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1 Evolution of Anthropometric and Physical Performance Characteristics of International Male
2 Cricketers from 2014 to 2020 in a World Cup Winning Nation.

3

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33 **ABSTRACT**

34 The aim of the study was to firstly, present a comprehensive physical profile of international
35 cricketers in a World Cup winning cricket nation. Secondly, to describe changes in physical
36 profiles across seven years. Fifty-two senior international cricketers' physical profiles were
37 retrospectively analysed across seven years. Using linear mixed-modelling, changes in stature,
38 body mass, sum-of-8 skinfolds, sprinting time (10 and 40 m), run-2 time, counter movement
39 jump (CMJ), push and pull strength capacity and the Yo-Yo intermittent recovery test level-1
40 (Yo-Yo-IR1) were analysed during a seven year period. There were no significant changes in
41 body mass ($p = 0.63$) or stature ($p = 0.99$) during this time. However, there was a significant
42 ($p < 0.001$) mean decrease of ~ 14 mm in the sum-of-8 skinfolds. Distance covered in the Yo-
43 Yo-IR1 also showed a significant ($p = 0.002$) effect of years, with a mean increase of 459 m in
44 2017 when compared to 2014. A significantly ($p = 0.01$) more balanced push-to-pull strength
45 capacity ratio was also evident across years as a result of a significant ($p < 0.001$) increase in
46 pull strength capacity. Significant ($p < 0.05$) fluctuations in CMJ, sprint and run-2 time were
47 seen, with no obvious trends. International cricketers within our study have gone through a
48 notable physical transformation that has likely resulted in an increase in lean mass and
49 aerobic capacity. The change across time to a more balanced push-to-pull strength capacity
50 may be beneficial for injury prevention.

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52 **Key Words:** Body Composition, Cricket, Fitness, Sprinting, Player Profile.

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65 INTRODUCTION

66 International cricketers are exposed to a variety of different physical demands between
67 positions and across the three match formats ¹. Seam bowlers can produce ground reaction
68 forces over eight times body mass at front foot contact during their delivery stride ² and
69 batters perform in excess of thirty-five 180° turns when scoring a century ³. In addition, all
70 cricketers need to be able to perform multiple high intensity and explosive movements whilst
71 covering large distances across a match ⁴. The high variability in time-motion demands of
72 players from match-to-match also contribute to the complexities of preparing international
73 cricketers for competition ⁴. The increase in international match days may also limit the time
74 that can be dedicated to enhancing player's physical capacities ⁵. As physical attributes have
75 been associated with critical factors such as ball release speed in seam bowlers ⁶ and
76 maximum hitting distance among batters ⁷, understanding the physical profile of international
77 cricketers is essential in assisting practitioners in optimising their preparation.

78

79 Little is known about the physical profiles of international cricketers when compared to the
80 abundance of research in sports like soccer and rugby. A few studies have presented physical
81 profiles of professional domestic cricketers ^{8,9}, with a single study on a top eight international
82 cricket team ¹⁰. The limitation of the research examining the profiles of professional cricketers
83 is that it only provides an overview of a discrete point in time. For practitioners to be able to
84 prepare cricketers effectively for future international competitions it is essential to
85 understand changes across time. However, data only exist on physical performance changes
86 across a single year in county and international cricket ^{8,11}.

87

88 An increase in the match-play time-motion demands of players have been shown in team
89 sports such as soccer ¹² and international rugby ¹³. The expectation would be that physical
90 profiles across sports have improved to meet the enhanced match demands, though there
91 appears to be inconsistent findings with some studies showing improvements ¹⁴, no change
92 ¹⁵ or even a decrease across years ¹⁶ of various physical attributes. With a decrease in available
93 days for physical preparation in international cricket ⁵ but an increase in professional physical
94 preparation support, it is unknown how the international cricketer's profile has evolved.
95 Literature following the longitudinal physical changes of international sports teams in
96 preparations for major competition is extremely rare.

97

98 Consequently, the aim of this study is to describe the evolution of the physical profile of an
99 international cricket nation across a World Cup winning cycle and preparation for the 2019
100 Ashes series. Given the sensitivity of the international athlete physical profile data, this
101 analysis will offer a unique insight and assist practitioners in identifying optimal future
102 profiles.

103

104

105 **METHODS**

106 *Participants*

107 Fifty-two senior international male cricketers physical profile data from the England men's
108 team were retrospectively analysed from 2014-2020. All data analysed were collected as a
109 part of routine testing which all players consent to. To be included in the analysis, cricketers
110 must have played in at least one Test-Match, One-Day or Twenty20 international sanctioned
111 match, named in an international squad within the respective year, and be free from injury
112 as determined by the lead physiotherapist. Table 1 shows the number of matches and players
113 included in each year. Ethics was granted retrospectively through St Mary's University ethics
114 committee, in agreement with the Declaration of Helsinki.

115

116 *Physical Preparation Overview 2014-2020*

117 Development of aerobic capacity and optimisation of body composition were prioritised
118 during this period to support players to withstand the congested fixture demands of
119 international cricket. Due to the low levels of pull strength capacity, there was also a targeted
120 approach towards a more balanced push to pull strength capacity ratio. However, there was
121 a lesser focus on speed development.

122

123 *Procedures*

124 Stature, body mass, sprint time (10 m and 40 m), countermovement jump height (CMJ),
125 endurance capacity (Yo-Yo intermittent recovery test level 1), strength capacity (supine row
126 and press-ups), sum-of-8 skinfolds and run-2 time were assessed across a seven-year period
127 from 2014 to 2020. Due to changes in preferences of physical tests by the sport science team
128 and lack of opportunity for a full battery of tests in some years, sporadic years are missing

129 from the data set. Depending on the international fixtures, players were occasionally assessed
130 at multiple time points throughout the year. If this did occur, the average result across the
131 year was used, in line with previous research reporting year-to-year changes in physical
132 profiles¹⁷. All physical tests were conducted at the same venue (National Cricket Performance
133 Centre, Loughborough, UK), proceeded by a group warm-up which was led by the team
134 strength and conditioning coach. The warm-up included sprinting, jumping and 180° turns at
135 the end of a sprint.

136

137 Body mass was recorded using SECA 862 Scales (Birmingham, UK). The sum-of-8 skinfold
138 thickness was recorded by two International Society for the Advancement of
139 Kinanthropometry (ISAK) practitioners using Harpenden callipers (British Indicators,
140 Hertfordshire, United Kingdom). The standardised sum-of-8 skinfold sites (bicep, tricep,
141 subscapular, supraspinale, suprailiac, abdomen, mid-thigh and medial calf) and procedures
142 recommended by ISAK were used. This method has been shown to be highly reliable¹⁸.

143

144 *Counter Movement Jumps*

145 All CMJ's were performed were strictly vertical on a jump mat using flight time (KMS, Fitness
146 Technology, AUS). Cricketers were instructed with hands on hips to "jump as high as they can"
147 and "as they normally would" from a stationary standing position. Three jumps were
148 performed by each cricketer with 1-min separating each jump. The highest jump was
149 recorded for analysis.

150

151 *Sprints*

152 Three maximal 40 m sprints with 5 min rest between each sprint were also performed. Dual
153 beam timing lights (Brower TC, Brower Timing System, Utah, USA) were placed at 0, 10 and
154 40 m to record 10 m and 40 m splits. All timing lights were mounted on tripods with the first
155 gate placed at 1 m above the ground and the remaining gates at 1.3 m. Cricketers began from
156 a split stance position set 0.5 m back from the start line. The fastest time was recorded for
157 analysis.

158

159

160

161 *Run-2*

162 For the run-2 test, cricketers were timed running between the wickets (two lines 17.68 m
163 apart). The test is designed to assess the speed of the participants running between the
164 wickets, as they would in a match. The dual beam timing gates were placed on the start
165 line/crease and set at a height of 0.6 m. The run-2 was performed with a cricket bat with the
166 turn assessed off both the right and left side. The test was performed without batting pads
167 and helmet but with a cricket bat. Cricketers started in the split stance position, 0.5 m behind
168 the start line with the cricket bat in hand. Cricketers were instructed to slide the bat over the
169 crease mark at the turn and start/finish, as they would in a match. Two trials, turning off each
170 the right and left side were recorded with the best trial off each side used to calculate an
171 average run-2. All sprints and run-2 tests were performed on the same 60 m indoor cricket
172 training surface as previously described by Ahmun et al. ¹⁰.

173

174 *Push and Pull Strength Capacity Test*

175 The push and pull strength capacity tests are specific tests designed by the England and Wales
176 Cricket Board (ECB revised testing protocols, unpublished). For the push capacity test,
177 cricketers lay in a prone position with hands by their side. The first tester placed a fist on the
178 ground under the cricketer's sternum with the second tester observing from the side and
179 recording the result. Keeping in time with a metronome set at 1 Hz, the cricketer performed
180 continuous maximum press-ups. At the top position of the press-up, the cricketer was
181 instructed to extend their elbows, whilst at the bottom their sternum was required to touch
182 the tester's hand. The test was ceased if the cricketer did not touch the second tester's hand
183 with their sternum, did not lock out their elbows, loss of trunk position or failed to keep time
184 with the metronome. In house test-retest reliability coefficient of variation is 7.6%.

185

186 For the pull capacity test, cricketers lay in a supine, crook lying position underneath a loaded
187 Olympic bar in a rack. The bar was set at a height where the cricketer was able to reach it
188 whilst their shoulders are flexed to 90°. The bar was weighted sufficiently so it would not
189 move. The cricketer grasped the bar and then extended their hip, so the pelvis and lower back
190 was off the ground. The first tester observed from the side to monitor upper body and arm
191 position. The second tester observed the lower back and the trunk position. Cricketers
192 performed maximum supine rows keeping in time with a metronome, again set at 1 Hz. The

193 test was ceased if the sternum did not touch the bar in the top position, the elbows did not
194 fully extend at the bottom position, loss of trunk position or failed to keep up with
195 metronome. In house test–retest reliability coefficient of variation is 5.7%. The push-to-pull
196 strength capacity ratio was calculated by dividing the push strength capacity by the pull
197 strength capacity.

198

199 *Yo-Yo Intermittent Recovery Test Level-1*

200 Between 2014 and 2018, cricketers performed the Yo-Yo Intermittent Recovery Test Level-1
201 (Yo-Yo-IR1¹⁹) to assess endurance capacity. The test consists of running between two lines
202 (shuttle) set 20 m apart. A further cone was placed 5 m back from the start-finish line for the
203 cricketers to walk to during the 10 s active recovery between shuttles. The increasing speed
204 was controlled by an audio beep. The test ended when the cricketer failed to complete two
205 individual shuttles in the required time.

206

207 *Statistical analyses*

208 Data were analysed using SPSS (version 27.0, Chicago, Illinois, USA). Initially, all dependant
209 variables were visually screened for normality through histograms and Q-Q plots.
210 Homogeneity of variance was assessed with Levene’s test. A mixed-linear-modelling (MLM)
211 was used to assess changes in the dependant variables across years (fixed-factor) with
212 individual cricketers assigned as random factors in the model. Where a significant fixed-effect
213 of season was observed, Bonferroni adjusted pairwise comparisons were used to assess
214 difference between seasons with 95% confidence intervals (CI) present to give a range of
215 plausible values. Data is reported as estimated marginal means \pm standard deviation.

216

217 **RESULTS**

218 There was no significant fixed effect of year on body mass ($p = 0.63$) or stature ($p = 0.99$)
219 (Figure 1). However, there was a significant fixed effect of years on sum-of-8 skinfold
220 thickness ($F_{(5)} = 14.9$; $p < 0.001$) (Figure 1C). Pairwise comparisons showed that skinfolds were
221 significantly lower in 2020, 2019 and 2018 compared to 2015 (2020 Vs 2015; $p < 0.001$; CI 9.9
222 to 22.9 mm: 2019 Vs 2015; $p < 0.001$; CI 7.9 to 21.5 mm: 2018 Vs 2015 $p < 0.001$; CI 7.5 to
223 21.0 mm) and 2016 (2020 Vs 2016; $p < 0.001$; CI 3.8 to 16.1 mm: 2019 Vs 2016; $p = 0.003$; CI

224 1.8 to 14.6 mm: 2018 Vs 2016 $p = 0.006$; CI 1.4 to 14.2 mm). The skinfolds of the cricketers
225 were also significantly lower in 2017 compared to 2015 ($p = 0.003$; CI 5.8 to 19.5 mm).

226

227 Figure 2 shows changes in Yo-Yo-IR1, CMJ and push and pull strength capacity changes across
228 years. There was no significant change in push strength capacity across the years ($p = 0.46$).
229 However, pull strength capacity did show a significant fixed effect across time ($F_{(4)} = 13.5$; $p <$
230 0.001). Significantly more supine rows were performed in 2017 ($p = 0.03$; CI 0 to 13), 2019 (p
231 < 0.001 ; CI 5 to 17) and 2020 ($p < 0.001$; CI 2 to 12) compared to 2014. There were also
232 significantly more supine rows performed in 2017 ($p = 0.03$; CI 0 to 11), 2019 ($p < 0.001$; CI 5
233 to 15) and 2020 ($p < 0.001$; CI 2 to 10) compared to 2016. There was also a significant fixed
234 effect across years for push-to-pull strength capacity ratio ($F_{(4)} = 4.0$; $p = 0.01$). The ratio was
235 significantly lower in 2019 compared to 2016 ($p = 0.01$; CI 0.1 to 0.8). Yo-Yo-IR1 distance
236 showed a significant fixed effect across years ($F_{(3)} = 6.3$; $p = 0.002$) with cricketers covering a
237 greater distance in 2017 compared 2014 ($p = 0.002$; CI 149 to 769 m). There was also a
238 significant effect of years on CMJ ($F_{(4)} = 11.6$; $p < 0.001$). Compared to 2014 ($p < 0.001$; CI 1.4
239 to 4.7 cm), 2015 ($p < 0.001$; CI 1.0 to 4.0 cm), 2017 ($p < 0.001$; CI 0.9 to 3.7 cm) and 2018 ($p =$
240 0.03 ; CI 0.1 to 3.9 cm), 2016 was significantly lower (Figure 2).

241

242 There was a significant fixed effect of years over 10 m sprints ($F_{(4)} = 4.8$; $p = 0.002$) and 40 m
243 ($F_{(4)} = 4.5$; $p = 0.003$) (Table 2). Cricketers were significantly quicker over 10m in 2016, 2017,
244 2019 and 2020 compared to 2018 ($p < 0.05$). Forty metre times were significantly quicker in
245 2017 ($p = 0.01$; CI 0.02 to 0.24 s) and 2016 compared to 2020 ($p = 0.02$; CI 0.01 to 0.23 s).
246 Finally, there was also a significant fixed effect of years on run-2 time ($F_{(4)} = 6.6$; $p < 0.001$).
247 Cricketers were significantly quicker in 2019 compared to 2020 ($p = 0.001$; CI 0.04 to 0.24 s)
248 and 2018 ($p = 0.01$; CI 0.02 to 0.24 s). Run-2 times were also significantly quicker in 2016
249 compared to 2020 ($p = 0.01$; CI 0.02 to 0.27 s).

250

251

252 **DISCUSSION**

253 This is a rare data set that presents physical performance changes of an international cricket
254 side in their preparations for the 2019 World Cup and Ashes Series. The main findings from
255 the study were that international cricketers showed a reduction in skinfold thickness across

256 seven years in preparations for the 2019 cricket World Cup and Ashes series. These changes
257 are independent from any changes in stature or body mass over time, suggesting an increase
258 in fat-free mass. The endurance capacity of international cricketers was also shown to
259 improve to comparable levels of other elite endurance team sports. Pull strength capacity
260 increased, which improved the push-to-pull strength capacity ratio and may be beneficial for
261 shoulder health. Changes were apparent in sprint times and run-2 time, though no trends
262 across time were apparent. Given the density of cricket games throughout each year, the data
263 shows meaningful changes can be made with a targeted physical preparation strategy.

264

265 This is the first study to examine changes in body mass of international cricketers. Previous
266 research in other sports has shown long-term (~ 60 years²⁰) and shorter term (~ 5 years¹⁴)
267 increases in body mass in international rugby players, that have been largely associated with
268 a change to professional status. Conversely, our study showed no changes in body mass over
269 time within international cricketers. The obvious reasons for the lack of differences in cricket
270 is it is not a collision-based sport where higher body mass is important²¹. As seam bowlers
271 have been shown to cover up to 17 km across a single day of fielding⁴, an increase in body
272 mass over time would be detrimental to performance. Supporting this notion, in running
273 dominant positions in rugby (backs) have shown no change in body mass across time²² and
274 there is also evidence of youth soccer players decreasing in body mass²³ to possibly aid the
275 increase running match demands of soccer over recent years¹². It should be noted that upper
276 body strength has shown an association with maximum hitting distance⁷ and consequently
277 increases in upper body fat free mass may be beneficial for performance in batters.

278

279 Even though there was no change in body mass from 2014 to 2020, there was a substantial
280 decrease in skinfold thickness. The data from our study suggests that international cricketers
281 have gone through a drastic alteration in body composition that is likely due to reductions in
282 bodyfat mass. No data exists on longitudinal changes in body composition within cricket and
283 there are only limited data presented in other sports. For example, reductions in skinfold
284 thickness in national level runners²⁴ and small changes in collegiate sports²⁵ have been
285 shown. Decreases in skinfold thickness in our study (18%), are far greater than anything
286 reported in the literature and would seem to represent a targeted decrease in body fat by
287 this international team. Given changes in skinfold thickness have been associated with

288 improved running performance, the reduction in skinfold thickness is a vital change in this
289 international cricket team²⁴. The 2020 values reported here are, however, comparable to the
290 sum of seven skinfold thickness reported in elite Australian fast bowlers in 2007²⁶, suggests
291 total skinfold thickness may have differing temporal characteristics in different countries. One
292 of the limitations of our study is that due to the small sample sizes in certain years, we were
293 unable to distinguish between team roles, such as batters and bowlers. Comparisons may
294 therefore be inappropriate between Stuelcken et al.²⁶ and our study.

295

296 Only two studies have reported the distance covered during the Yo-Yo-IR1 in professional
297 cricketers. Veness et al.⁹ and Herridge et al.²⁷ reported mean values of 1892 m and 1960 m
298 in professional county level cricketers. The highest mean values in our study (2426 m in 2017)
299 were greater than all mean values reported in a recent systematic review across several
300 sports, including “top-elite” soccer²⁸. This information suggests that international cricketers
301 have high aerobic capacity, comparable to other elite team sport athletes. Other international
302 cricket teams have reported lower fitness targets of 1440 m²⁹, which would suggest that
303 there are varying standards in aerobic capacity across different international cricket teams
304 and domestic cricket. The diverse findings in aerobic capacity reported, make establishing
305 norm values for cricketers difficult and warrant future research.

306

307 There were improvements in the distance covered in the Yo-Yo-IR1 from 2014 to 2017,
308 showing an estimated $\sim 4 \text{ ml}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ improvement in $\dot{V}\text{O}_2 \text{ MAX}$. The improvement in
309 endurance capacity appeared to follow similar temporal changes as the decrease in skinfolds
310 thickness. As previously suggested, the decrease in skinfold thickness has been associated
311 with an improvement in running performance²⁴. Increases in body mass over similar time
312 periods have also shown to have detrimental effects on endurance capacity in international
313 rugby players¹⁴. However, the lack of changes in body mass found in our study would suggest
314 that the increase in endurance capacity is not solely a result of a reduction in body fat but
315 reflected an improvement in aerobic metabolism. Anecdotally, these changes reflect a
316 targeted approach to develop ‘efficient running cricketers’. Despite the reported increase in
317 game energetics across different sports¹³, there is a lack of data that has reported changes
318 in aerobic capacity. In addition to the reduction in average aerobic speed in international
319 rugby players¹⁴, previous work has shown a $\sim 2 \text{ ml}\cdot\text{min}^{-1}\cdot\text{kg}^{-1}$ reduction in $\dot{V}\text{O}_2 \text{ MAX}$ in elite

320 male soccer players over 23 years ¹⁵, while at the same institute no change was reported in
321 females over 18 years ¹⁶. The increase in aerobic capacity from 2014 to 2017 in our population
322 are large when compared against the magnitude of change in other team sports and reflect a
323 positive impact on performance. Due to a higher skill component of cricket compared to more
324 physiological dominant sports like endurance running, these changes are unlikely to reflect a
325 physiological selection bias from the coaches.

326

327 There was an improvement in pull strength capacity and a more balanced push-to-pull ratio
328 across the seven years. The lack of improvement in push strength could possibly be viewed
329 as negative with previous research highlighting the significant positive correlation between
330 upper body muscular pushing strength and maximum hitting distance among elite male
331 cricketers ⁷. However, no such relationship between shorter match format (i.e. One-Day and
332 Twenty20) batting average and strike rate and upper body pushing strength was present,
333 which would be more influential to individual and team performance ⁷. Furthermore, a more
334 balanced ratio has been proposed to be optimal to minimise injury risk ³⁰. As around 18% of
335 all injuries in cricket have been reported to be shoulder related ³¹ and injuries have been
336 associated with match outcome in international cricket ³², a more balanced push pull ratio
337 found in our study is likely to have a greater impact on performance than improving push
338 strength.

339

340 Apart from the slower 40 m and run-2 time in 2020 compared to 2016, there were no obvious
341 sustained trends across years, despite some significant changes. There was also little change
342 in CMJ over the seven years. Subjectively, we propose that the slower 40 m and run-2 time in
343 2020 may have been due to the constrained training regime caused by a global pandemic.
344 The minimal changes pre COVID-19 may also be due to the increasing volume of international
345 cricket, domestic and franchise cricket ⁵ and thus decreasing the opportunity to focus on
346 explosive qualities (e.g. sprinting, jumping and high velocity movements). In other studies,
347 frequency and duration of aerobic training has shown a negative correlation with strength
348 and power ³³. The high volume of low intensity running associated with cricket matches may
349 also have detrimental effects on explosive power adaptations. International cricketers are
350 exposed to intense, frequent blocks of competition consistently across the whole year, which
351 is likely to diminish any gains in strength and power from targeted strength and conditioning.

352 However, improvements in power have been shown in aerobic dominated team sports ³⁴.
353 Other researchers have attributed minimal change in specific physical qualities towards a lack
354 of training focus towards them within an institute ¹⁶. The international side within our study
355 had a focus towards increasing lean body mass and endurance capacity. Consequently, there
356 are multiple reasons for the lack of change or isolated decreases in explosive qualities within
357 this group. It should also be noted that whilst some of these changes are significant, largely
358 these small fluctuations will have minimal impact on cricket performance.

359

360 Whilst the strength of this data is the large sample size in one of the best cricketing nations
361 in the world, there are several limitations. The data set is from a single international team's
362 data. Consequently, the changes that have been identified in our study may not apply to other
363 international teams. Whilst all international sides have a dedicated strength and conditioning
364 coach, financial and cultural factors and what the head coach wants will all influence the
365 physical performance changes of the players. Secondly, due to the lower number of cricketers
366 in some years, we were unable to analyse differences between positions.

367

368 **CONCLUSIONS**

369 The international cricketers within our study have gone through a substantial change in body
370 composition. Without any change in body mass, skinfold thickness has decreased across the
371 seven years, indicating an increase in lean mass. The 19% increase in Yo-Yo-IR1 distance
372 covered shows a large increase in aerobic capacity within this group. Cricketers also showed
373 a more balanced push-to-pull strength capacity ratio which may be beneficial in reducing
374 shoulder related injuries. No obvious improvement in sprint time, CMJ or run-2 time were
375 seen across the seven years, which may be as a result of the frequent long duration aerobic
376 activity which cricketers are exposed to during match play, as well as physical performance
377 focus on increasing lean body mass and aerobic capacity in this team.

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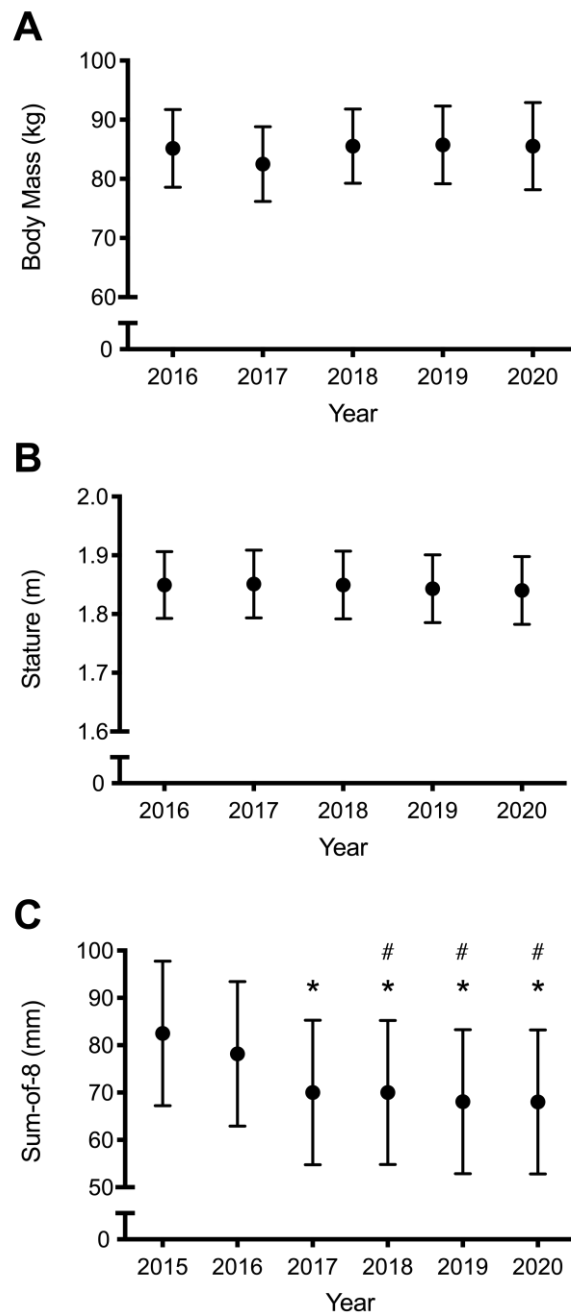
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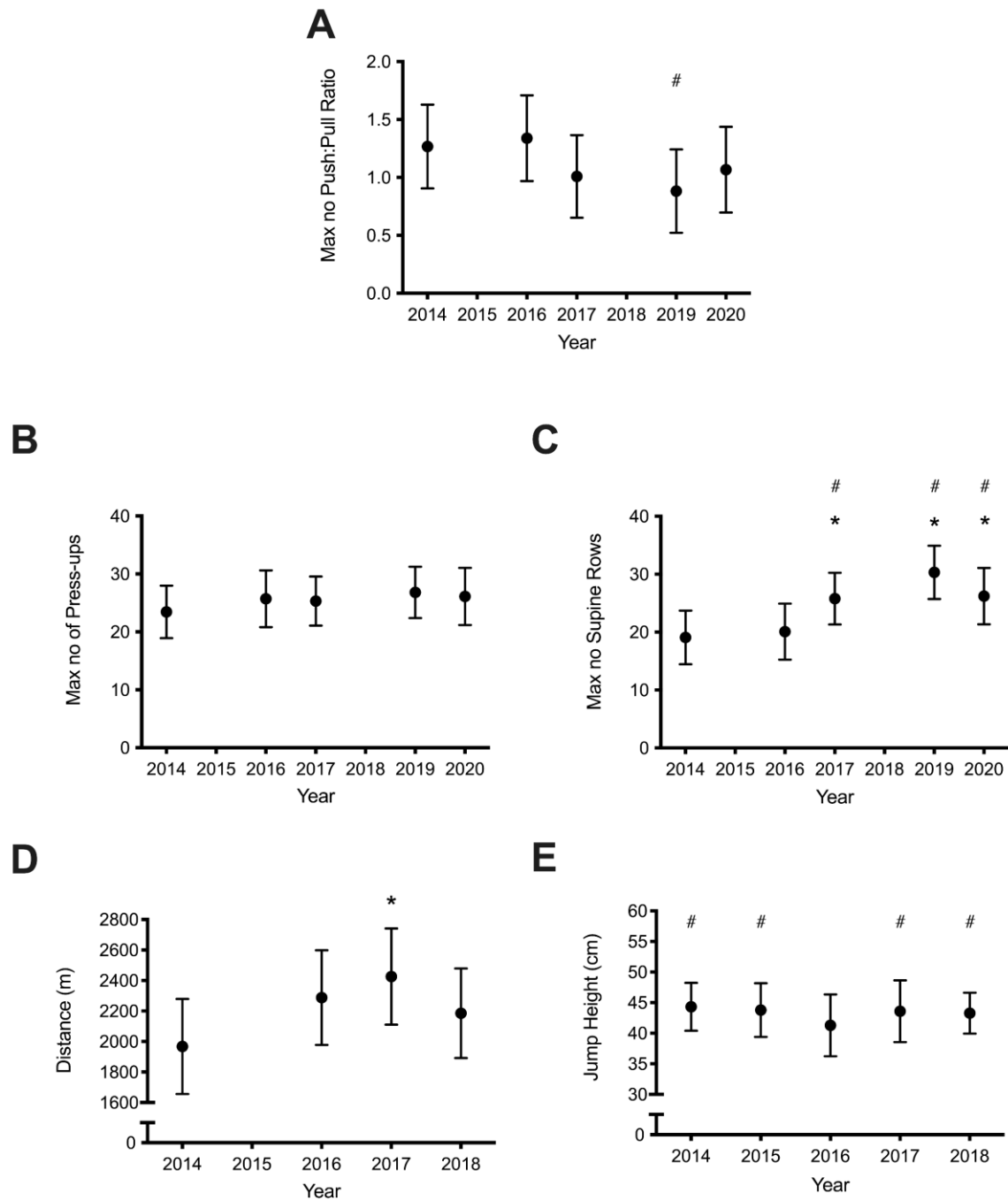
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513 **Figure 1.** Changes in body mass (A), stature (B) and sum-of-8 skinfolds (C) across different514 years. *Denotes significant difference from 2015 ($P < 0.05$); #Denotes significant difference515 from 2016 ($P < 0.05$).

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Figure 2. Changes in push-to-pull strength capacity ratio (A), push strength capacity (B) pull strength capacity (C), Yo-Yo intermittent recovery test level-1 (D), countermovement jump (E) across different years. *Denotes significant difference from 2014 ($P < 0.05$); #Denotes significant difference from 2016 ($P < 0.05$).

531 **Table 1.** Number of participants and matches across years
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Year	Cricketers	Test Matches	One-Day Internationals	Twenty20
2014	14	8	25	12
2015	22	14	26	5
2016	22	17	18	10
2017	18	11	20	7
2018	22	13	24	9
2019	22	12	22	9
2020	35	9	9	12

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Table 2. Estimated means \pm SD sprint and run-2 time across years.

	2016	2017	2018	2019	2020
10 m (s)	1.71 \pm 0.05 [§]	1.72 \pm 0.05 [§]	1.77 \pm 0.05	1.70 \pm 0.06 [§]	1.71 \pm 0.07 [§]
40 m (s)	5.22 \pm 0.15	5.21 \pm 0.15	5.31 \pm 0.13	5.24 \pm 0.16	5.33 \pm 0.18 ^{#†}
Run-2 (s)	5.99 \pm 0.14	6.06 \pm 0.15	6.11 \pm 0.12	5.96 \pm 0.15 [§]	6.10 \pm 0.16 ^{¥#}

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 541 #Denotes significant difference from 2016 (P < 0.05); †Denotes significant difference from
 542 2017 (P < 0.05); §Denotes significant difference from 2018 (P < 0.05); ¥Denotes significant
 543 difference from 2019 (P < 0.05).
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