



## PRISMA 2020 Checklist

### The Bone Biomarker Response to an Acute Bout of Exercise:

#### A Systematic Review with Meta-Analysis

#### Supplementary File 1: PRISMA Checklist

*Dolan E<sup>1\*</sup>, Dumas A<sup>1</sup>, Keane KM<sup>2</sup>, Bestetti G<sup>1</sup>, Freitas LHM<sup>1</sup>, Gualano B<sup>1,3</sup>, Kohrt WM<sup>4</sup>, Kelley GA<sup>5</sup>, Pereira RMR<sup>6</sup>, Sale C<sup>7</sup>, Swinton PA<sup>8</sup>*

<sup>1</sup> Applied Physiology & Nutrition Research Group; School of Physical Education and Sport; Rheumatology Division; Faculdade de Medicina FMUSP, Universidade de Sao Paulo, Sao Paulo, SP, BR.

<sup>2</sup> Department of Sport, Exercise and Nutrition, Galway Mayo Institute of Technology, Ireland.

<sup>3</sup> Food Research Centre, University of São Paulo, SP, BR.

<sup>4</sup> Department of Medicine, Division of Geriatric Medicine, University of Colorado Anschutz Medical Campus, USA.

<sup>5</sup> Department of Epidemiology and Biostatistics, West Virginia University, USA.

<sup>6</sup> Bone Metabolism Laboratory; Rheumatology Division, Faculdade de Medicina FMUSP, Universidade de Sao Paulo, Sao Paulo, SP, BR.

<sup>7</sup> Musculoskeletal Physiology Research Group, Sport, Health and Performance Enhancement (SHAPE) Research Centre, School of Science and Technology, Nottingham Trent University, Nottingham, UK.

<sup>8</sup> School of Health Sciences, Robert Gordon University, Aberdeen, UK.

#### \*Corresponding author:

Eimear Dolan:

Faculdade de Medicina FMUSP, Universidade de Sao Paulo – Av. Dr. Arnaldo, 455, 3º andar, ZIP code: 01246-903, Sao Paulo - SP, Brazil.

Phone: +55 11 2648-1337; Fax: +55 11 3061-7490; E-mail: [eimeardol@gmail.com](mailto:eimeardol@gmail.com) or [eimeardolan@usp.br](mailto:eimeardolan@usp.br)



## PRISMA 2020 Checklist

Section and Topic	Item #	Checklist item	Location where item is reported
<b>TITLE</b>			
Title	1	Identify the report as a systematic review.	Line 2
<b>ABSTRACT</b>			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Lines 26 - 57
<b>INTRODUCTION</b>			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Lines 100 - 143
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Lines 144 - 146
<b>METHODS</b>			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Table 1 and Supplementary File 2
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Lines
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Supplementary File 4
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Lines 173 – 177.
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Lines 179 – 190.
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Table 1 and Supplementary File 2.
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Table 1; Supplementary File 2 and Lines 188 – 190.
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Lines 236 – 243 and Supplementary File 4.
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Lines 193 – 230.
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Lines 179 – 190 and 219 – 224.



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	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Lines 195 – 197.
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Supplementary File 5, 7 – 10.
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	Lines 193 – 224.
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Lines 222 – 224.
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	Lines 198 – 210.
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Lines 224 – 227.
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Lines 223 – 255.
<b>RESULTS</b>			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Lines 268 – 269 and Figure 1.
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	NA
Study characteristics	17	Cite each included study and present its characteristics.	Supplementary File 5.
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Lines 282 – 297 and Supplementary Files 7 – 10.
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Lines 302 – 307; Supplementary Files 7 – 10 and Figure 3.
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Lines 302 – 370 and Supplementary Files 7 – 10.
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	Lines 302 – 370 and Supplementary Files 7 – 10.
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Lines 302 – 370;



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			Supplementary Files 7 – 10.
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	Supplementary Files 7 – 10.
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Lines 292 – 295; Figure 2 and Supplementary File 6.
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Lines 302 – 370 and Supplementary Files 7 – 10.
<b>DISCUSSION</b>			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Section 4.1 (Lines 397 – 494)
	23b	Discuss any limitations of the evidence included in the review.	Section 4.2 (Lines 496 – 522)
	23c	Discuss any limitations of the review processes used.	Section 4.2 (Lines 496 – 522)
	23d	Discuss implications of the results for practice, policy, and future research.	Section 4.3 (Lines 524 – 549)
<b>OTHER INFORMATION</b>			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	Lines 56 – 57.
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Lines 56 – 57 and 152.
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	Lines 257 – 264.
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	Lines 564 – 565.
Competing interests	26	Declare any competing interests of review authors.	Line 567.
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	



## PRISMA 2020 Checklist

*From:* Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71  
For more information, visit: <http://www.prisma-statement.org/>