

The hydration status of junior players before a match with an evening kick-off.

Background: Previous research from www.scientific-football.com demonstrated that the pre-training hydration state of junior players was within the recommended limits (see case study “hydro-nutritional practices of junior players during the preseason preparatory period” in the hydration section). Although encouraging, the previous investigation into the hydration status of football players took place before a training session and not prior to match-play. Additionally, junior players often train and play following a full day in school or college when limited opportunities exist to consume beverages; it therefore remains to be determined whether players are in an optimal hydration state upon arrival for football training or match-play that takes place in the evenings. Therefore, data concerning the pre and post exercise hydration status of under 16’s players who played an evening match (kick off: 19:30 hours) following a full school day is presented. Routine ingestion of a fluid-electrolyte beverage occurred throughout match-play (i.e., every 15 min).

Results: Table 1 outlines the results of the hydration analyses taken pre and post exercise.

Table 1: Results of the hydration analysis

Player	Urine osmolality (mosmol/kg)						Improved hydration after exercise (yes or no)
	Pre-match			Post match			
	Test 1	Test 2	Average	Test 1	Test 2	Average	
Player 1	818	817	818	237	233	235	yes*
Player 2	711	711	711	209	210	210	yes*
Player 3	893	895	894	83	81	82	yes*
Player 4	400	396	398	72	72	72	yes*
Player 5	943	943	943	197	197	197	yes***
Player 6	1050	1055	1053	628	629	629	yes**
Player 7	101	99	100	233	230	232	no
Player 8	1065	1067	1066	802	810	806	yes**
Player 9	754	751	753	400	401	401	yes*
Player 10	338	387	363	387	389	388	no
TEAM AVERAGE	707	712	710	325	325	325	yes*

0 - 600 ok
 601 - 900 caution (increase fluid consumption and continue to monitor)
 More than 901 priority (aggressive hydration strategy required)

* Despite 90 min of exercise and fluid lost due to sweating, regular beverage ingestion caused improved hydration status that improved hydration from an amber category to an ok category.
 ** Despite 90 min of exercise and fluid lost due to sweating, regular beverage ingestion caused improved hydration status that improved hydration from a red category to an amber category.
 *** Despite 90 min of exercise and fluid lost due to sweating, regular beverage ingestion caused improved hydration status that improved hydration from a red category to an ok category.

Discussion: Dehydration has been found to reduce the quality of physical and skilled performances in football players. Results from this study appear to demonstrate that the pre-exercise hydration practices of the current squad were inadequate as measures of hydration status taken before kick-off fell outside of the category recommended for hydration status (i.e., less than 600 mosmol/kg). Given that the players were arriving in a semi-dehydrated state (i.e., team average classified as amber in Table 1), it is possible that the quality of the physical and skilled performances of these players were less than optimal during the evening match. As such performances can contribute to success in football match-play, players should seek to ensure that enough fluids are consumed before exercise; specifically if training or match-play follows a day at school. Interestingly, despite participating in 90 min of match-play, all players that arrived in a state of dehydration (i.e., red or amber categories in Table 1) improved their hydration status by routinely ingesting a sports beverage during exercise.

Conclusion: Junior football players did not demonstrate an optimised status of hydration when arriving for an evening match following school. Interestingly, all players that arrived in a dehydrated state improved their hydration status by routinely ingesting a sports beverage during exercise.