systematic Review

Mamataz T, Ghisi GLM, Pakosh M, Grace, SL. 2021. *BMC Cardiovascular Disorders.*

METHODS

Medline, Pubmed, Embase, PsycINFO, CINAHL, Web of Science, Scopus and Emcare databases were searched.

Inception to May 2020.

Women 18+ with any CVD.

WFCR=

≥50% women in sessions or program

CR, Cardiac Rehabilitation
WFCR, Women-focused Cardiac Rehabilitation
RCTs, randomized controlled trials

RESULTS

Participants = 3,697 women
10 countries, 44 centers

Nature

13 (46.4%) studies offered women-focused sessions (vs full programs)

17 (60.7%) studies were women-only

11 (39.3%) studies had gender-tailored content (e.g., psychosocial components, education content)

5 (17.9%) studies offered alternate forms of exercise (e.g., Tai-chi, dance, aerobics, yoga, Qigong, water aerobics)

Utilization

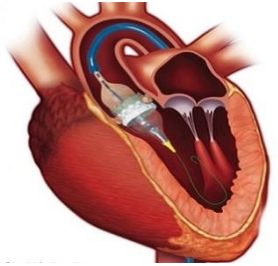
Globally, 40% countries where CR is available offered WFCR 1/3 programs).

Less accessible as WFCR offered less frequently.

May be greater enrollment and completion with WFCR compared to traditional supervised; little, & mixed evidence

Greater adherence with motivational women-only CR; other evidence mixed

TAVI



Revue 10 études (1 randomisée)

TAVI: sujets âgés, fragiles, déconditionnés avant procédure comorbidités multiples

Pas de guidelines spécifiques

-sûr
-améliore les capacités physiques et force musculaire
-améliore QOL
-réduit la mortalité à 6 mois

Réadaptation Cardiaque >> Réadaptation gériatrique

CARDIAC REHABILITATION

↓ Symptoms' burden	↑ Survival
↓ Frailty	↑ Quality of life
↓ Depression	↑ Functional independence
↓ Anxiety	↑ Mobility
↓ Risk of falls	↑ Muscular strenght
	↑ Exercise capacity

Serlongano S. J Clin Med 2021 Feb

Cochrane Library

Cochrane Database of Systematic Reviews

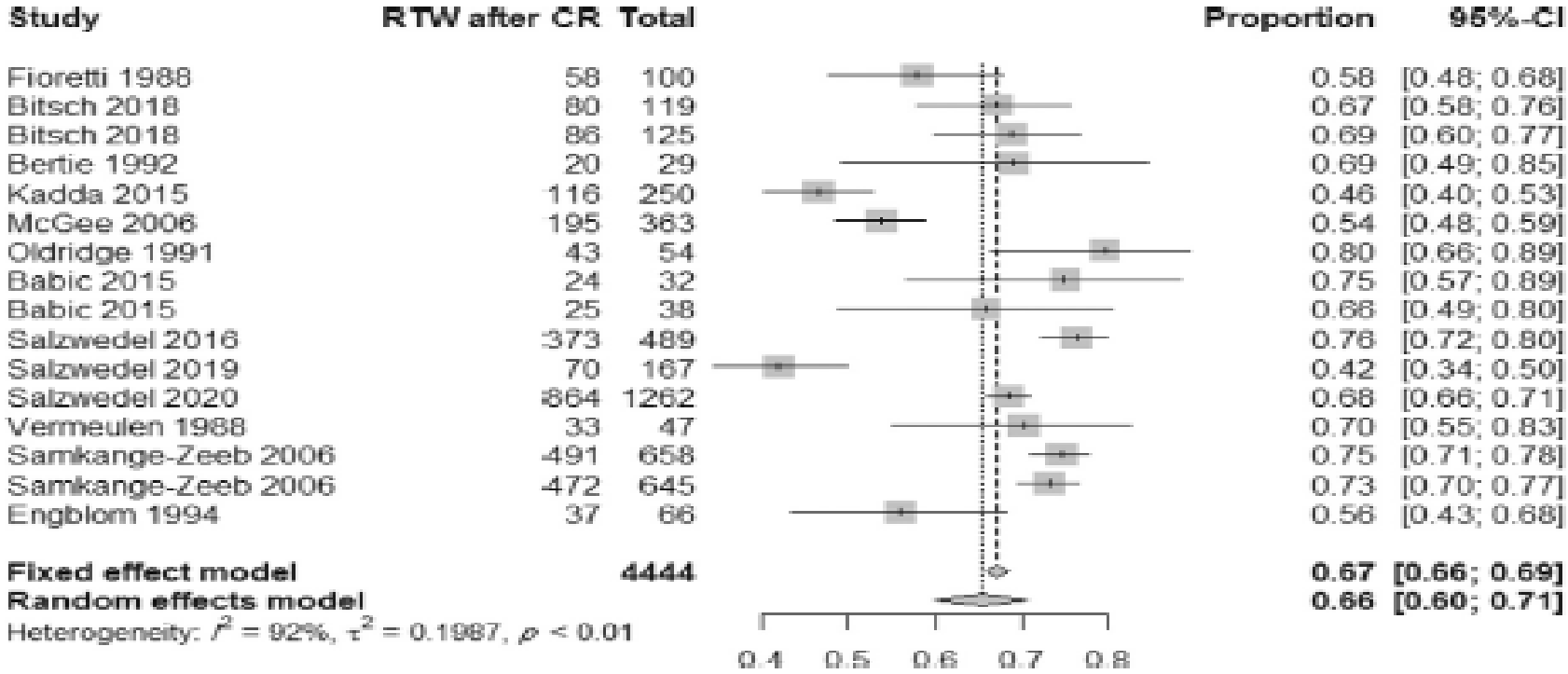
Exercise-based cardiac rehabilitation for adults after heart valve surgery (Review)

Abraham LN, Sibilitz KL, Berg SK, Tang LH, Risom SS, Lindschou J, Taylor RS, Borregaard B, Zwisler AD

Patient or population: adults after heart valve surgery
Setting: hospital- and home-based
Intervention: exercise
Comparison: no exercise

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	Nº. of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk with no exercise	Risk with exercise				
All-cause mortality Follow-up range: 3 to 24 months	Study population 79 per 1000	66 per 1000 (21 to 213)	RR 0.83 (0.26 to 2.68)	131 (2 RCTs)	⊕⊖⊖⊖ VERY LOW[a,b,c]	
Cardiovascular mortality	No study reported this outcome					
All-cause hospitalisation Follow-up: 6 months	Study population 0 per 1000	0 per 1000 (0 to 0)	RR 2.72 (0.11 to 65.56)	122 (1 RCT)	⊕⊖⊖⊖ VERY LOW[b,c,d]	There were 0 events in the control group
HRQoL (SF-12/36 mental component) at end of intervention Follow-up range: 2 to 3 months	Mean HRQoL range (mental component) at end of intervention was 51.3 to 53.9	MD 1.28 higher (1.60 lower to 4.16 higher)	-	150 (2 RCTs)	⊕⊖⊖⊖ VERY LOW[b,c,d]	
HRQoL (SF-12/36 physical component) at end of intervention Follow-up range: 2 to 3 months	Mean HRQoL range (physical component) at end of intervention was 38 to 51	MD 2.99 higher (5.24 lower to 11.21 higher)	-	150 (2 RCTs)	⊕⊖⊖⊖ VERY LOW[b,c,d,e]	
HRQoL (SF-12/36 mental component) at maximum follow-up Follow-up range: 3 to 24 months	Mean HRQoL range (mental component) at maximum follow-up was 54.9 to 55.1	MD 1.45 lower (4.70 lower to 1.80 higher)	-	139 (2 RCTs)	⊕⊖⊖⊖ VERY LOW[b,c,d]	
HRQoL (SF-12/36 physical component) at maximum follow-up	Mean HRQoL range (physical component) at maximum follow-up was 36.9 to 52.2	MD 0.87 lower (3.57 lower to 1.83 higher)	-	139 (2 RCTs)	⊕⊖⊖⊖ VERY LOW[b,c,d]	

Prevalence of Return to Work in Cardiovascular Patients After Cardiac Rehabilitation: A Systematic Review and Meta-analysis



(Curr Probl Cardiol 2021;00:100876.)

Conclusions

Beaucoup reste à faire

- Prévention secondaire -> atteindre objectifs
- L'offre de réadaptation cardiovasculaire : améliorer et adapter (nouvelles modalités)
- Cibler les protocoles d'entraînement
- …