

**OBSERVATIONS ON THE AEROBIC POWER OF UNIVERSITY RUGBY PLAYERS AND PROFESSIONAL SOCCER PLAYERS**

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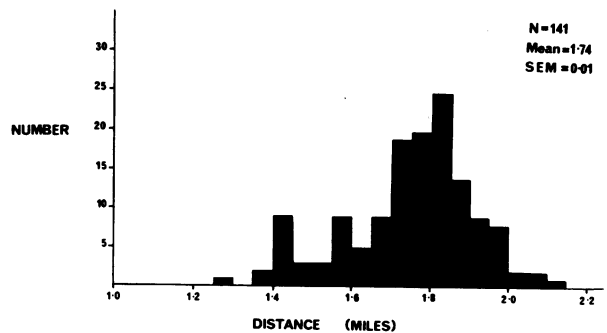
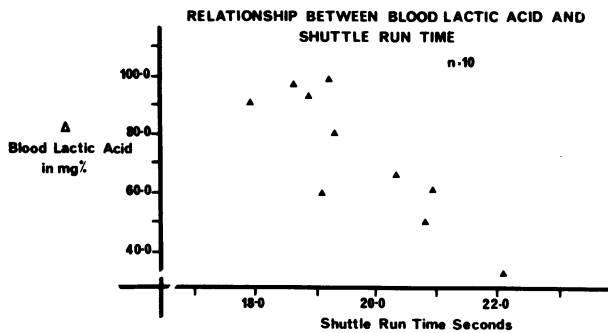
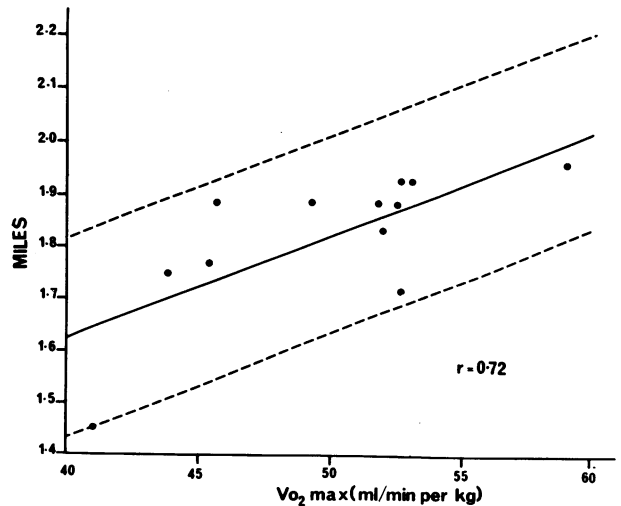
A large maximum aerobic power is a cornerstone of success in any physically dynamic sport. Whereas information on the aerobic power of British athletes is gradually accumulating (Pugh, 1970; Watson & Devenny, 1972). Little such information is available on rugby players (Evans, 1969, Pohndorf, 1969) or soccer players (Caru, Le Coultre, Aghemo and Limas, 1970). The purpose of the present study was to determine the maximum aerobic power of a group of (a) University rugby players and (b) professional soccer players.

Laboratory determinations of maximum oxygen uptake were made for each group using a bicycle ergometer with a continuous loading technique. In addition each group undertook a 12 minute run test for distance (Cooper, 1969). In an attempt to gain an insight into the anaerobic fitness of the rugby players they were timed over a 5 x 20 yd. shuttle run; pre- and post-run blood lactic acid values were also obtained.

Group	N.	Weight (kg)	Height (cms)	% Fat	MaxVo <sub>2</sub> L/min	MaxVo <sub>2</sub> ml/kg/min	MaxV <sub>E</sub> L/min	Dist. Miles
Rugby Players	11	77.6 ± 10.6	179.0 ± 7.2	12.7 ± 2.1	3.87 ± 0.36	50.30 ± 5.1	110.0 ± 16.6	1.82 ± 0.15
Soccer Players	9	69.4 ± 6.3	174.6 ± 2.9	12.4 ± 2.2	4.00 ± 0.47	57.77 ± 6.5	108.3 ± 16.9	2.01 ± 0.15

All results means ± SD.

A summary of the results from the laboratory tests and the run test for both groups of subjects is given in Table 1. The results from the 12 minute run-test for 141 police cadets have been included for comparison (Fig. 1). Fig. 2 shows the relationship between the distance covered in the run-test and the laboratory determined maximum oxygen uptake. The correlation coefficient of 0.72 obtained from our data was lower than that obtained by Cooper (0.897) and slightly greater than the recently reported value of 0.65 (Maksud and Coutts, 1971).



The relationship between post-shuttle run blood lactic acid values and run times is shown in Fig. 3 ( $r = -0.85p < .01$ ). The mean value for the shuttle-run was 19.78 seconds which rates the group's performance as

below average according to a table of normal values, for young rugby players, compiled by Evans. (Evans, 1973).

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