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INPLASY

# Effect of Vitamin D Supplementation on Athletic Endurance Performance

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## ADMINISTRATIVE INFORMATION

**Support -** None.

**Review Stage at time of this submission -** Completed but not published.

**Conflicts of interest -** None declared.

**INPLASY registration number:** INPLASY202420025

**Amendments -** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 February 2024 and was last updated on 06 February 2024.

## INTRODUCTION

**Review question / Objective** Population: Adults at least 18 years of age. Intervention: Supplemental Vitamin D, oral. Comparison: Any control group. Outcome: Any endurance performance metric. Studies: Prospective comparative studies. Exclusion: no publication date restrictions imposed. Non-English language publications, case reports, unpublished data, and expert opinion articles excluded.

**Rationale** Endurance athletes are routinely looking for safe, legal methods of enhancing their performance. Vitamin D is a naturally-occurring substance that can be legally used as supplementation in sport. To date, no systematic review has identified if there performance-enhancing effects of Vitamin D in endurance athletes.

**Condition being studied** Low Vitamin D.

## METHODS

**Search strategy** The search string, adjusted for database, followed the following template:
("Vitamin D" OR "Vitamin D2" OR "Vitamin D3" OR ergocalciferol OR cholecalciferol OR "Vit D" OR "Vit D2" OR "Vit D3") AND (supplement* OR oral) AND (endurance OR running OR runner* OR cycling OR cyclist* OR swimmer* OR swimming OR ultrarunn* OR ultraendurance).

**Participant or population** Adults at least 18 years of age, Endurance athletes.

**Intervention** Supplemental Vitamin D, oral.

**Comparator** Any control group.

**Study designs to be included** Prospective comparative studies.

**Eligibility criteria** Any adult endurance athlete looking at Vitamin D supplementation.

**Information sources** Studies supplementing Vitamin D with endurance performance metrics measured prior to and after supplementation were searched for in Medline, CINAHL, Biomedical Reference, Academic Search Ultimate, SportDiscus, EMBASE, Web of Science, and Cochrane Library.

**Main outcome(s)** Any endurance physiologic metric.

**Quality assessment / Risk of bias analysis** The Newcastle-Ottawa Quality Assessment Form for Cohort Studies was utilized.

**Strategy of data synthesis** Qualitative synthesis.

**Subgroup analysis** None.

**Sensitivity analysis** None.

**Language restriction** English.

**Country(ies) involved** United States.

**Keywords** Vitamin D; Endurance; Sport; Performance.

**Contributions of each author**

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