



# Strengthening the Evidence in Exercise Sciences Initiative (SEES Initiative)

## Assessment Report for Individual Study

### Study title

Aerobic Training Protects Cardiac Function During Advancing Age: A Meta-Analysis of Four Decades of Controlled Studies

### PMID

30374946

### Journal

Sports Med

### Type of Publication and Period of assessment

Systematic Review with Meta-Analysis, SEES Pack 2

Component	Item	SEES assessment
Transparency	Registration: Is the review registered in a public database?	No
Transparency	Protocol: Is there referral of a publicly available methodological protocol? (Note: if so, you must also use the protocol to consult information about the review)	No
Completeness	Title: Is the study identified as a systematic review, meta-analysis, or both?	Yes
Completeness	Abstract: Does the abstract list the data sources used in the review? (Note: if more than five databases were used, simplified or partial referral should be considered as "Yes")	No
Completeness	Abstract: Does the abstract inform key eligibility criteria for study selection?	Yes
Participants	Abstract: Is there a description regarding the population (participants) or main condition(s) addressed in the review?	Yes
Intervention / Exposure	Abstract: Is there a description regarding the interventions/exposures (or, broadly, independent variables) addressed in the review?	Yes
Completeness	Abstract: Is there a description of the number of included studies?	Yes
Outcome	Abstract: Is there a result description for the main outcome of interest?	Yes
Completeness	Introduction: Is there a description for the research question (with PICOS elements) or precisely stated objectives (with PICOS) ?	Yes
Transparency	Methods: Is there at least one search query fully available? (Note: a full search query should allow complete replication)	Yes
Methodological rigor	Methods: Did the search strategy include non-published evidence? ("grey literature")	No
Methodological rigor	Methods: If the search is restricted for evidence generated after 1980, is there an indirect or direct justification related to the time range?	The searches were carried out from the database inception (earliest date)
Methodological rigor	Methods: How many languages were considered for study eligibility?	1
Completeness	Methods: Is there a detailed explanation of eligibility criteria for PICOS elements? (Note: detailed explanation should allow complete replication)	Yes
Methodological rigor	Methods: Was the study selection carried out in duplicate?	No
Methodological rigor	Methods: Was the data extraction carried out in duplicate?	Yes
Methodological rigor	Methods: Is there a description of the assessment of risk of biases?	Yes
Methodological rigor	Methods: Was the assessment of risk of biases carried out in duplicate?	No
Outcome	Methods: Is there a description of the statistical combination (meta-analysis) regarding the effect measure (e.g., relative risk or mean difference), statistical method (e.g., inverse variance), and effects approach (fixed or random)?	Yes
Outcome	Methods: Is there a description regarding the assessment of statistical heterogeneity?	Yes
Completeness	Results: Is there a full description regarding the numbers of references (retrieval, eligibility, synthesis)?	Yes
Completeness	Results: Is there a description about the sample sizes of individual studies?	Yes
Participants, Intervention / Exposure	Results: Is there a full description of characteristics? (Note: the available PICOS elements should be considered)	Yes

Completeness	Results: Is there a description of study duration (follow-up lengths)?	Does not apply
Outcome	Results: Is there a minimally recommended description of meta-analytic summary estimates? (Note: binary outcomes as frequencies with and without the event (or as proportions such as 12/45); continuous outcomes as the mean, standard deviation, and sample size for each group)	Yes
Outcome	Results: Is there a full description of individual results for studies composing the meta-analysis? (Note: effects size, imprecision measure and percentage weight should be considered)	Yes
Critical appraisal	Results: Is there a description of risk of bias within studies? (Note: your assessment should be based on the characteristic of the RoB tool)	Partial Yes (there are individual results without specification of specific criteria/domains)
Critical appraisal	Results: Is there a description for non-planned modifications to the synthesis during the course of the review? (e.g.: change in eligibility criteria or RoB tools; please, what was changed and its justification [why] should be considered).	Unclear
Critical appraisal	Discussion: Is there a potential spin bias based on a specific reporting strategy to highlight that the experimental treatment (or condition of interest) leads to the hypothesized result?	No
Critical appraisal	Discussion: Are the results discussed in light of the risk of biases in individual studies?	No
Critical appraisal	Discussion: Are limitations discussed at the study/outcome and/or at the review level?	Yes, BOTH for study and review levels
Transparency	Is there a statement regarding the data availability (data sharing plan)?	No
Completeness	Is there a statement regarding the sources of funding? (Note: funding for the review itself)	Yes
Completeness	Did the review authors declare whether they had any conflicts of interest (COI)?	Yes, authors declare non-financial COIs