



Strengthening the Evidence in Exercise Sciences Initiative (SEES Initiative)

Assessment Report for Individual Study

Study title

Effects of Resistance Training Movement Pattern and Velocity on Isometric Muscular Rate of Force Development: A Systematic Review with Meta-analysis and Meta-regression

PMID

32034703

Journal

Sports Med

Type of Publication and Period of assessment

Systematic Review with Meta-Analysis, SEES Pack 4

Note: The COVID-19 pandemics we are going through is very challenging and totally unprecedented. However, through it we can see that science conducted in an open, transparent and reproducible way is more than an ideal, it is a necessity. In this sense, we decided to keep our activities. However, we emphasize this evaluation was possibly not reviewed/questioned by the article authors due to the moment we are all going through. Thank you for your time and consideration.
SEES Initiative team.

| 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? | No |
| Participants | Abstract: Is there a description regarding the population (participants) or main condition(s) addressed in the review? | No |
| 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 an explicit description of the research question or specific objectives (with PICOS)? | No |
| 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 authors declare the inclusion of 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? | Yes |
| 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 |

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| Completeness | Results: Is there a description of study duration (follow-up lengths)? | Yes |
| 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 | 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? | Yes |
| 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)? | Yes |
| 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 |