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The relationship between dairy intake and training progression in Royal Marine recruits

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Royal Marine (RM) recruit training is acknowledged to be one of the most physically arduous military training programmes in the world. Young men (aged 16 to 33 years) undergo 32 weeks of intense training, where physical, mental and professional capabilities are continuously assessed. Previous research has reported that dairy product intake during childhood and adolescence influenced training outcome and the risk of stress fracture during RM training.^(1,2) Additionally, an adequate energy intake during RM training has been associated with increased training success.⁽³⁾ Thus, the aim of the present study was to investigate whether dairy intake during RM training could protect against injury, and influence training outcome, and to determine the daily portions of dairy products required to confer any protection.

RM recruits commencing training at the Commando Training Centre (CTC), Royal Marines, Lympstone, Devon were given an initial study brief, after which 545 recruits consented to participate in the study. Dietary intake was recorded using the *Food Record Card* (FRC)⁽⁴⁾ over four days (including one weekend day) at the *Start, Middle* and *End of Training*. For ease of data extraction, a portion of dairy was defined in terms of the standard dairy portions at CTC – that is, 130 ml of milk (on cereal), 30 g of cheese (on pizza or in cheese sauce), a carton of yoghurt (150 g), or a ladle of milky pudding (e.g. rice pudding). Injury data were collated from the CTC Medical Centre.

Three hundred and eight (57%) recruits successfully completed RM training. The median intake of dairy products was two servings per day (range 0–6).

Recruits consuming at least two servings of dairy products per day at the *Start* and *Middle of Training* were more likely to complete training compared with recruits consuming none or one serving of dairy products per day (*Start of Training* 62% vs. 52%; $\psi^2 = 5.1$, df 1, $P < 0.05$). From logistic regression analysis, this effect was independent of energy intake, aerobic fitness and body mass (factors identified as influencing training outcome in this population).⁽³⁾ However, dairy intake during training was not associated with the incidence of illness or injury reported to the CTC Medical Centre.

In conclusion, a daily intake of at least two portions of dairy products appears to increase the chance of successfully completing RM training. The mechanism for this remains unclear.

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