

JOURNAL SCAN

Albery B William. Human consequences of supermaneuverable flight. SAFE Journal Winter / Spring 2000; 30(1): 156 - 164.

The article summarizes the human limitations with respect to supermaneuverable flight.

A working group of scientists, engineers and physicians from six countries assembled in 1997 to address the human factor issues surrounding the new class of high performance aircraft, i.e., those aircraft's capable of thrust vectoring control and post stall maneuvering.

The author has discussed the results of the RTO Working Group (WG) 27. Issues addressed by the working group include ergonomics, physiology, situational awareness, aeronautical / airframe agility, systems agility, operational agility and pilot acceptance of the highly agile aircraft. Recommendations are put forth to address the need for agility and ways and means to combat the man and machine's limitations.

Ramsay EL, Williams B et al. British Hypertension Society Guidelines for hypertension management 1999: Summary. BMJ 1999; 319: 630-635.

This article summarizes the new British hypertension guidelines for the management of hypertension. The national surveys in Britain have continued to reveal incomplete detection, treatment and control of hypertension. Further more, treated hypertensive patients still die prematurely from cardiovascular diseases. The guidelines are based on new evidence on optimal blood pressure targets, management of hypertension in diabetics, treatment of isolated systolic hypertension, comparison of anti-hypertensive efficacy and tolerability of

different drug classes, the role of non-pharmacological measures for prevention and treatment of hypertension and additional benefits associated with use of aspirin and statins. Thus this article presents the best currently available guidelines on hypertension management and their implementation.

Ercoline WR, Devilhiss CA, Yanch DW, Brown DL. Post roll effects on attitude perception: "The Gillingham Illusion". Aviat Space Environ Med 2000; 71 : 489-495.

This paper is interesting and of relevance to all the Aviation Medicine specialist. The authors have proposed a new type of spatial disorientation effect which they named after Dr Kent Gillingham. The authors have studied aircraft accidents which occurred due to an unexplained collision with the ground and found that the attitude of the aircraft prior to these accidents was nose low with excessive bank and the accidents occurred in aircrafts that were either changing heading or making an abrupt roll. This observation led to the study in a controlled environment in an instrumented CALSPAN NT-33 aircraft on six pilots at different roll rates and head positions. The subjects had to make inputs based on the vestibular feed back only. The results indicate that the subjects experienced a consistent tendency to increase bank angle after given control of the aircraft immediately following the roll maneuver while thinking they were maintaining a constant bank angle.

Gee RM, Pickard JS. Aeromedical decision making for aviators with malignant melanoma: An update and review. Aviat Space Environ Med 2000; 71:245-250.

This article addresses a specific aeromedical concern for the aviator with reference to a risk of sudden in-flight incapacitation as a result of cerebral metastasis. Malignant melanoma presents in a reasonably consistent fashion across populations and the incidence has been rising in the recent years. A review of recent medical literature on malignant melanoma yields sufficient information to correlate readily identifiable tumour characteristics to disease free intervals and in turn to subsequent risk of cerebral metastasis and neurological incapacitation. The authors have used the data to construct a new decision table to help flight surgeons considering a flying waiver for aviator with a history of melanoma.

Morissette KL, Mc Gowan DG. Further support for the concept of a G-LOC syndrome: A survey of military high performance aviators. Aviat Space Environ Med 2000; 71: 492-500.

392 military high performance aviators were anonymously surveyed to determine the occurrence rates for a symptom complex of acceleration induced neurological manifestations. The goal of the authors in this study was to determine whether acceleration induced neurological manifestations as noted in the centrifuge, are actually of operational concern within the military high performance community. The authors have explained the concept of G-LOC syndrome which includes a spectrum of psycho-physiological events such as unconsciousness, convulsive activity, dreams and EEG alteration. G-LOC is secondarily defined as actual loss euphoria, apathy, displacement, depersonalization, poor response to auditory stimulus, immediate memory difficulties, sensory and motor abnormalities, confusion and dream like state without loss of consciousness. The article emphasizes the importance of these findings and addresses the need for alteration in G awareness training.

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ANSWERS TO QUIZ ON PAGE 57

1-(C); 2 (d), 3-(d); 4-(d); 5-(c); 6-(d); 7 (a); 8-(b); 9-(b); 10-(d); 11-(b); 12 (c); 13-(a); 14-(b); 15-(c); 16 (a); 17-(c); 18-(d); 19-(b); 20 (b).

RESULTS:

Scores of up to 10 average; 11 to 14-good; 15-17 very good; 18 and above-Excellent