Defense Health Agency (DHA) Clinical Communities Speaker Series

Resource List – July 2020

Health Innovations and Promising Practices

So You Want to be a Navy Pilot: A Case Based Approach to Aviation Vision Standards

The study Color vision tests in pilots' medical assessments evaluates the ability of eight color vision tests to screen for and accurately measure hereditary color-deficiency in order to improve color vision assessment methods for aircraft pilots. All subjects completed the following tests: Ishihara plates, Farnsworth D15, Lanthony desaturated 15 Hue, Munsell 100 Hue, Beyne and Fletcher-Evans CAM lanterns, Nagel anomaloscope, and the Color Assessment and Diagnosis (CAD) test. The discrepancy in results confirms that current color vision test protocols need to be reassessed.

The Federal Aviation Administration (FAA) produced a video titled AME Minute: Near and intermediate vision testing. This video provides education on the requirements for near and intermediate vision and how intermediate vision is tested during an exam. The FAA states that pilots must have near vision of 20/40 or better in each eye separately, with or without correction. This video explains how to conduct the exam and that the FAA Near Vision Acuity Test Chart should be used.

Aerospace, assessment of fitness for duty describes the medical standards in place to prevent hazards during a flight that could be caused by physical, medical and psychological conditions held by the pilot or the crew. This articles describes disqualifying vision conditions related to distance vision, near vision, color vision and intraocular eye pressure. Other disqualifying medical conditions related to hearing, blood pressure, cardiovascular and mental health are also described. Overall, the guidelines set by the FAA are similar to those established in the military however, military guidelines are more demanding. All aviators, whether civilian or military, have to meet certain medical standards to help prevent potential incapacitation and provide for a safe flight environment.

Incidence and prevalence of selected refractive errors, active component, U.S. Armed Forces, 2001-2018 updates previous reports and focuses on the types of refractive error amenable to refractive surgical interventions. Disorders of refraction directly affect the ability to function in a military environment. Myopia, astigmatism and hyperopia remain a consistent concern for the operational force. This article reports that future analyses should focus on the specific effects of military refractive surgery programs on the readiness of service members.

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References

Dhaliwal, S., & Carter, R.E. (2019). Aerospace, assessment of fitness for duty. https://www.ncbi.nlm.nih.gov/books/NBK538481/#article-31654.s6

FAA TV: AME Minute: Near and intermediate vision testing. (n.d.). Www.Faa.Gov. Retrieved June 15, 2020, from https://www.faa.gov/TV/?mediaId=2068

Marechal, M., Delbarre, M., Tesson, J., Lacambre, C., Lefebvre, H., & Froussart-Maille, F. (2018). Color vision tests in pilots' medical assessments. *Aerospace Medicine and Human Performance*, *89*(8), 737–743. https://doi.org/10.3357/amhp.5009.2018

Reynolds, M. E., Taubman, S. B., Stahlman, S. (2019). Incidence and prevalence of selected refractive errors, active component, U.S. Armed Forces, 2001-2018. Health.mil. https://health.mil/News/Articles/2019/09/01/Incidence-and-Prevalence-of-Selected-Refractive-Errors