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Changes in Training Load in Army Basic Training over an eight year period.

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Conclusions: Despite changes to training being important to ensure the updating of material, the downstream effect and its relationship to injury should be acknowledged. Changes to one domain in response to injury prevalence, may inadvertently affect another domain and be associated with a different injury, i.e. decreased running load with a concurrent increase in walking load. The relationship between training load during basic training and subsequent training should be explored further.



Operational Relevance: Efforts to decrease one aspect of training may increase overall training load inadvertently. Efforts to decrease training volume may lead to increased training intensity without any subsequent changes in overall injury risk.



Purpose: Basic training is a crucial stage of training in which injuries occur at a higher rate than at other stages of a trainee's career. Basic training is constantly changing based on reviews of ongoing injuries, equipment changes and performance requirements. Given that most injuries are overuse and due to cumulative loads, it is important to quantify training loads during basic training. The purpose of this investigation was to compare a basic recruit training course across two time periods (2018 and 2010) with a specific focus on distances walked and run, loads carried and lifted.



Methods: Course PT programs were obtained from a 12-week basic training course in spreadsheet format which underwent a content and desktop analysis performed by an experienced army Physical Training Instructor. A full 24-hour allocation for each training day was conducted with respect to body positions, activities being performed, and loads carried and lifted. This was assisted by prior knowledge of basic training, maps of the training location and feedback from staff. An on-site observation period of two full days of training was used to validate the desktop analysis data. Acute Chronic Workload Ratios (ACWR) were then subsequently calculated for the walking and running distances from week four onwards.

Results: Along with an increase in PT sessions from 37 in 2010 to 40 in 2019, A decrease in running distance of 12.8km (-42.52%) was found from 30.1km in 2008 to 17.3km in 2018 with a concurrent increase in walking distance of 17.58km (+4.4%) from 396.3km in 2010 to 413.9km in 2019. The amount of load lifted increased by 303 257.3kg/reps (+194%) from 156261.3kg/reps in 2010 to 459518.5kg/reps in 2018. Loads carried also increased by 51874 kg/hrs (+13.9%) from 372 381.5kg/hrs in 2010 to 424 256 kg/hrs in 2018. ACWRs above and below the desired 0.8-1.3 were seen at multiple times in both courses.

