

## Joint Session

### *Operational Drivers of Fatigue: National Transportation Safety Board Findings*

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# *Operational Factors Contributing to Fatigue during Flight Operations*

Malcolm Brenner, Ph.D.

National Transportation Safety Board

**10:20 - 10:40**

**June 17, 2008**



**Malcolm Brenner, Ph.D.**  
*Biography*

Malcolm Brenner is a National Resource Specialist – Human Performance at the National Transportation Safety Board (NTSB) Office of Aviation Safety.

He holds a B.A. degree from Boston University, M.A. degree from Stanford University, and Ph.D. from the University of Michigan in Psychology.

Before joining the Safety Board, Dr. Brenner conducted research on human performance for the National Aeronautics and Space Administration (NASA) and the U. S. Air Force and served as an expert witness for the U.S. Senate Judiciary Committee and for litigation resulting from major aviation accidents representing both plaintiff and defense positions. Since joining the Safety Board, he has helped investigate human performance issues in dozens of major transportation accidents including those involving USAirways Flight 427 at Pittsburgh. Dr. Brenner is a private pilot.



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# Operational Issues from Fatigue

Malcolm Brenner, Ph.D.



# Fatal Airline Accidents

- 8/97 Guam: 228 fatalities
- 6/99 Little Rock, AR: 11 fatal
- 10/04 Kirksville, MO: 11 fatalities



# Non-Fatal Airline Accidents

- 8/93 Guantanamo Bay, Cuba
- 7/02 Tallahassee, FL
- 2/07 Cleveland, OH
- 4/07 Traverse, City MI



Presented at the FAA Fatigue Management Symposium: Partnerships for Solutions; Vienna, VA: June 17-19, 2008

# Long Duty Day

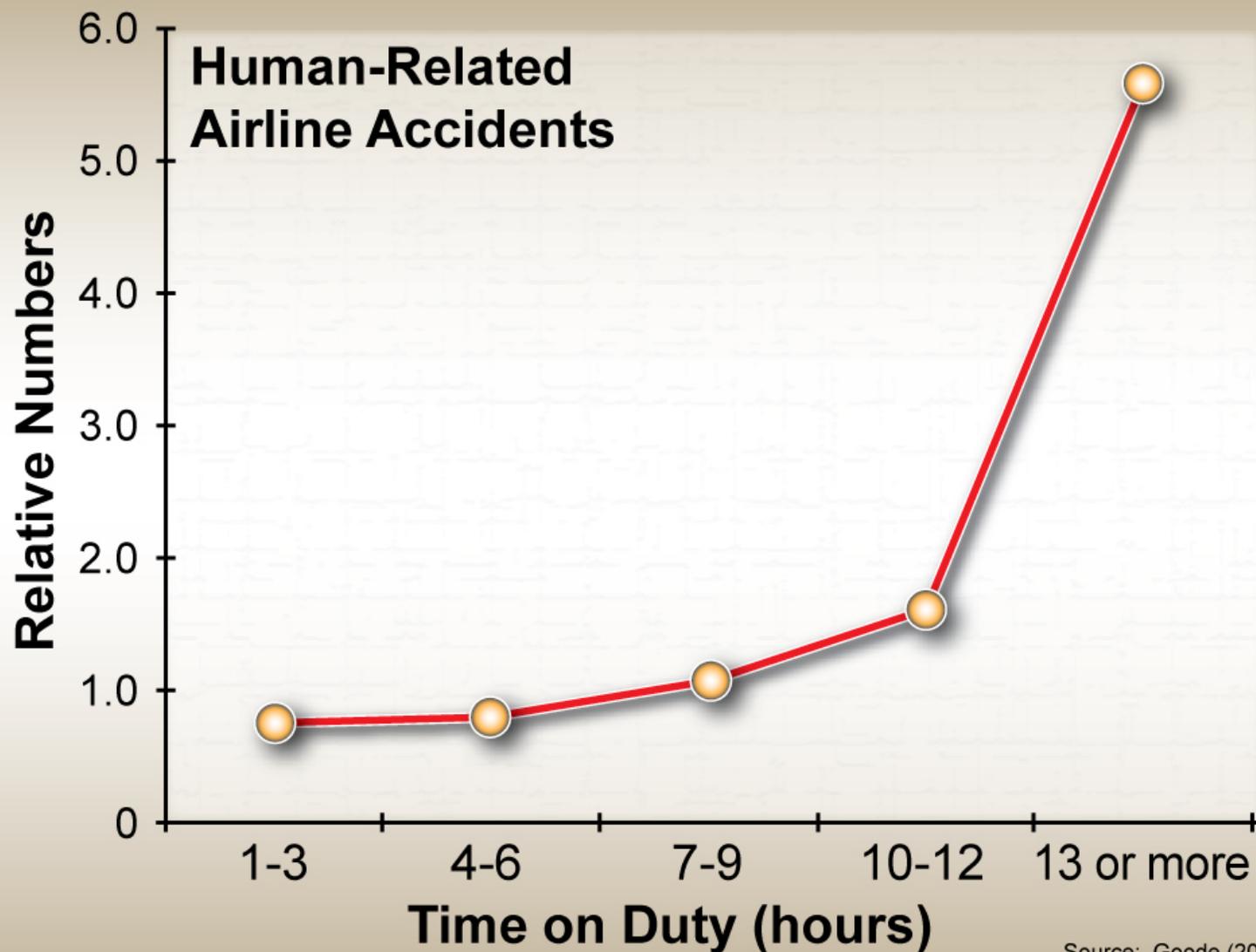


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# Long Duty Day



Source: Goode (2003)

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# Back of Clock



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# Workload



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# Attendance Policy



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# Education



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# Medical Screening and Treatment



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# Commuting Policies



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# Nutrition



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- Long duty day
- Back of clock
- Workload
- Education
- Attendance policy
- Medical screening and treatment
- Commuting policy
- Nutrition





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# Fatigue Deficiencies

- Guantanamo Ignored stick shaker
- Guam descended below altitude profile
- Tallahassee Ignored solid red PAPI for 40 seconds
- Little Rock Failed to deploy spoilers
- Kirksville Descended below MDA
- Cleveland Lost visibility of field