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Title: The Positional Anthropometric and Performance Profile of Elite Gaelic Football Players.

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Running Title: Performance Profile of Elite Gaelic Football Players

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Abstract

The aim of the current investigation was to evaluate the variation in the anthropometric and performance characteristics of elite Gaelic football players with respect of position. One hundred and forty-eight elite Gaelic footballers underwent anthropometric (height, body mass, sum of seven skinfolds, % adipose tissue) and performance [counter movement jump height (CMJ), CMJ peak power, CMJ relative peak power, squat jump height (SJ), SJ peak power, SJ relative peak power, 5-, 10- and 20 m sprint times and Yo-Yo Intermittent Recovery Test Level 2 (Yo-YoIRT2)] during 'the early in-season' phase. Data were split into five positional groups (full-back, half-back, midfield, half-forward and full-forward). Higher %AT was observed in full forwards when compared to the half backs ($p = 0.001$), midfielders ($p = 0.035$) and half forwards ($p = 0.021$). Full forwards had significantly greater SJ ($p = 0.036$) and CMJ ($p = 0.013$) when compared to the midfielders with no other positional differences observed. No significant variation in sprint times was observed across positions. When Yo-YoIRT2 was considered, full forwards and full backs completed significantly lower distances compared to the middle three positional lines of, half backs, midfielders and half forwards ($p = 0.00$). The current study is the first to provide normative data for anthropometric and performance values of elite Gaelic football players which in turn can be utilised by coaches to generate appropriate training regimes to maximise position specific preparation for competitive match-play.

Keywords: Adiposity; Intermittent Team Sport; Yo-Yo Performance; Gaelic football

Introduction

Gaelic football is one of two national sports of Ireland (30). The premier competition within the Gaelic football calendar is the All Ireland series that runs from May through to September (4). Elite matches are played across 70 minutes with 15 players on each team attempting to outscore one another over the course of the game (30). Players are amateur in nature with a profession ethos, generally completing three pitch sessions, two gym sessions along with other squad meetings and workshops throughout the course of a week, while attempting to balance a family and working life (4). Gaelic football is a multidirectional sport that requires players to undertake numerous unpredictable bouts of high intensity exercise that are interspersed by periods of low intensity exercise (6, 27). Throughout the periods of high intensity exercise, contact between players can be high, while both offensive and defensive skills need to be utilized at high speed (18, 30). These skills include both hand and kick passing, shooting, blocking, tackling and large amounts of player movement independent of which team controls possession (15, 30). High levels of performance are associated with increased fitness characteristics of players (7). It has been previously reported that Gaelic football players have similar fitness characteristics to professional soccer players (30), with estimated $\dot{V}O_{2max}$. values for both Gaelic football (58.8 $mL \cdot kg^{-1} \cdot min^{-1}$) and soccer (59.4 $mL \cdot kg^{-1} \cdot min^{-1}$) seen to be similar (34).

Recent advancement in technology have allowed for the appraisal of match play demands through the use of global positioning system (GPS) micro-technology (17,19,20). These investigations have observed position specific movement demands during match-play with the middle three positional lines, half backs (8700 m), midfielders (9523 m), and half forwards (8952 m) covering more distances than the other two respective positions, full backs (6892 m) and full forwards (7090 m) with 17% of match play covered at high-speed (>17 $km \cdot h^{-1}$) (20). Positional variations in match play performance are understood and displayed in the aforementioned data. However, there is a scarcity of performance characteristic studies completed in Gaelic football. While previous studies have provided information regarding specific fitness and performance characteristics (23, 24, 28) there is no contemporary positional data with regard to elite Gaelic football players. An insight into the various

positional fitness considerations for Gaelic football would allow practitioners to effectively design particular training regimes in order to potentially improve competitive performances.

Comparisons of GAA players with other intermittent team sports such as soccer have shown that $\dot{V}O_{2max}$ values to be similar to that of professional soccer players and rugby union backs. However, sprint performance was greater in both professional codes (6, 34). Research into the area of jump performance has provided some information regarding vertical jump height this has been provided for the different positions however, this data is specific to collegiate players and not elite players. Vertical jump performance was seen to vary from backs (54-cm), midfielders (65-cm) and forwards (56-cm), with these results provided for specific jump test (24). The normative values provided by McIntyre and Hall (24) fail to account for the five positional lines within elite Gaelic football. The ever changing nature of elite match-play has resulted in the middle three lines of a team having an increased involvement in match-play (19). Understanding each specific line and their characteristics are important for coaches to optimise the preparation of players for elite match-play. Although there is an ever-growing interest worldwide in Gaelic football, research into positional variations and the particular performance characteristics in elite players is deficient. Therefore, the aim of the current study was to evaluate the anthropometric and performance characteristics of elite Gaelic football players with respect of playing position. We hypothesised that the transitional lines of half-back, midfield and half-forward would have significantly different anthropometric and performance profiles when compared to other positions of play.

Methods

Experimental Approach to the Problem

In order to better understand the anthropometric and performance characteristics of elite Gaelic football players one hundred and forty-eight (n = 148) elite Gaelic football players were recruited for the current investigation. All players underwent assessments of anthropometry [height, body mass, sum of the seven skinfold and adipose tissue percentage estimates (%AT)) and performance characteristics (counter movement jump height (CMJ) CMJ peak power, CMJ relative peak power, squat jump height (SJ), SJ peak power, SJ relative peak power, 5-, 10- and 20 m sprint times (s) and Yo-Yo Intermittent Recovery Test 2 (Yo-YoIRT2; m)]. Each individual player was categorised based on positional line (28 full

backs, 33 half backs, 24 midfielders, 33 half forwards, 30 full forwards). Prior to data collection, 30 other subjects completed two identical testing sessions that were (separated by one week), data from session one was compared with session two and intraclass correlation coefficients (ICC's) were determined from the results. Data collection was undertaken during the 'the early in-season' phase (June 2015) with a total of five teams assessed. Both anthropometric and performance tests were carried out indoors to avoid any external influences on data collection. All testing took place at a similar time of day (18.00-21.00) across two testing days to avoid any circadian variation in performance (32). Participants were advised to abstain from vigorous exercise for 24 hours prior to the commencement of testing.

Participants

Following ethical approval by the local Research Ethics Committee and informed consent. One hundred and forty-eight (n = 148) elite intercounty Gaelic football players (mean ± SD age 26.6 ± 6 years, height 183.7 ± 5.9 cm and body mass 83.6 ± 8.3 kg) (28 full backs, 33 half backs, 24 midfielders, 33 half forwards, 30 full forwards) participated in the current investigation. All participants were competing in the All-Ireland Senior football championship underwent measurements of anthropometric (height (cm), body mass (kg), sum of the seven skinfold (mm) and adipose tissue percentage estimates (%AT)) and performance characteristics (counter movement jump height (CMJ; cm) CMJ peak power (W), CMJ relative peak power ($W \cdot kg^{-1}$), squat jump height (SJ; cm), SJ peak power (W), SJ relative peak power ($W \cdot kg^{-1}$), 5, 10 and 20 m sprint times (s) and Yo-Yo Intermittent Recovery Test Level 2 (Yo-YoIRT2; m). Each individual player was categorised into the line of the field in which they play to allow comparison across different positions.

Anthropometry

Anthropometric measurements were made prior to the commencement of the performance evaluation. Height and body mass measurements were taken using a Seca Stadiometer and a weighing scales (Seca Instruments Ltd, Germany) respectively. Estimation of adipose tissue mass was conducted by measurement in millimetres of seven skinfold sites (triceps, bicep, subscapular, abdominal, supraspinale, thigh, calf) using Harpenden skinfold callipers (Harpenden Instruments Ltd, England) following the standards of the International Society for the Advancement of Kinanthropometry (ISAK) (21). The %AT was calculated using the Reilly equation (30) and assessed by a Level 2 ISAK qualified tester. The error of

measurement was taken from all subjects and calculated for all anthropometric measurements and was less than 3% which is an acceptable measurement error (1).

Figure 1 – Near Here

Performance

CMJ and a SJ for maximal jump height were measured using a jump assessment system (Optojump, Bolanzo, Italy). The CMJ and SJ peak power (PP) and relative peak (RPP) was calculated using the equation of Sayers et al., (33). The sprint times (s) of each participant was measured over 20 m with timing gates located at 5-, 10- and 20 m (Microgate, Bolzano, Italy). Furthermore, players completed the Yo-Yo Intermittent Recovery Test (Yo-YoIRT2) in order to assess an individual's ability to perform repeated bouts of high intensity exercise with a high contribution from the body's anaerobic system and have been shown to be a reliable measure of changes in performance (3, 25). The assessment of vertical jump power and speed was conducted prior to the Yo-YoIRT2.

Data Analysis

All data is reported as means and standard deviations (means ± SD) unless stated. Data were calculated for all players with respect of positional group with 95% conference intervals. All data was tested for normality and all data that did not pass tests was removed from statistical analysis. A univariate analysis of variance (ANOVA) along with a Scheffe post hoc test was performed to determine if there was variation in position (dependent variable) present within any of the anthropometric and performance characteristics (independent variables), with statistical significance was set at <0.05. Specifically, Hopkins reliability spreadsheet was used to calculate for ICC's values for the specific performance tests used in the profiling of the participants and followed on previous research for this statistical analysis (2,14). The ICC's for test retest reliability were 0.96, 0.90, 0.92, 0.95, 0.95 and 0.90 for CMJ, SJ, sprint time over 5-, 10-, 20 m and Yo-YoIRT2 respectively. All statistical analysis was performed using the Statistical Package for Social Sciences software (SPSS Version 23.0, Chicago, IL).

Results

Anthropometric Characteristics

The mean height and body mass for all players were 183.7 ± 5.9 cm and 83.6 ± 8.3 kg respectively. There was a significant effect detected for positions when analysed for height ($F_{4,143}$ = 2.940; p = 0.023) but not for body mass ($F_{4,143}$ = 2.139; p = 0.079) (Table 1). The sum of the seven skinfold sites and adiposity were 81.3 ± 22.9 mm and 11.3 ± 1.7 % AT respectively. Significant differences ($p < 0.05$) were detected across the individual positions for both sum of skinfolds ($F_{4,143}$ = 4.890; p = 0.000) and adiposity ($F_{4,143}$ = 6.581; p = 0.000). A Scheffe post-hoc analysis showed that both half backs (72.9 ± 14.8 mm; p = 0.005) and half forwards (77.0 ± 17.1 mm; p = 0.040) possessed significantly lower sum of seven skinfolds compared to full forwards (94.6 ± 30.2 mm). Significant differences were observed in %AT across position. Half backs (10.5 ± 1.2 %AT; p = 0.001), midfielders (10.9 ± 1.2 % AT; p = 0.035) and half forwards (10.9 ± 1.4 %AT; p = 0.021) showed a significantly lower %AT to full forwards (12.3 ± 2.1 % AT). Half backs were also shown to have a significantly lower adiposity level compared to the full backs (11.9 ± 2.0 %AT; p = 0.040).

Table 1 – Near Here

Performance Characteristics

The mean values for all players for SJ height, SJ PP and SJ RPP were 36.1 ± 4.9 cm, 3923 ± 501 W, and 46.9 ± 3.6 $W \cdot kg^{-1}$ respectively. Significant differences across positions was observed within SJ ($F_{4,143}$ = 3.113; p = 0.017), SJ PP ($F_{4,143}$ = 2.449, p = 0.049), and SJ RPP ($F_{4,143}$ = 2.816; p = 0.028) respectively. For SJ height, full forwards were shown to have a significantly higher SJ height (37.5 ± 5.6-cm; p = 0.036) than midfielders (33.3 ± 3.7 cm). The mean values for CMJ height, CMJ PP, CMJ RPP were 38.0 ± 5.1-cm, 4040 ± 510 W and 48.3 ± 3.7 $W \cdot kg^{-1}$ respectively. Significant differences were observed across individual positions for the three variables of CMJ height ($F_{4,143}$ = 3.597; p = 0.008), CMJ PP ($F_{4,143}$ = 3.142; p = 0.016) and CMJ RPP ($F_{4,143}$ = 3.211; p = 0.015). Full forwards (40.0 ± 5.8 cm; p = 0.013) were shown to have a significantly higher CMJ height compared to the midfielders (35.0 ± 4.0 cm). Full forwards (49.6 ± 4.1 $W \cdot kg^{-1}$; p = 0.024) were also shown to have a significantly greater relative peak power for CMJ than the midfielders (46.2 ± 2.9 $W \cdot kg^{-1}$).

The mean sprint times for 5-, 10-, and 20-m sprints for all players was 1.10 ± 0.11 s, 1.82 ± 0.12 s, and 3.09 ± 0.16 s respectively. A non-significant difference was observed across the individual positions for each of the three sprint variables, 5- ($F_{4,143}$ = 1.665; p = 0.164), 10- ($F_{4,143}$ = 0.612; p = 0.655) and 20-m ($F_{4,143}$ = 0.588; p = 0.672). Figure 2 shows the Yo-YoIRT2 with respect of position. The mean distance covered in the Yo-YoIRT2 for all players was 1587 ± 298 m, with significant differences observed across positions ($F_{4,143}$ = 15.999; p = 0.000).

Figure 2 – Near Here

Discussion

The aim of the current investigation was to evaluate the variation in anthropometric and performance characteristics of elite Gaelic football players with respect of playing position. The data is the first to offer a full contemporary profile of anthropometric and performance characteristics of elite Gaelic football players with regard to playing position. Specifically, we observed that the three middle positional lines on the field have a greater YoYoIRT2 performance compared to full backs and full forwards. Furthermore, full forwards were shown to have a greater %AT compared to the three middle positional lines. Variations in jump performance were observed between midfielders and full forwards, with the latter having a significantly greater jump performance profile. The current data allows specific trainings regimes to be measured against the current data set in order to best prepare players for the demands of competitive match play.

Anthropometric characteristics such as height may vary from position to position due tactical motives (9). The values obtained in the current study for stature show that Gaelic football players are taller but leaner with regard to %AT than previously reported (24). It must be noted that the game of Gaelic football has evolved in recent years, both the tactical element and player development has increased greatly through the advent of strength and conditioning programs making the comparison to the previous research difficult (29). Limited variation was observed across each of the five positions in the present study with regard to stature. These observations are in agreement with Collins et al. (9), who observed a relative homogeneity within positions for stature of the players or body mass for elite hurling players. Furthermore, half backs, midfielders and half forwards had lower %AT when compared to the full forwards (Table 1). Interestingly our data is in contrast to previously reported

literature on Gaelic football players with the current %AT lower across positional lines than previously reported (6, 23). Although %AT in the current study is lower than previous literature the values reported are higher than observed for Australian football players (5), but similar to elite soccer players (12). The lower levels of %AT in Australian football players can be contributed to the professional nature of the sport compared to the amateur nature of Gaelic football, with players tending to hold down a full time occupation outside of the sport (4). The higher %AT for full forward players could potentially be attributed to the less distance that is covered in a match compared to all other positional lines on the field of play (20).

Gaelic footballers are required to contest numerous duels throughout a match that will determine who gains possession with a large number of these potentially being aerial duels. In both vertical jump assessments (CMJ and SJ), full forwards were observed to significantly outperform the midfielders. Although a surprising finding, this may be related to a reduction in one-on-one aerial duels for midfield players in match-play due to the advent of the short kick-out (12). This in turn has resulted in an increase in direct aerial ball being played into full-forward areas increasing the requirement of these players to possess such characteristics for jump height. Similar results are evident in hurling, with backs and forwards out performing midfielders during jump assessments (9). Both SJ and CMJ are methodologies widely used to determine the jump performance in team sports, however a large majority of the jumps that players conduct within a Gaelic football match will be preceded by an initial run up to generate more height for aerial contests. This may question the suitability of such tests for the assessment of lower limb explosive qualities within Gaelic football (11, 22, 35). Future research should aim to assess the usefulness of such assessments within this population given the intricacies of match-play jump performance in elite Gaelic football.

Our data showed that across velocity variables (5-, 10-, 20 m) there was a non-significant differences between position. The current observation was expected and in-line with match-play research that has shown that no significant differences exist between positional lines for maximal velocity capabilities (19, 20). Furthermore, these results are in agreement with velocity variables observed in hurling cohorts (9). The sport of Gaelic football has been evolving from year to year with increasing demands for high-intensity distance across all positional lines (9, 19, 20). These increased demands result in players needing to be capable of repeating numerous high intensity bursts throughout match play (18, 19). Previously, Le Rossignol et al. (16), have shown that repeated sprint ability, along with

an adequate aerobic capacity are critical physical qualities for performance in match play with the number of possessions gained related to improved performance in a 20 m sprint test. Future research in elite Gaelic football should aim to assess the relationships between performance tests and match-play involvements and outcomes in order to recommend best practice with regard to a suitable testing battery for Gaelic football cohorts.

When intermittent exercise capacity was considered significant differences in Yo-YoIRT2 performance across all positions were evident, with a bell-shaped curve for distance observed (Figure 1). Interestingly, the intermittent exercise capacity of elite Gaelic football players is similar to the observed match-play running performances of elite Gaelic football players (19,23). When comparing Yo-YoIRT2 across sports, AFL players have a considerably lower Yo-YoIRT2 profile (25). Given the similarities between both sports (30) future research should aim to compare anthropometric and performance profiles of elite Gaelic football and Australian football players. With regard to positional differences the middle three positional lines, half backs (1682 ± 273-m), midfielders (1718 ± 251-m), half forwards (1747 ± 243-m) were able to cover significantly greater distances than both full backs (1428 ± 208-m) and full forwards (1352 ± 277-m). These findings can be related to these positions being the transitional lines of play in Gaelic football resulting in these lines covering increased distances in match-play and therefore requiring increased intermittent exercise capacity in order to meet the requirements of match-play (19). The findings observed here corresponded with conclusions from McIntyre and Hall (23), who found that midfielders possessed a greater VO_{2max} characteristics when compared to backs and forwards. However, the study failed to differentiate across the five positional lines of play. The current data further endorses the need for certain players on the field of play to require greater intermittent exercise capacity to deal with the particular demands associated with each position of play. Performance characteristics, exercise capacity and running performance evaluations have recently become increasingly popular in Gaelic football as part of player monitoring throughout the course of the season. It has only been relatively recently that values within elite Gaelic football have been published for the different positional lines of the field with respect of match running demands (17). The current investigation builds on these data and provides normative data with regard to the positional performance profile associated with Gaelic football. Practitioners can now apply these data to develop the required training regimen to best fit the performance profile of Gaelic football.

283 To conclude, the current investigation supplies for the first time, normative data on
284 elite Gaelic football players with regard to positional anthropometric and performance
285 characteristics. Observations were made regarding significant differences in both
286 performance and anthropometric characteristics with respect to position. Intermittent exercise
287 capacity differences are seen to be present in the middle three lines of the field within this
288 cohort compared to the full backs and full forwards, further outlining the need for specific
289 training regimes in elite Gaelic football. Along with variations in performance characteristics,
290 differences have been observed in other areas of player evaluation which in turn will allow
291 coaches to adequately prepare players for match-play based on the positional characteristics.

292

293 **Practical Applications**

294 The normative data presented in the current study can be utilised by coaches evaluat-
295 ing both anthropometric and performance characteristics of elite players in the sport of Gaelic
296 football. The main findings from the study show differences in %AT, sum of skinfolds (mm),
297 Yo-YoIRT2 and jump performance measures across positions in Gaelic football. With regard
298 to aerobic performance a positional hierarchy was present with the middle three 'transitional
299 line' having the highest performance. Therefore, the information provided within the current
300 study can help prepare coaches assess their teams anthropometric and performance character-
301 istics. Combining all the knowledge that is now available within the sport, coaches and prac-
302 titioners should have a greater understanding on how to prepare their players for the impend-
303 ing competition demands across each distinctive position using specific training and drills for
304 positional differences. The information provided in the study can be exploited by those with
305 ambitions to play elite level Gaelic football, the normative values can be seen at values that
306 they may strive to achieve to 'break in' to the elite panel. Applied practitioners can assess and
307 evaluate Gaelic football players based on the normative data provided by this study. Coaches
308 should be aware of the specific positional profiles present across Gaelic football cohorts and
309 use this information to plan training appropriately in order to maximise training adaptations
310 through the implementation of the most effective training plans.

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Legend of Tables and Figures

Table 1 - The positional anthropometric and performance characteristics of elite Gaelic football players. Data presented as mean ± SD (95% conference intervals)

Figure 1 – Schematic of testing battery running order during the initial testing period.

Figure 2 - Yo-YoIRT2 distance in elite Gaelic football with regard to position (means ± SD).

Table 1

Anthropometric Characteristics	Total n=148	Full Backs n=27	Half Backs n=33	Midfielders n=24	Half Forwards n=33	Full Forwards n=30
Height (cm)	183.7 ± 5.9 (182.7,184.7)	182.2 ± 6.9 (179.5, 184.8)	181.9 ± 4.3 (180.4, 183.4)	186.6 ± 4.6 (184.6, 188.5)	184.1 ± 5.6 (182.1, 186.1)	184.3 ± 6.9 (181.8, 186.9)
Body Mass (kg)	83.6 ± 8.3 (82.2, 84.9)	84.0 ± 6.3 (81.5, 86.4)	81.8 ± 8.0 (79.0, 84.6)	84.2 ± 5.8 (81.8, 86.7)	81.6 ± 6.0 (79.5, 83.7)	86.9 ± 12.6 (82.2, 91.6)
Sum of 7 skinfolds (mm)	81.3 ± 22.9 (77.6, 85.1)	86 ± 25.6 (76.1, 95.9)	72.9 ± 14.8 (67.7, 78.2)	77.0 ± 17.1 (69.5, 84.5)	77.0 ± 17.1 (70.9, 83.0)	94.6 ± 30.2 (83.3, 105.8)
Adiposity (% AT)	11.3 ± 1.7 (11.0, 11.6)	11.9 ± 2.0 (11.1, 12.7)	10.5 ± 1.2 (10.1, 10.9)	10.9 ± 1.2 (10.4, 11.4)	10.9 ± 1.4 (10.4, 11.4)	12.3 ± 2.1 (11.5, 13.1)
Performance Characteristics						
SJ (cm)	36.1 ± 4.9 (35.3, 36.9)	35.8 ± 4.7 (33.9, 37.6)	36.2 ± 4.6 (34.6, 37.9)	33.3 ± 3.7 (31.7, 34.8)	37.0 ± 4.7 (35.4, 39.6)	37.5 ± 5.6 (35.4, 39.6)
SJ PP (W)	3923 ± 501 (3841, 4004)	3920 ± 453 (3744, 4096)	3851 ± 445 (3693, 4008)	3779 ± 287 (3658, 3900)	3887 ± 465 (3722, 4052)	4158 ± 692 (3900, 4416)
SJ RPP ($W \cdot kg^{-1}$)	46.9 ± 3.6 (46.3, 47.5)	46.6 ± 3.4 (45.3, 47.9)	47.1 ± 3.6 (45.8, 48.4)	44.9 ± 2.7 (43.8, 46.1)	47.5 ± 3.5 (46.3, 48.8)	47.8 ± 3.9 (46.4, 49.3)
CMJ (cm)	38.0 ± 5.1 (37.2, 38.9)	37.9 ± 4.8 (36.0, 39.8)	37.7 ± 4.9 (36.0, 39.4)	35.0 ± 4.0 (33.4, 36.7)	38.9 ± 4.8 (37.1, 40.6)	40.0 ± 5.8 (37.8, 42.1)
CMJ PP (W)	4040 ± 510 (3957, 4122)	4051 ± 447 (3877, 4224)	3939 ± 458 (3776, 4101)	3887 ± 295 (3672, 4012)	4000 ± 474 (3832, 4168)	4306 ± 689 (4049, 4564)
CMJ RPP ($W \cdot kg^{-1}$)	48.3 ± 3.7 (47.7, 48.9)	48.2 ± 3.5 (46.9, 49.5)	48.2 ± 3.8 (46.8, 49.5)	46.2 ± 2.9 (45.0, 47.4)	48.9 ± 3.5 (47.7, 50.2)	49.6 ± 4.1 (48.0, 51.1)
Sprint - 5m (sec)	1.10 ± 0.11 (1.08, 1.11)	1.13 ± 0.19 (1.06, 1.21)	1.09 ± 0.08 (1.07, 1.12)	1.11 ± 0.07 (1.08, 1.14)	1.07 ± 0.10 (1.03, 1.10)	1.08 ± 0.07 (1.06, 1.11)
Sprint - 10m (sec)	1.82 ± 0.12 (1.80, 1.84)	1.83 ± 0.21 (1.75, 1.91)	1.82 ± 0.9 (1.78, 1.85)	1.84 ± 0.05 (1.82, 1.86)	1.80 ± 0.09 (1.76, 1.83)	1.82 ± 0.09 (1.79, 1.85)
Sprint - 20 m (sec)	3.09 ± 0.16 (3.06, 3.11)	3.09 ± 0.24 (3.00, 3.18)	3.11 ± 0.16 (3.05, 3.16)	3.10 ± 0.08 (3.07, 3.14)	3.05 ± 0.14 (3.00, 3.10)	3.08 ± 0.13 (3.04, 3.13)

Figure 1

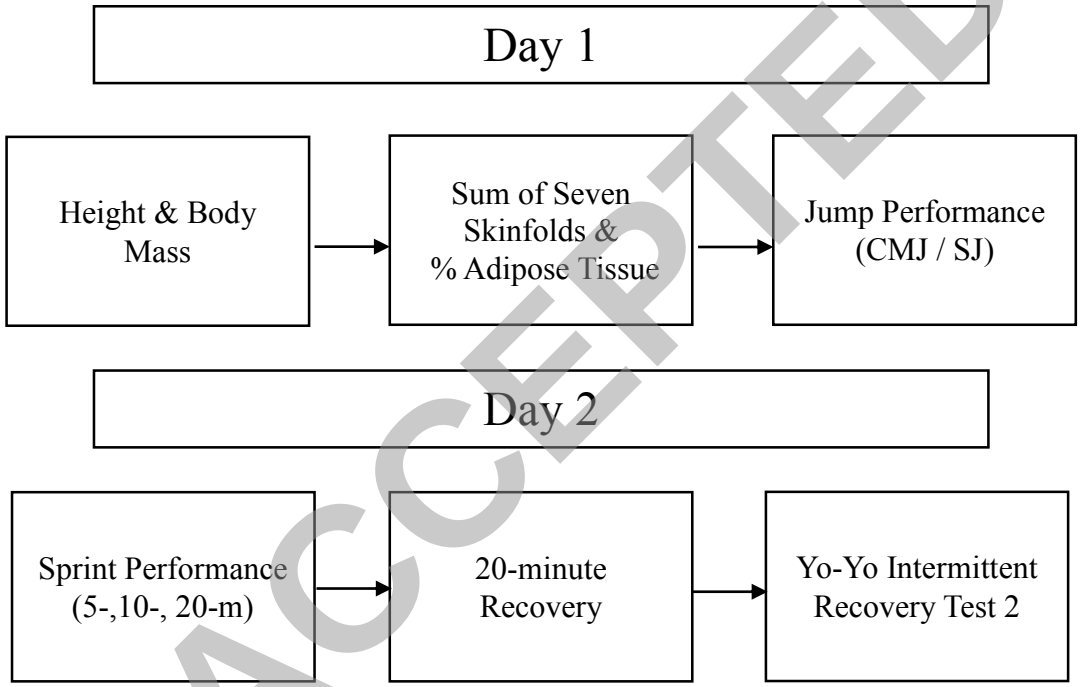
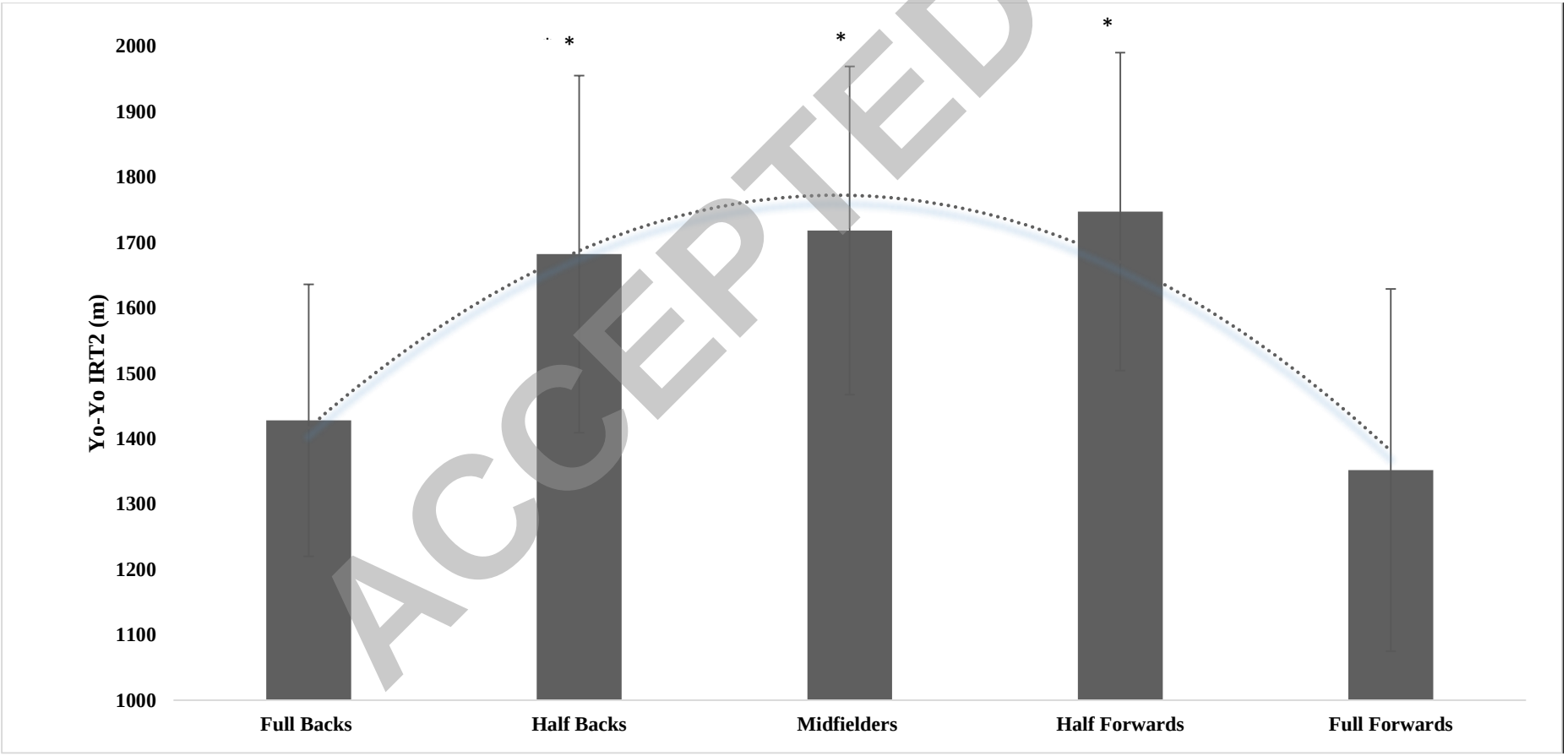


Figure 2



*Significantly different from full backs and full forwards ($p < 0.05$)