

AEROMEDICAL POLICY LETTER
MEDICATIONS: PRE-DEPLOYMENT REST OR SUSTAINED OPERATIONS
AGENTS (Medication Class 2A)

February 2003

AEROMEDICAL CONCERNS:

Continuous and sustained operations are based on the premise that the enemy's systems (logistic, materiel and human) can be fatigued to failure faster than friendly systems. Army doctrine places fatigue and fatigue countermeasures under the purview of the operational commander. The flight surgeon's role is as advisor to the commander in developing and monitoring unit crew rest policy (AR 385-95) in accordance with published policy.

Fatigue is a state of feeling drowsy or sleepy resulting from a number of factors to include prolonged mental or physical work, exposure to harsh environments, extended periods of anxiety, loss of sleep, or monotonous tasks. All of these may be present in the aviation operational environment. Fatigue interrupts attention and causes slow and inaccurate performance, with a greater tolerance for error on the part of the individual. Lapses of attention and failure of crew coordination stemming from fatigue has been shown to cause mishaps in the high task load environment of the cockpit.

Acute or Chronic fatigue in sustained or continuous Army flight operations is expected and can lead to poor flight performance and increased safety risks. A vigorous program emphasizing non-pharmacological measures to optimize crew rest per the guidelines in AR 95-1, Flight Regulations, Table 3-1, September 1997 and incorporating guidelines in the references below is necessary to ensure aeromedical readiness and is the primary means to combat aircrew fatigue.

The administration of rest agents to assist in circadian cycling and ensure adequate sleep or stimulant agents for continued mission execution in sustained operations is an additional measure to consider to manage fatigue and maintain aircrew performance after non-pharmacological measures have been considered and deemed inadequate.

WAIVERS: No waiver is required. Use must be on a short-term basis. Stimulant or rest agents should only be in combat or during exceptional ("fly or die") circumstances of operational necessity. Use of these agents and medication accountability must be under the direct supervision of the flight surgeon and must be authorized by the local commander

INFORMATION REQUIRED: Guideline for Administration. (See Below)

FOLLOW-UP: The unit flight surgeon must rigorously monitor and document use of these agents for any adverse medication effects and for strict administration/dosage accountability.

TREATMENT:

Administering a test dose (ground testing) and monitoring for adverse effects assures safe use of these interventions. Anyone with suspicious symptoms (e.g. palpitations, headache, dizziness, mood disturbance, etc.) should be immediately grounded until symptom resolution. Use of these agents should be under the direct supervision of the supporting flight surgeon following pre-established guidelines approved by brigade level or higher.

REST AGENTS:

Class 2A (No waiver action required) when prescribed and closely monitored by the unit flight surgeon. Do not mix with alcohol.

TEMAZEPAM (Restoril) – Indicated for long duration rest due to long half-life (12 hours). May perform crew duties 24 hours after administration.

TRIAZOLAM (Halcion) - May perform crew duties 9 hours after use. (NOTE: Memory loss with associated alcohol use and night terrors have been reported)

ZOLPIDEM (Ambien) or ZALEPLON (Sonata) – Indicated for short duration rest due to short (2.5 hour) half-life. May perform crew duties 8 hours after use.

STIMULANTS:

Class 2A when used in support of sustained operations.

DEXEDRINE: May use in dosages of 5mg or 10mg not to exceed 30mg in 24hour period. May not use to prevent sleep for longer than 64 continuous hours. Be aware of the after effects of sustained use of stimulants due to its long half-life of 10.25 hours. For example, aviators have required two 8-hour night sleep periods following 64 hours of continuous wakefulness using Dexedrine to recover near normal sleep architecture.

DISCUSSION: A recommended guideline for Flight Surgeon administration of these agents:

- 1) Ground testing must be completed prior to operational use of dextro-amphetamine (Dexedrine) or temazepam (Restoril), triazolam (Halcion), zolpidem (Ambien), or zaleplon (Sonata). No flying will be done the day of the pretest (24 hour DNIF period). An entry will be made in the medical record documenting conduct of the pretest, medications administered, and any side effects. All involved crew should sign an informed consent form to be kept in the medical record.
- 2) Fully brief all aircrew and supervisors on the proper use of the medication and possible side effects. (See references below)
- 3) Ensure the line commander has authorized use of the medication. It is essential that the administering FS/APA ground tests or employs these medications in consultation with the next higher medical authority in the chain-of-command.

- 4) Issue the stimulant in amounts for one flight and document with an entry in the medical record. Aircrew are not authorized to carry additional doses of sedative. Sedatives will not be carried in the aircraft to preclude inadvertent use during flight operations. A check to ensure aircrew are not carrying sedatives in flight must be part of safety, mission, and pre-flight briefings during use of these agents.
- 5) Collect unused medication at the end of continuous operations.
- 6) It is a flight surgeon responsibility to monitor medication use and levels of aircrew fatigue during daily interactions with aircrew (AR 385-95). Screen for unauthorized use and possible interactions with over-the-counter or other prescription medications.

REFERENCE:

Leader's Guide to Crew Endurance, USAARL and USASC, August 1997
Performance Maintenance During Continuous Flight Operations: A Guide for Flight Surgeons, NAVMED P-6410, January 2000
AR 95-1, Flight Regulations, September 1997
AR 385-95, Army Aviation Accident Prevention, December 1999
AR 40-3, Medical, Dental and Veterinary Care, November 2002
The Efficacy of Amphetamines for 64 Hours of Sustained Operations, J Caldwell, PhD,
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