

[1]保宏翔,陈竺,陆小龙,等.急进高原对新兵认知功能的影响[J].第三军医大学学报,2013,35(14):1498-1500.

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## 急进高原对新兵认知功能的影响(PDF) 分享到:

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Title: Effects of rush entry into plateau on recruits' cognitive function

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摘要: 目的 探讨急进高原对新兵认知功能的影响。 方法 以某军分区2012年42名新兵为研究对象,借助成套心理实验仪器对其反应运动时(包括反应时与运动时)、速度知觉、手臂稳定性、时间知觉、记忆广度(包括数字与字母)、深度知觉、短时记忆、注意广度等指标进行测量,采集其急进高原前后数据,运用配对t检验或非参法对各指标逐一进行统计分析。 结果 手臂稳定性( $P<0.05$ )、时间知觉( $P<0.01$ )、记忆广度(数字类,  $P<0.01$ )、深度知觉( $P<0.01$ )、短时记忆(图形类,  $P<0.01$ ) 5项指标在急进高原前后有统计学差异,其中,手臂稳定性、时间知觉两项功能表现平原好于高原;记忆广度(数字类)峰值急进高原前后均为8位,超过8位数后,平原锐减,高原则缓慢下降;深度知觉在急进高原前后均易出现看近现象,但在平原地区偏差更大;短时记忆(图形类)能力在急进高原后轻度增强;反应运动时、速度知觉、记忆广度(字母类)和注意广度在急进高原前后无统计学差异( $P>0.05$ )。 结论 急进高原可能会对人体的某些认知功能产生一定影响,特别是对动作稳定性、深度知觉、时间知觉影响更为明显。

Abstract: Objective To determine the effect of rapid entry into plateau on cognitive function of new recruits. Methods A total of 42 recruits who were newly joined the army and sampled from 362 recruits were enrolled in this experiment. A set of psychology experimental instruments was used to measure 10 related experimental indexes, namely, reaction-movement time (reaction and movement), speed-perception, operating-dexterity, time-perception, memory span (digital and alphabet), depth-perception, short-term memory and attention span before

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and after they entered the plateau. Paired student's *t* test or nonparametric test was employed to analyze the changes of above indexes due to acute exposure to high altitude. Results Compared to the indexes in the plain, there was significant difference in operating-dexterity ( $P<0.05$ ), time-perception ( $P<0.01$ ), memory span (digit,  $P<0.01$ ), depth-perception ( $P<0.01$ ), short-term memory (graph,  $P<0.01$ ) when they entered high altitude. Among these indexes, the performance of operating dexterity and time-perception were superior in the plain than in the plateau. Memory span (digital) reached the peak 8 whether in the plain or after entry into the plateau, while the difference was significant when the digit was beyond 8, with a sharply decrease seen in the plain and a slow decline in the plateau. Depth-perception was more prone to 'see close', but it was affected more greatly in the plain. Short-term memory (graph) performances were a slight enhancement after entry into the plateau. There was no significant difference in reaction-movement time ( $P>0.05$ ), speed-perception ( $P>0.05$ ), memory span(alphabet,  $P>0.05$ ), and attention span( $P>0.05$ ) in the recruits before and after acute exposure to high altitude. Conclusion Acute exposure to high altitude may exert certain effect on cognitive functions, especially on the performances in operating-dexterity, depth-perception and time-perception.

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