

Introduction

Futsal, a five-a-side indoor version of soccer, is an internationally popular sport played on a **smaller court** with a **reduced number of players**. The unique aspects of this game have a considerable impact on the on-court physical performance demands placed on the athletes during training and competition.

Purpose

The purpose of this study was to examine position-specific differences in **lower-body neuromuscular performance characteristics** of elite professional male futsal players within both **eccentric (ECC)** and **concentric (CON)** phases of the **countermovement vertical jump (CMJ)**.



Methods

Twenty-two athletes (height= 180.0±5.8 cm; age= 23.8±3.1 years; body mass= 78.8±7.9 kg) competing in the top-tier national league in Europe volunteered to participate in the present study.

8 wings [W] / 5 pivots [P] / 5 defenders [D] / 4 goalkeepers [G]

Upon completion of a standardized warm-up procedure, consisting of dynamic stretching exercises and low-intensity futsal-specific movements, each athlete stepped on a uni-axial force plate system (**ForceDecks Max, VALD Performance, Brisbane, Australia**) sampling at **1000 Hz** and performed **3 CMJs** with no arm swing (i.e., hands on the hips during the entire movement).

Body mass-dependent metrics were expressed in relative terms (e.g., absolute peak CON force/body mass), and the average value across 3 CMJs was used for performance analysis purposes.

One-way analysis of variance (**ANOVA**) was used to examine between-group (G, W, D, and P) statistically significant differences ($p < 0.05$).

Results

No differences were detected across **4 playing positions** in:

- Relative **ECC peak force** ($F_{[3,19]}=0.654$; $p=0.590$)
W: 23.8±4.7; G: 25.8±2.4; P: 22.9±2.7; D: 24.7±2.1 N/kg
- Relative **ECC peak power** ($F_{[3,19]}=0.697$; $p=0.565$)
W: 16.1±4.4; G: 19.3±6.3; P: 14.4±7.9; D: 17.3±3.2 W/kg
- Relative **CON peak force** ($F_{[3,19]}=0.249$; $p=0.861$)
W: 25.9±2.7; G: 26.7±4.5; P: 25.7±2.2; D: 25.2±1.7 N/kg
- Relative **CON peak power** ($F_{[3,19]}=1.868$; $p=0.169$)
W: 55.3±4.5; G: 53.4±7.3; P: 53.3±2.1; D: 48.6±4.1 W/kg
- **RSI-modified** ($F_{[3,19]}=1.687$; $p=0.203$)
W: 0.51±0.08; G: 0.50±0.03; P: 0.54±0.07; D: 0.45±0.05
- **Countermovement depth** ($F_{[3,19]}=0.510$; $p=0.680$)
W: 30.6±7.9; G: 28.1±7.9; P: 24.7±2.0; D: 27.2±3.1 cm

Conclusions

Despite tactical rules and regulations of the game of futsal that involve four distinct playing positions (G, W, D, and P), the results reveal an **absence of position-specific differences** in any of the CMJ force-time metrics of interest examined in this study within **both ECC and CON phases** of the jumping motion.

Thus, it can be concluded that the **CMJ profile of this specific cohort of athletes seems to be uniform** and not capable of making distinct classifications between four playing positions (G, W, D, and P) based on their lower-body neuromuscular performance characteristics (CMJ).