

# INPLASY PROTOCOL

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**Corresponding author:**  
Fayaz Khan

fayazrkhan@gmail.com

**Author Affiliation:**  
King Abdulaziz University.

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**Review Stage at time of this submission:** The review has not yet started.

**Conflicts of interest:**  
None declared.

## The Effects of Trunk on Balance and Gait in Subjects with Multiple Sclerosis : A Systematic Review

Babteen, N<sup>1</sup>; Kazim, L<sup>2</sup>; Mansour, H<sup>3</sup>; Alhilali, M<sup>4</sup>; Khan, F<sup>5</sup>.

**Review question / Objective:** Does the trunk have an effect on balance and gait in patients with multiple sclerosis ?

**Condition being studied:** Multiple sclerosis patients struggle with recurrent falls due to gait and balance deficits thus does trunk stability have an affect on their balance or not.

**Information sources:** Pubmed, Google Scholar, Web of Science, Scopus, and Embase.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 December 2022 and was last updated on 21 December 2022 (registration number INPLASY2022120088).

### INTRODUCTION

**Review question / Objective:** Does the trunk have an effect on balance and gait in patients with multiple sclerosis ?

**Rationale:** No available research shows the effect of trunk on both gait and balance in patients with multiple sclerosis.

**Condition being studied:** Multiple sclerosis patients struggle with recurrent falls due to

gait and balance deficits thus does trunk stability have an affect on their balance or not.

### METHODS

**Search strategy:** Pubmed, Google Scholar, Web of Science, Scopus, and Embase.

**Participant or population:** Adults ages 18 and above, with any type of Multiple sclerosis.

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**Intervention:** No intervention.

**Comparator:** No comparator.

**Study designs to be included:** Case control, cohort, and cross-sectional studies.

**Eligibility criteria:** Inclusion: Adult subjects (age 18 and above), english language, published in the last 10 years.

**Information sources:** Pubmed, Google Scholar, Web of Science, Scopus, and Embase.

**Main outcome(s):** Gait and balance.

**Additional outcome(s):** Additional outcomes will depend on each individual study.

**Data management:** After exporting the papers into the Rayyan software, two reviewers will exclude all unrelated topics and abstracts that do not meet the criteria. Both authors will then review full-text articles to determine the final eligible papers and differences will be resolved after discussion. The articles will be extracted by : date of publication, study type, age, and disease type.

**Quality assessment / Risk of bias analysis:** The risk of bias within the studies will be assessed depending on the type of study. The Newcastle -Ottawa Scale (NOS) will be used to assess the case-controlled cohort papers, while the Agency for Healthcare Research and Quality (AHRQ) checklist will be used for the cross-sectional studies.

**Strategy of data synthesis:** Narrative Synthesis.

**Subgroup analysis:** Not applicable.

**Sensitivity analysis:** Not applicable.

**Language restriction:** Only english.

**Country(ies) involved:** Saudi Arabia.

**Keywords:** MS: Multiple Sclerosis, Chronic Progressive, Multiple Sclerosis, Relapsing-

Remitting. **BALANCE:** Postural Balance, Core Stability, Balance control. **GAIT:** Locomotion, Walking, Community mobility.

**Dissemination plans:** This paper is intended to be published upon completion.

**Contributions of each author:**

Author 1 - Nouf Babteen.

Author 2 - Lara Kazim.

Author 3 - Haneen Mansour.

Author 4 - Mariam Alhilali.

Author 5 - Fayaz Khan.