

RE – WARM UP A.S VARESE 1910 (Allievi Nazionali A-B)

Muscle temperature and sprint performance during soccer matches – beneficial effect of re-warm-up at half-time

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The relationship between quadriceps muscle temperature (T_m) and sprint performance was evaluated during soccer matches in 25 competitive players. In one game, T_m was determined frequently ($n=9$). In another game, eight players performed low-intensity activities at half-time (re-warm-up, RW), whereas another eight players recovered passively (CON). T_m was 36.0 ± 0.2 °C at rest and increased ($P < 0.05$) to 39.4 ± 0.2 °C before the game and remained unaltered during the first half. At half-time, T_m decreased ($P < 0.05$) to 37.4 ± 0.2 °C, but increased ($P < 0.05$) to 39.2 ± 0.2 °C during the second half. In CON and RW, T_m and core temperature (T_c) were similar before

and after the first half, but 2.1 ± 0.1 and 0.9 ± 0.1 °C higher ($P < 0.05$), respectively, in RW prior to the second half. At the onset of the second half, the sprint performance was reduced ($P < 0.05$) by 2.4% in CON, but unchanged in RW. The decrease in T_m was correlated to the decrease in performance ($r = 0.60$, $P < 0.05$, $n = 16$). This study demonstrates that in soccer, the decline in T_m and T_c during half-time is associated with a lowered sprint capacity at the onset of the second half, whereas sprint performance is maintained when low-intensity activities preserve muscle temperature.

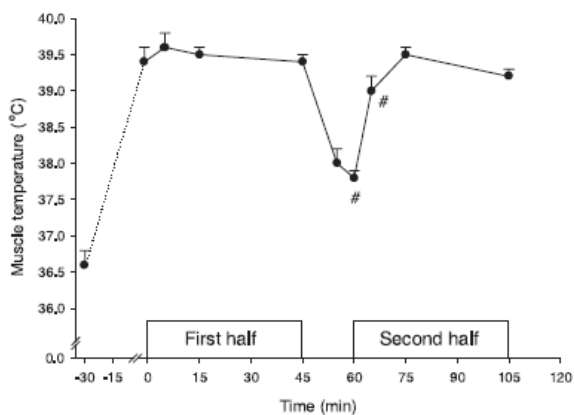


Fig. 1. Muscle temperature of field players during a soccer match ($n=8$). Means \pm SEM. #: denotes significant difference between the first and second halves ($P < 0.05$).

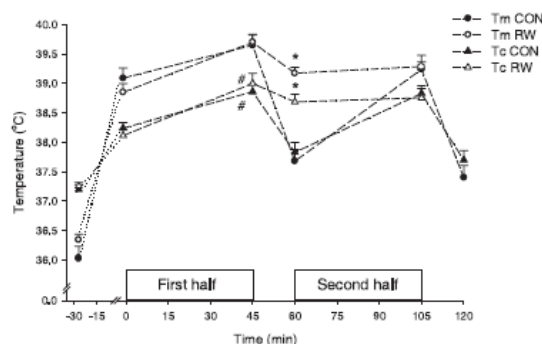


Fig. 2. Muscle (circles) and rectal (triangles) temperatures during a soccer match with (RW, open symbols; $n=8$) or without (CON, closed symbols; $n=8$) re-warm-up at half-time. Means \pm SEM. *: significant difference between CON and RW; #: significant difference from before the first half ($P < 0.05$).

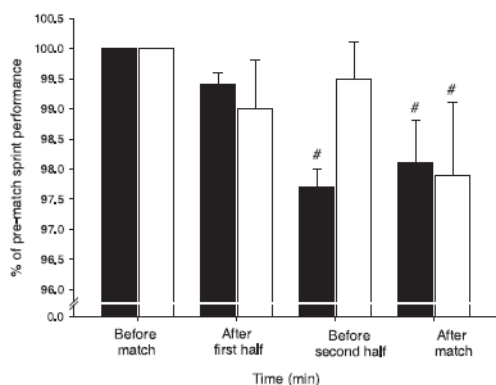


Fig. 3. Sprint performance (average of three 30-m sprints) during a soccer match with (RW, open bars; $n=8$) and without (CON, closed bars; $n=8$) re-warm-up at half-time. Means \pm SEM. #: significant difference between pre-match values ($P < 0.05$).

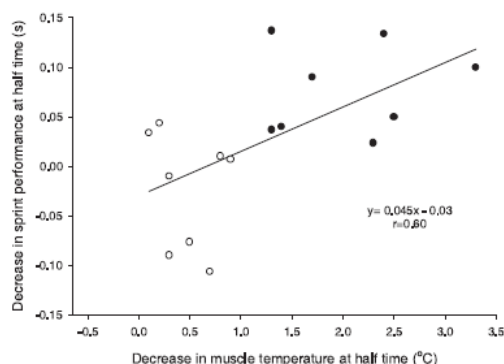


Fig. 4. Individual relationship between decrease in muscle temperature at half-time (x-axis) and decrease in sprint performance at half-time (y-axis). Players both in RW (open circles) and CON (closed circles) are included. The correlation coefficient for the relationship was 0.60 ($n=16$, $P < 0.02$, $F = 7.8$).

Fine primo tempo:

1) primi 7' (recupero, integrazione e indicazioni Mister)

2) 2-3' corsa a bassa intensità metà campo (fig1)

3) 1-2' movimento nell'area di due o tre palloni in modalità libera (fig2)

4) 1' libero



Fig2: movimento di 3 palloni in area



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