

POSITIONAL VARIATIONS ON GLOBAL POSITIONING SYSTEM MEASUREMENTS IN DIVISION II WOMEN LACROSSE PRACTICES

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INTRODUCTION

- In team sports, positions experience different physiological demands
- Player load – by position – in women’s lacrosse can help coaches better design practices
- GPS data analytics by sport science can help support the entire high-performance unit
- Purpose = determine the differences in GPS metrics recorded during practices in Division II Women lacrosse athletes

METHODS

- GPS Data from 33 practices for a total of 22 Division II women lacrosse athletes (Attacker [A] = 8, Midfielder [M] = 7; Defender [D] = 7)
- 15 athlete wore devices (10 Hz).
- External load metrics included
 - Practice Time (PT, min)
 - Total Distance (TD, m)
 - Hard Running Distance speed > 4.5 m/s (HRD, m)
 - Work Rate (WR, m/min)/Top Speed (TS, m/s)
 - 2D Load (2D, au)
 - 3D Load (3D, au)
- One-way ANOVA was run comparing all variables of interest between position groups ($\alpha = 0.05$)
- Post-hoc, pair-wise analyses with LSD



WOMEN’S DII LACROSSE MIDFIELDERS WARRANT POSITION-SPECIFIC TRAINING LOAD CONSIDERATIONS



RESULTS

Table 1. Mean \pm SD for key metrics

	Attacker	Midfielder	Defender
PT	115 \pm 23	116 \pm 22	113 \pm 22
Distance	4099 \pm 951	*4372 \pm 1089	4008 \pm 987
Hard Run	92 \pm 89	*195 \pm 189	115 \pm 88
Work Rate	35.6 \pm 5.1	*37.5 \pm 5.7	35.3 \pm 4.4
2D Load	186 \pm 58	*202 \pm 61	176 \pm 50
3D Load	293 \pm 87	310 \pm 90	*269 \pm 77
N	170	145	143

*LSD post-hoc indicated different from other position groups ($p < 0.05$).

CONCLUSIONS

- Midfielders traveled further, faster, and had more overall load compared to Attackers and Defenders.
- Attackers and Defenders did not differ noticeably in most metrics analyzed.

PRACTICAL APPLICATIONS

- Midfielders cover more ground and are exposed to consistently higher loads than other position groups.
- Staffs may consider varying training sessions by position groups.
- Sport coaches should consider structuring practices closer to competition in a way to provide M more time to recover to prepare for games.