



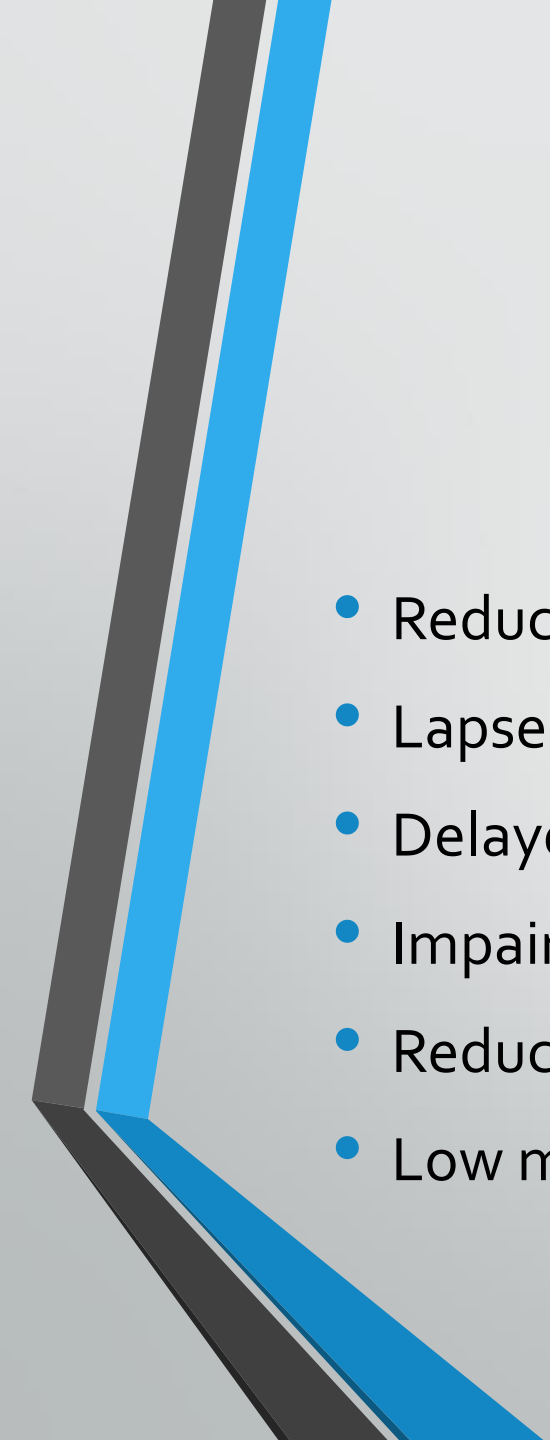
Flight Duty Period and Fatigue

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Definitions

- Fit for duty: Perform assigned duties at the highest degree of safety
- Fatigue: Lack of alertness, low performance, cause errors
- Types
 - a) Transient (1 or 2 days)
 - b) Cumulative
 - c) Window of Circadian Low (WOCL)





Symptoms

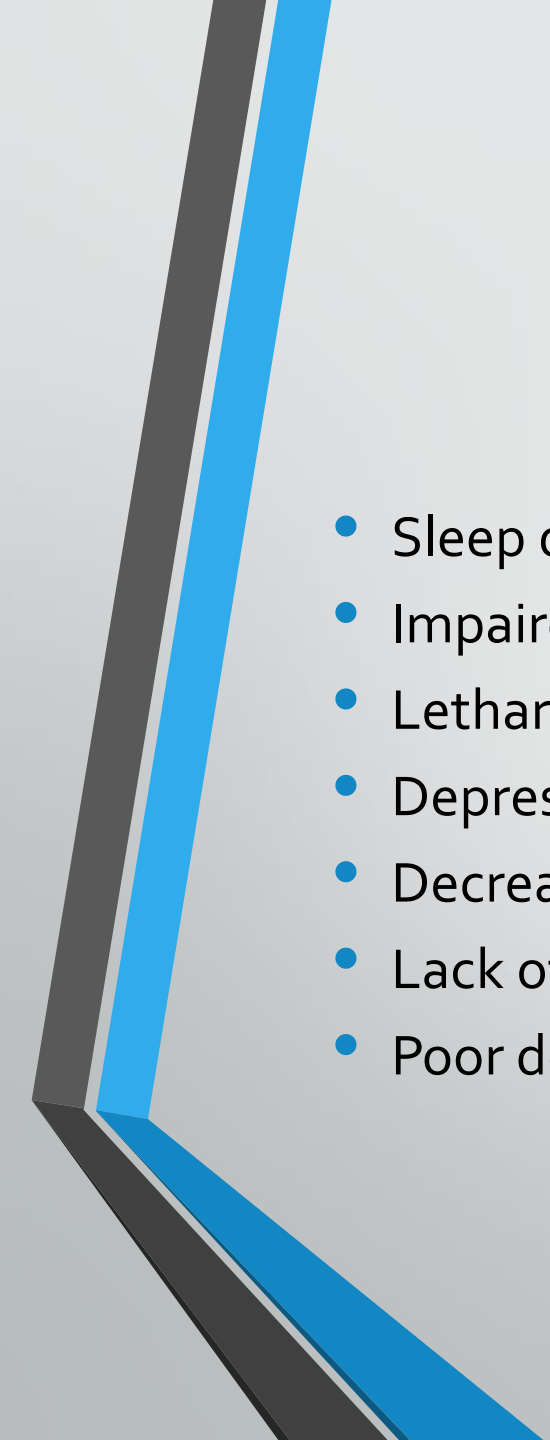
- Reduction in speed and accuracy of performance
- Lapses of attention and vigilance
- Delayed reactions
- Impaired logical reasoning & decisions (risk assessment)
- Reduced situational awareness
- Low motivation

Sleep and Performance

- Adequate sleep sustains performance
- 8 hours ????
- WOCL preferable, total hours sleep more important
- Nighttime short sleep periods beneficial
- Quality sleep – no interruptions (persons, noise, turbulence)

Fitness for Duty - A joint responsibility

- Operator provides opportunity, crew member shall sleep
- Regulatory obligations
- Labor and management relations
- Replacement of flight crew member
- Dispatch or release form attests to FFD
- Reporting fatigued flight crew member



Effects of Fatigue

- Sleep debt is accumulated
- Impaired cognitive function
- Lethargy
- Depression
- Decreased situational awareness
- Lack of motivation
- Poor decision - making

Mitigating the potential for fatigue

- Causes – physical exertion, lack of **proper** sleep. (Scheduling, party)
- Pay your sleep debt!
- Recovery sleep
- Managing fatigue: Scheduling, crew shall use it appropriately
- Removing Flight Crew Member



Managing Rest

- Rest vs Sleep opportunities
- Hours of Rest and Sleep shall be maintained
- Sleep debt : Recovery sleep required determined by total debt.

Recovery sleep amount is less than total debt but cannot be paid as a once-off.

Repay large debt in small installments

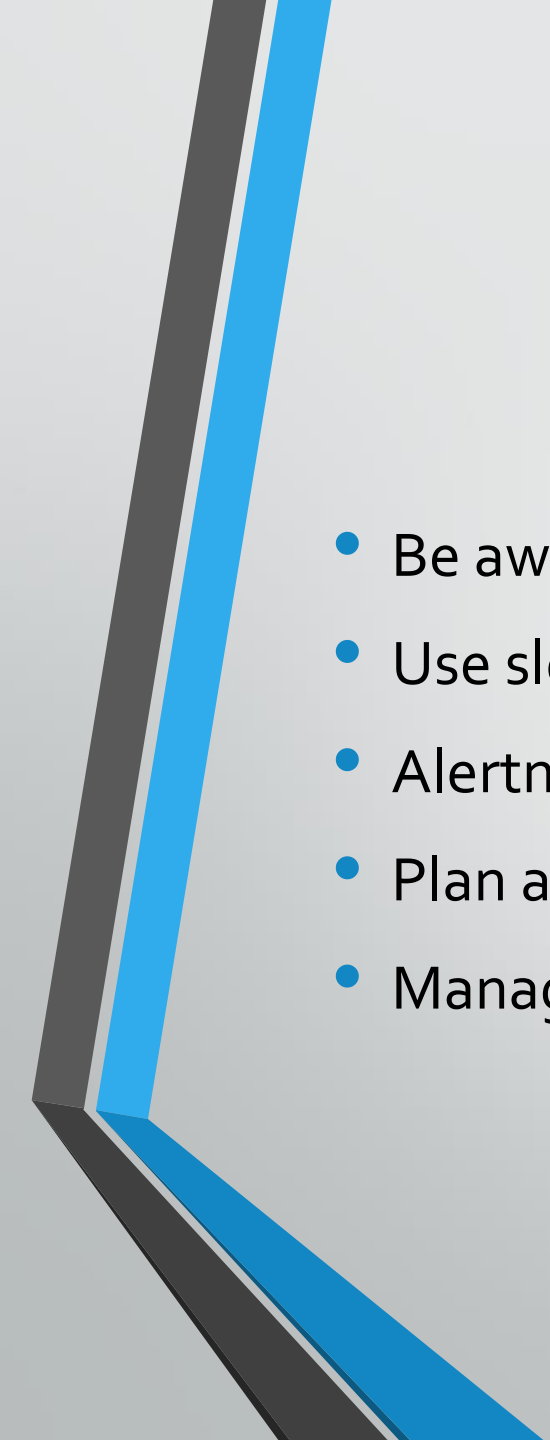
Fatigue Training

- Crew members shall recognize their own signs and symptoms
- Causes shall be addressed (scheduling, own behavior)
- All employees shall be aware (admin)
- Commuting causes loss of time off

Pre-Duty Activities

- Avoid activities which cause fatigue
- Take a nap before late afternoon duties
- Never be awake for longer than 16 hours (including FDP)
- Sleep the 6 hours before reporting for duty
- Sleep > 6 hours daily
- Obtain proper rest prior to duty period

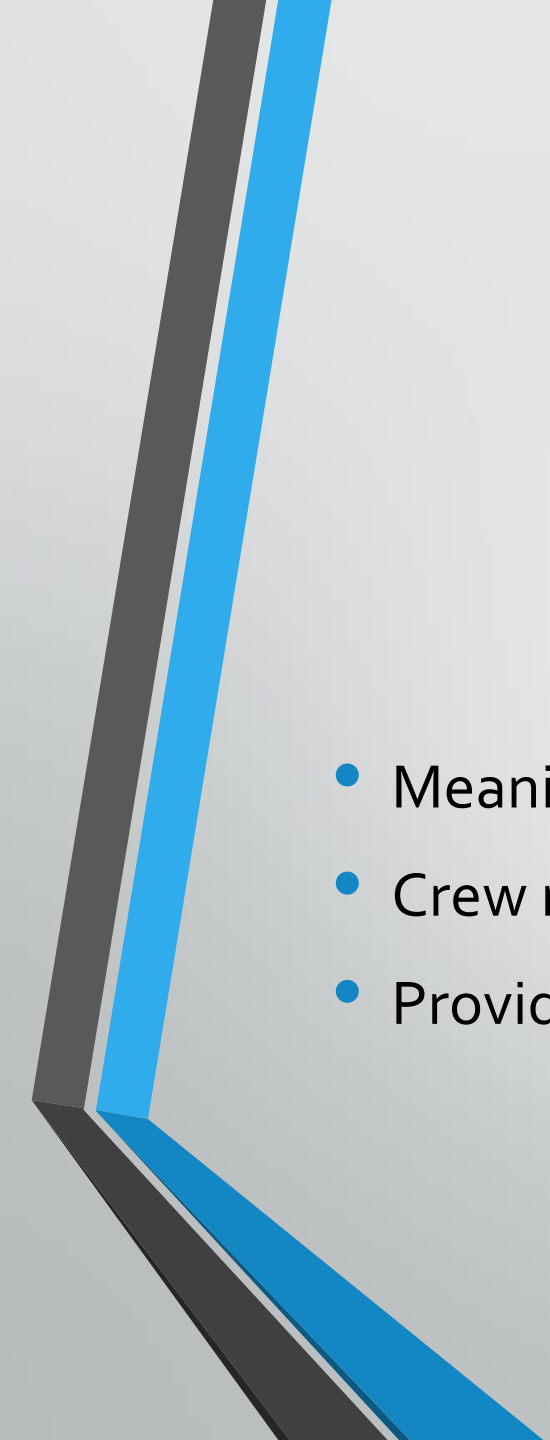




Crew Member's Responsibility

- Be aware of WOCL
- Use sleep drive well
- Alertness is affected after 16 hours
- Plan ahead
- Manage your own fatigue





Operator's Responsibility

- Meaningful rest period shall be provided
- Crew reporting as Unfit for Duty shall not be assigned
- Provide fatigue countermeasure initiatives



NAMCATS 121.02.15 (2003)

NAMCATS 127.02.14 (2004)

NAMCATS 135.02.10 (2003)

- 5. It is the responsibility of all flights crew members to make optimum use of the opportunities and facilities for rest provided by the operator, and to plan and use their rest periods properly so as to minimize the risk of fatigue.

Duties of holder of medical certificate

67.00.8 (1) The holder of a medical certificate shall -

- (a) carry such medical certificate on his or her person when carrying out the duties as a flight crew member, an air traffic service personnel member or a cabin crew member, as the case may be;
- (b) **not act as a pilot-in-command**, or in any other capacity as a flight crew member, an air traffic service personnel member or a cabin crew member, as the case may be -
 - (i) while he or she is aware of any medical condition which could affect the validity of such medical certificate;
 - (ii) while he or she is receiving medical treatment, unless otherwise provided for in Document NAMCATS-MR;



(b) **not act as a pilot-in-command**

(iii) if the holder has entered the thirtieth week of pregnancy, unless –

(aa) the medical certificate is issued in respect of an air traffic service licence; or

(bb) a suitable medical practitioner and a designated aviation medical examiner certify that such holder who has entered the twenty-ninth week of pregnancy, is fit to continue to act as a pilot-in-command, or in any other capacity as a flight crew member or a cabin crew member, for a further period, which period shall not exceed six weeks from the date on which such holder has entered the thirtieth week of pregnancy;

(iv) if the holder has given birth in the preceding eight weeks; or

(v) after such medical certificate has expired;

The holder of a medical certificate shall -

(c) without undue delay, notify the designated aviation medical examiner who issued such medical certificate, of any -

- (i) injury;
- (ii) hospitalisation;
- (iii) surgical operation or invasive procedure;
- (iv) regular use of medication;
- (v) pregnancy;
- (vi) absence due to illness for a period of more than 21 days; or
- (vii) psychiatric treatment, which renders such holder unable to comply with the appropriate medical requirements and standards referred to in regulation 67.00.2(4).

(2) For the purposes of subregulation (1)(c), the holder of a medical certificate shall, before such holder resumes the exercising of the privileges of the licence held by him or her, furnish the designated aviation medical examiner who issued such medical certificate, with proof that he or she has fully recovered from the decrease in medical fitness.