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a pilot study

van den Helder, J.E.M.; Tieland, C.A.B.; Diemer, D.; Jansen, J.; Stubbe, J.H.; Weijs, P.J.M.

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Higher protein intake is associated with less injuries in freshman rowers during competition season: a pilot study

J. van den Helder^{1,2}, M. Tieland¹, D. Diemer¹, J. Jansen¹, J. Stubbe^{1,3}, P.J.M. Weijs^{1,4}

1 Faculty of Sports and Nutrition, Amsterdam University of Applied Sciences, Amsterdam, The Netherlands; 2 Amsterdam Center for Innovative Health Practice (ACHIEVE), Faculty of Health, Amsterdam University of Applied Sciences, Amsterdam, The Netherlands; 3 Performing Arts Medicine, Codarts University of the Arts, Rotterdam, The Netherlands; 4 Department of Nutrition and Dietetics, Internal Medicine, VU University Medical Center, Amsterdam, The Netherlands

Rationale

First year rowing athletes have an increased risk for injuries, especially during high training load. Dietary protein may stimulate recovery and therefore may reduce the risk for injuries during extensive training periods. In this pilot, we studied the association between protein intake and the incidence of injuries in freshman rowing athletes during competitive season.

Methods

Freshman rowers (n=22) were included from four boats: 2 coxed eights (8+), 1 coxed four (4+) and 1 coxed quad (4x+). Clarson¹ injury questionnaire and 3-day food record were performed at start and after 8 weeks of competition. Correlation between protein intake and injury incidence was analyzed with chi-squared test.

Results

Data analysis was completed for 22 freshman rowers (mean age 21 ± 2 years). In total, 64% (14/22) of the athletes reported an injury and in total 20 injuries were reported. Next to this reported injuries 27% (6/22) of the athletes had to interrupt rowing because of the injury (mainly airway/flue).

Figure 1. Achievement of protein intake recommendations for injured (ORANGE) and non-injured rowers (BLUE).

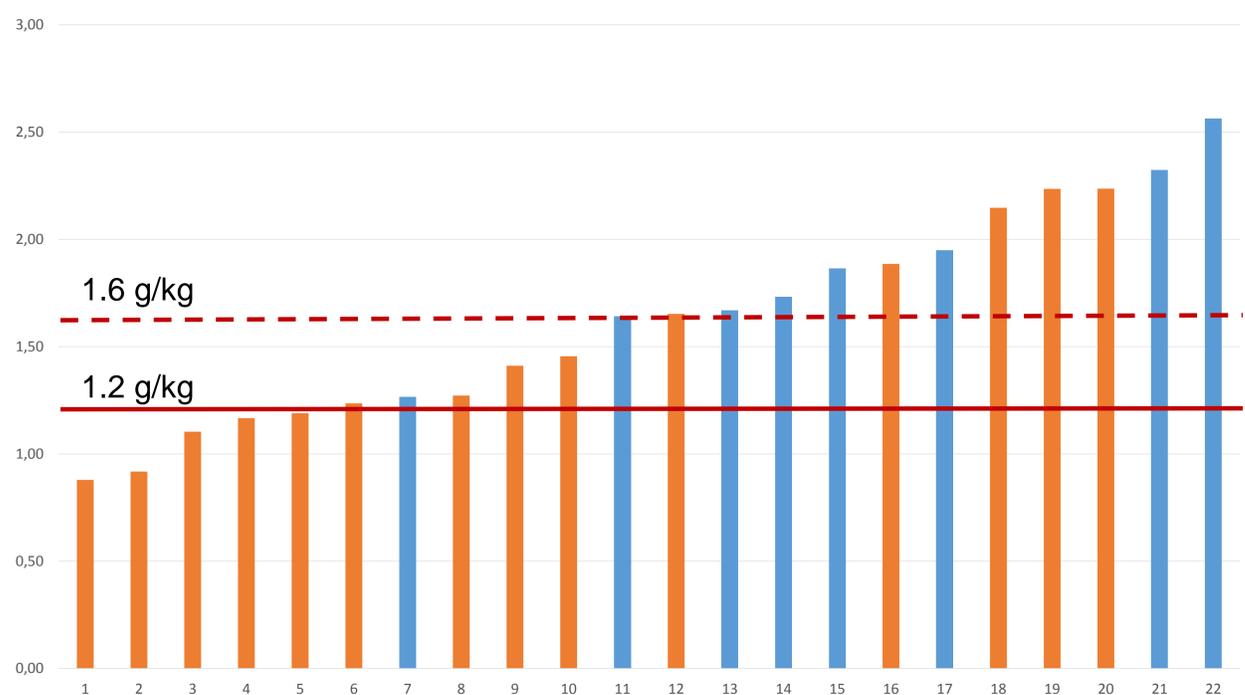


Figure 1 shows the dietary protein intake per rower with reference values of the recommended intakes for athletes (1.2 g/kg/day and 1.6 g/kg/day). Injured rowers do not achieve recommendations as often as non-injured rowers. Chi-square showed significant correlations for injury vs protein intake lower than 1.6 g/kg/day (p = 0.02), injury vs protein intake lower than 1.2 g/kg/day (p = 0.05) and injury vs less than 20 energy% protein (p = 0.02: Table 1).

Conclusion

Competitive freshmen rowers are prone to injuries during the competition season. Adequate dietary protein intake may be associated with lower incidence of injuries in freshman rowers. Further research needs to be conducted to investigate the role of protein intake on injuries in freshman rowers or other sports with related high training loads.

Table 1. Dietary protein consumption injured vs non-injured

	Injured (n=14)	Non – injured (n=8)	Chi-Square test
<1.6 g protein/kg/day	64% (9)	13% (1)	0.02*
<1.2 g protein/kg/day	36% (5)	0% (0)	0.05*
<20 energy % as protein	86% (12)	38% (3)	0.02*
<30 g protein per meal	64% (9)	25% (2)	0.08

* p < 0.05

Correspondence

j.e.m.van.den.helder@hva.nl / Jantine van den Helder, Faculty of Sports and Nutrition, Amsterdam University of Applied Sciences, Dokter Meurerlaan 8, 1067 SM Amsterdam, The Netherlands

Ref¹: Clarsen et al. British Journal of Sports Medicine. 2013;47(8):495-502.